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CREDIT CARDS AND CASHLESS PAYMENT: BANK
COMMUNICATION POLICIES IN FRANCE, GERMANY AND
LUXEMBOURG (1968-2015)

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Abstract

“Pecunia non olet”. Ironically, this Latin dictum strongly relates to the 20th and 21st century if one considers how banks dematerialised constantly money and changed the way a society deals with deposits. By implementing quite radical changes to the concept of money, banks became an accelerating element for social and technological innovation. Our research project within the field of computerisation and digitalisation concentrates on banking activities and services from a European perspective. Banks’ communication regarding credit cards and cashless payments is at the heart of this research. The study intertwines several case studies in selected European countries (i.e., Luxembourg, Germany, France). In particular, the study focuses on the following bank services: automated teller machines, bankcards (especially MasterCard and Eurocard) and home banking since the emergence of Minitel, Vidéotex, or Btx.

The comparative and diachronic perspective of this study, starting from the 1960s onwards, aims at shedding light on a history which has often only been seen from an insider’s perspective. It should be noted that our focus is primarily the communication strategies of banks and their related advertisement campaigns for credit cards and cashless payments. This is achieved by focusing on the strategy of the banks and their economic, technical, digital, but also societal approaches. The research topic relates to contemporary history, the history of digitalisation and innovation. In this context, press, audio-visual materials, banking reports, advertising, oral history, as well as web archives serve as primary sources. Moreover, bank archives in Luxembourg, France and Germany are used to complete the study corpus.

All in all, the research results help us to understand the high complex world of banking services from an unusual research angle. Therefore, the research topic changes the current scientific standard of banking history by including the perspective of various actors of the European payment market as well as their perception of banking innovations over the years (1968 – 2015) and by analysing a European transnational corpus. Furthermore, by analysing the history of the Eurocard and its relation to MasterCard in a long-term perspective, we offer a novel approach.

It helps to enrich the field of banking history, which is slowly changing and introducing different research angles, thanks to pioneering research by Bernardo Bátiz-Lazo,

Sabine Effosse, David Sparks Evans, Richard Schmalensee, Lana Schwartz, Sebastian Gießmann and others. In this respect, this PhD research aims to add a milestone to historical research on banking innovation and retail banking which is still in its early stages but is moving fast, driven forward in particular by the pioneers mentioned above.

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Introduction

With his statement, “Information about money has become almost as important as money itself”, Walter B. Wriston, a specialist in the field of automated teller machines and a private banker in the 1980s, drew an accurate picture of the financial world of the 20th and 21st century in terms of data collection and promotion of digital banking services in retail banking.¹ The automation and digitisation of services and products that bank advertising introduced into the everyday life of European society, beginning in the late 1950s, demonstrates the intertwined history of communication, bank marketing strategies and cashless payment methods. Since the 1960s, European banks as well as nation states and the European Union have intensified internal and external automation, digitalisation and computerisation of services, internal communication structures and economic networks in Europe.² In the financial industry these developments concerned in particular the European retail banking sector and stock markets.³ By using a credit card or debit card at an automated teller machine (ATM) or during online banking the last thing a customer sees after an executed transaction is the logo of his chosen card provider and bank. Most plastic cards are 85.60 mm × 53.98 mm in dimension and bear the logo from credit card companies such as Eurocard, MasterCard and Visa, in addition to the cardholder’s financial institution. In this way, those who use cashless payment methods are reminded of credit card companies daily.⁴ However, it must be mentioned that the term debit card as we know it today established itself in the 1990s. Between 1970 and 1990, the financial world used the term retail electronic debit card and belonged to the payment methods with a pay now function such as cheque guarantee and ATM only cards. In this dissertation, the term debit card is used primarily for payment cards that are used for purchasing goods or services from a current account via point-of-sale terminals or to withdraw cash from an ATM. Cheque guarantee and ATM only cards were mainly used to withdraw cash at a bank or merchant. Over time, debit cards with the functions of withdrawing money from ATMs and paying at points of sale gained popularity and the term debit card established in Europe.⁵ In this context, it should be noted that the concept of debit card was understood differently in France than in Germany

¹FRYMAN, Lowell, LAMPSHIRE, Gregory, MEERS, Dan, *Proven methods for governed data and analytic quality*, in: Morgan Kaufmann, *The Data and Analytics Playbook*, Cambridge, Elsevier, 2017, p. 9.

²BÖSCH, Frank, *Wege in die digitale Gesellschaft: Computernutzung in der Bundesrepublik 1955-1990*, Göttingen, Wallstein, 2018, pp. 7-36.

³SEGRE, Claudio, Report of a group of experts appointed by the EEC Commission, *The development of a European capital market*, Brussels & Luxembourg, Publications of the European Community, 1966.

⁴WILLIAMS, Bob, *Intelligent transport systems standards*, London, Artech House, 2008.

⁵Archive Banque Générale du Luxembourg BNP Paribas, Eurocard International, *The international payment system, delivering a complete product line to banks*, Pay now, 1990, p. 2.

and Luxembourg during this period. In Luxembourg and Germany, financial institutions issued debit cards which charged the account of the cardholder directly. In France, the first debit cards had the “*débit différé*” function. During the following decades, also debit cards with the function “*débit immédiat*” gained popularity in France.⁶

Immediate debit card	Deferred debit card
Immediate debit	Delayed debit
The bank charges the amount of money for a purchased good or service after each transaction from the current account of the cardholder.	The bank charges the current account of the total amount of transactions of the cardholder at a fixed date at the end of a month.

Figure 1 – Differences between an immediate debit card and a deferred debit card.⁷

But it was not only credit and debit cards that found their way into the everyday lives of people in Europe in the 1980s. The first forms of today’s automated teller machines were installed in urbanised areas in Europe. The emergence of automated teller machine networks changed urban space profoundly and influenced the way people all over the world perceive money and time.⁸ Along with the development of ATM networks and the marketing of credit cards, banks in France and Germany also introduced early forms of home banking. It should be noted that in this study the word “*Germany*” stands for Federal Republic of Germany. Minitel achieved great success in France and provided bank customers with early access to home banking ten years before the first direct banks established in Europe.⁹ In the 2000s, credit cards, ATMs and home banking became increasingly popular with the emergence of the Internet and of the European digital market. This brief insight into the matter makes it clear that banks in Europe have been in a process of technological development since the late 1950s, which has had a significant impact on the banking industry, their services and their marketing approaches. This

⁶Ed., GASTON-BRETON, Tristan & KAPFERER, Patricia, *Carte Bleue la petite carte qui change la vie*, Paris, Cherche Midi, 2004, p. 32.

⁷EUROPEAN UNION, Regulation (EU) 2015/751 of the European Parliament and of the council of 29 April 2015 on interchange fees for card-based payment transactions, in: eur-lex.europa, URL: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32015R0751&rid=5> (State: 19.10.2022).

⁸BÁTIZ-LAZO, Bernardo, *Cash and Dash. How ATM’s and computers changed banking*, Oxford, Oxford University Press, 2018.

⁹KRÜGER, Ralf E., *Frankreich begräbt sein Textnetz*, in: spiegel.de, URL: <https://www.spiegel.de/netzwelt/gadgets/frankreich-verabschiedet-sich-von-internet-vorgaenger-minitel-a-840766.html> (State: 21.06.2021).

dissertation focuses primarily on retail banking products and linked services, such as credit cards, home banking and ATMs. It is a story about how Luxembourgish, French and German banks promoted their dream of a “*cashless society*” and which actors, societal changes and customers’ needs had an impact on the acceptance of innovative online services and payment methods in Europe from 1968 until 2015. Consequently, the paths to online banking services and products are analysed in three stages from a historical and transnational perspective. The dissertation is organised thematically and deals with the following topics: the internal policies of banks in favor of bank cards, debates/controversies and their influence, the communication strategies of financial institutions in the press and media, particularly through advertising. Why the dissertation is not structured chronologically is explained in the concluding part of the introduction.

Recent publications in the field of retail banking show that the banking business is often compared to commercial or industrial companies without any distinction. However, it is important to highlight that banking services and products are fundamentally different from traditional products and other well-known retail services or goods. It is therefore essential to underline and consider the characteristics and features of banking services and products. First, banking services are classified in the tertiary sector. A banking service is not materially tangible and must therefore be seen as an abstract good that is not perceived by the senses. This characteristic creates uncertainty for the customer. Additionally, a direct relationship between service provider and customer is necessary to produce the service. Unlike many other services, the object of the banking service is not a concrete product but the special good, *money*. Financial institutions are in general perceived by the customer as the embodiment of money, which means that the image of the credit institutions is negatively affected before the customer enters a relationship with a bank.¹⁰ Despite the abstract nature of digital banking services and products, the current literature provides new historical insights into the complexity of the financial world.

From an institutional perspective to the raise of new historical approaches and methods

In general, financial history has dealt with topics such as the development of financial centres, banking regulations, or biographies of influential bankers. The work of Gilbert Trausch

¹⁰KECK, Markus & HAHN, Marco, *Wesen und Besonderheit des Retail Banking*, in: *Integration der Vertriebswege*, Wiesbaden, Gabler Verlag, 2006, pp. 23-27.

exemplifies traditional banking approaches in the field of financial history. Trausch describes in his work, *Les relations belgo-luxembourgeoises et la Banque Générale du Luxembourg 1919-1994*, the 100-year history of a Luxembourgish bank and the economic relations of Luxembourg and Belgium. Although Trausch's work is a pioneer in the field of Luxembourgish financial history, it embodies the conventional financial history of the 20th century which remains purely within an institutional narrative and focuses primarily on traditional actors such as banks or the nation state.¹¹ Lothar Gall takes a look at the life of the German banker Hermann Josef Abs. Gall uses the chosen protagonist to illustrate the influence of bankers on the German economy and politics during the 20th century. In this way, the author joins the traditional financial historiography that focuses primarily on actors of the back offices of European credit institutions.¹² Thus, works such as those by Gilbert Trausch or Lothar Gall serve to get an understanding for the subject matter, but provide less information about retail banking. In the next section, the focus will be on recent studies on the history of retail banking.

Pierre Mounier-Kuhn provides with his book, *50 ans d'informatique chez BNP Paribas*, an insider perspective of the French bank BNP Paribas: he describes the processes from mechanisation to the computerisation of internal banking processes such as the mechanisation of accounting processes to the implementation of internal communication networks. In different terms, he portrays the development of the traditional bank into a financial high-tech financial company. Mounier-Kuhn is particularly concerned with questions about the relationship between strategy, organisation, and technology decisions. Additionally, he analyses innovations from the perspective of bank employees and customers. His work was funded by the BNP Paribas which explains the sometimes-missing critical voice regarding the French financial institution itself.¹³

Focusing on the customer is common in recent German financial historiography. For example, the work of Martin Schmitt describes how German savings banks recognised the value of customers through computerisation and data management systems.¹⁴ In his book, *Die*

¹¹TRAUSCH, Gilbert, Luxemburg als Dritter zwischen Deutschland und Frankreich, in: BAECHLER, Christian & Müller, Klaus-Jürgen (ed.), *Les tiers dans les relations franco-allemandes, Dritte in den deutsch-französischen Beziehungen*, München, Oldenbourg Verlag, 1996, pp. 105-119.

¹²GALL, Lothar, *Der Bankier Hermann Josef Abs: Eine Biografie*, München, C.H. Beck Verlag, 2004.

¹³MOUNIER-KUHN, Pierre, *50 ans d'informatique chez BNP Paribas*, Paris, BNP Paribas, 2013.

¹⁴SCHMITT, Martin, Der Wert des Kunden, *Computerisierung in bundesdeutschen Sparkassen am Beispiel der Privatkreditvergabe*, in: Bösch, Frank; Sabrow, Martin, *ZeitRäume*, Göttingen, Potsdamer Almanach des Zentrums für Zeithistorische Forschung, 2017, pp. 119-134.

Digitalisierung der Kreditwirtschaft, Computereinsatz in den Sparkassen der Bundesrepublik und der DDR 1957-1991, he also shows that a critical and historical examination of relics of computer science is becoming increasingly necessary today, as banks not only recognised the value of a customer through software but also changed their relationship to the customer through the digitalisation of internal processes. Schmitt also points out in his work that this process was influenced by programmers in Germany.¹⁵ By combining the history of innovation and financial history, French and German historians progressively direct their research focus away from the history of back offices to include the perspective on users of non-cash payment methods. The works of Mounier-Kuhn and Schmitt show the influence of users on innovation and underline why the research focus of this work is strongly oriented towards bank customers.

In Luxembourg, financial history in general is still in its infancy, especially regarding retail banking. However, most published works, as exemplified by Trausch or Gall, belong to a traditional historiography. In recent works, historians worldwide have turned away from these perspectives to gain new insights. This is particularly evident in studies by Bernardo Bátiz-Lazo, Sebastian Gießmann, Ursi Husz, Joan Carles Maixé-Altès or Bill Maurer and Lana Schwartz. A shift to new perspectives is also taking place in Luxembourgish financial history. Since 2017, the Luxembourg Centre for Contemporary and Digital History (C²DH) at the University of Luxembourg and the *Fonds National de la Recherche, Luxembourg* (FNR) is pursuing a strategy to shed new light on Luxembourg's financial history. The implementation of the change of perspective is under the direction of Benoît Majerus.¹⁶ It must be underlined that projects supported by the FNR¹⁷ such as GloLux focus primarily on the history of the Luxembourgish financial centre in a global perspective. Nevertheless, projects such as Letterbox shed an interesting light on Luxembourg's financial history by mixing current issues of financial history with digital history. In this context, digital history serves as a tool to reveal global networks and local infrastructures of letterbox companies and actors within these

¹⁵SCHMITT, Martin, *Die Digitalisierung der Kreditwirtschaft, Computereinsatz in den Sparkassen der Bundesrepublik und der DDR 1957-1991*, Reihe: Medien und Gesellschaftswandel im 20. Jahrhundert, Bd. 15, Göttingen, Wallstein, 2021.

¹⁶FRATI, Camille, "L'histoire de la place n'est pas seulement économique", in: paperjam, URL: <https://paperjam.lu/article/questions-lhistoire-de-la-place-nest-pas-seulement-economique?fbclid=IwAR3whOFBxdbkoeir6sIrMn3es86HYkZYEHZ8XkiznSwu7VwIlgNpLTyhWM> (State: 22.02.2021).

¹⁷*Fonds National de la Recherche, Luxembourg*, Annual report 2019, in: public.lu, URL: <https://download.data.public.lu/resources/fnr-annual-reports/20201127-114444/200625-fnr-5038-20-rapport-annuel-2019-r6-single.pdf> (State: 23.02.2021).

institutions such as lawyers, notaries and accountants.¹⁸ Furthermore, Benoît Majerus recently contributed with his works in recent years to fill this research gap. For example, he published an article in 2020 entitled: *This is not a scandal in Luxembourg*. Here, he describes how the Luxembourgish financial centre came into the focus of national and international Press when Investors Overseas Services (IOS) from Panama collapsed in the 1970s.¹⁹ It must be pointed out that also other departments of the University of Luxembourg develop complex approaches towards finance. Especially, thanks to David Howarth and his students from the department of the social and political sciences who focus on national banking system, financial regulation, financial lobbies, Euro crisis as well as the Economic and Monetary Union. For example, David Howarth and Ioannis Asimakopoulos address in their work, *Stillborn Banking Union: Explaining Ineffective European Union Bank Resolution Rules*, the ineffectiveness of European bank resolution rules, which they consider to be a core element of the banking union. Here the authors offer “a liberal intergovernmentalist analysis to explain the inadequacy of the EU resolution regime by examining German and French government preferences on EU rules on bank capital requirements agreed earlier in 2013 and national deposit guarantee schemes agreed in 2014.”²⁰ They demonstrate that these decisions were shaped by the preferences of national banks and bank associations. It becomes clear, that research focusing on finance and banking increased and changed its perspective in Luxembourg during the last years. These works offer new approaches and methods to investigate national and international financial landscapes as well as their intertwinements.

For the German-speaking region, Sebastian Gießmann pushes financial history into new directions. He discusses reciprocal relations regarding payment systems and investigates the concept of trust into money. Gießmann demonstrates the possibility to analyse the banking industry on a meta-level.²¹ This raises new perspectives for this dissertation as it deals with banking services, products and networks that are intangible to the mind. Furthermore, banking services show their materiality mostly in the form of a credit card or an ATM, but the service

¹⁸Luxembourg Centre for Contemporary and Digital History, *Letterbox – Briefkastenfirmen sichtbar machen, Digitale Geschichte als Werkzeug zur Enthüllung globaler Netzwerke und lokaler Infrastrukturen*, in: c2dh.uni.lu, URL: <https://www.c2dh.uni.lu/de/projects/letterbox-briefkastenfirmen-sichtbar-machen-digitale-geschichte-als-werkzeug-zur> (State: 07.06.2021).

¹⁹MAJERUS, Benoît, *This is not a scandal in Luxembourg*, in: *Entreprises et histoire*, 101, 2020, pp. 75-87, <https://doi.org/10.3917/eh.101.0075>.

²⁰HOWARTH, David, ASIMAKOPOULOS, Ioannis, ‘*Stillborn Banking Union: Explaining Ineffective European Union Bank Resolution Rules*’, in: *Journal of Common Market Studies*, 2022, pp. 264-282.

²¹GIEßMANN, Sebastian, *Money, Credit, and Digital Payment 1971/2014: From the Credit Card to Apple Pay*, in: *Administration and Society* 50/9, 2018, pp. 1259-1279.

behind stays abstract. With their book, *Paid, Tales of Dongles, Checks and Other Money Stuff*, Bill Maurer and Lana Schwartz wrote a history about payment systems that underlines the importance of financial objects and their users. The book does not include only “*banknotes, beads, shells, stones and other objects people have exchanged for millennia*”, but reports also on “*electronic keypads, the receipts wadded in our wallets and the infrastructure that runs the card networks.*”²² Thus, both researchers argue for a historiography that focuses on the influence of hardware and software on societies or networks. The work of Bill Maurer and Lana Schwartz was relevant in the decision to focus on financial services and products such as credit cards, ATMs and home banking, for this thesis.

In the domain of communication and marketing of banks, historians mostly reconstruct in a chronological order brand marketing of financial institutions or accentuate the technological achievements of banks as works like *Sparkassengeschichte und corporate identity* by Manfred Pix do.²³ Reinhard Frost’s work, *Wünsche werden Wirklichkeit*, describes developments in retail banking business of *Deutsche Bank*. Frost provides a detailed reconstruction of the bank’s history between 1950 and 1990. He describes the technological process which helped German financial institution to gain big market shares of German retail banking business from the bank’s perspective. Here he illustrates technical innovation with corresponding advertising material of *Deutsche Bank*.²⁴ The French historian Hubert Bonin analyses the development of logos, slogans and advertising campaigns to show how banks expanded brand marketing to attract customers in the retail banking business.²⁵ In conclusion, the history of retail banking, its marketing strategies and its communications were mostly seen from an insider’s perspective. Nevertheless, these works underline the historical relevance of marketing and communication strategies of financial institutions. The dissertation looks therefore also at other forms of marketing in retail banking, such as digital communication strategies, since brand marketing has been largely investigated. However, it should be noted that most of these works mentioned above were published in cooperation with financial institutions. These works often follow a linear success narrative and shed a mainly positive light on the history of French, German and

²²MAURER, Bill & SCHWARTZ, Lana, *Paid. Tales of Dongles, Checks, and Other Money Stuff*, London, Cambridge MA, The MIT Press, 2017.

²³PIX, Manfred, *Sparkassengeschichte und Corporate Identity*, in: *Bankhistorisches Archiv - Zeitschrift zur Bankengeschichte* 17/2, 1991, pp. 59-81.

²⁴FROST, Reinhard, *Wünsche werden Wirklichkeit. Die Deutsche Bank und ihr Privatkundengeschäft*, München, Zürich, Piper, 2009.

²⁵BONIN, Hubert, *Banque et identité commerciale, La Société générale, 1864-2014*, Paris, Presses universitaires du Septentrion, 2014.

Luxembourgish financial institutions. Therefore, the bibliography contains a separate section indicating the literature, articles and works published by financial institutions, cited in this dissertation. Nevertheless, these works provide important insights regarding the development of the cashless payment market in France, Germany and Luxembourg.

Researchers such as Bernardo Bátiz-Lazo or David S. Evans and Richard Schmalensee have influenced the way banking activities are envisioned, and notably regarding the subject of digital online banking services.²⁶ In particular, Bernardo Bátiz-Lazo's work, *Cash and Dash. How ATMs and computers changed banking* sets new standards by combining the analysis of ATM networks with the historic analysis of advertising material. In this way he shows how the implementation of ATM networks has influenced the society from the late 20th century, namely by the experience of being able to withdraw money from your bank account 24/7 outside bank branch opening hours. As a result, advertising material becomes a source that reveals marketing strategies, social changes and needs. The analysis of bank communication includes the organisational aspect and simultaneously represents a link to the customer of cashless methods of payments, as advertising address the customer or potential clients instantly. Bátiz-Lazo uses the analysis of a TV commercial to show the marketing strategy of *Bank Canada Trust* in the 1980s. In society the fear of incorrect bookings, long queues and robberies was widespread. Moreover, it was not common for bank customers to interact with a machine. This caused discomfort for a high percentage of people in the early years of ATMs.²⁷ However, recent financial historiography for retail banking combines aspects of the history of innovation, analysis of bank communication and network studies in their approaches. Furthermore, the research focus of financial historians is increasingly directed to the consumer, user, hardware and software and their interrelation with one another and society. Historical research in retail banking is still very young because mass retail banking was not established before the late 1960s in Germany, Luxembourg and France. Internationally as well as nationally, financial historians break away from the traditional institutional and descriptive history of financial history.

²⁶EVANS S., David & SCHMALENSSEE, Richard, *Paying with Plastic. The Digital Revolution in buying and borrowing*, Cambridge MA, The MIT Press, 2005.

²⁷BÁTIZ-LAZO, Bernardo, *Cash and Dash*, Oxford, Oxford University Press, 2018, pp. 211-214.

Analysing the paths from a cheque-less to a cashless society

The aim of this thesis is to find out how European banks, particularly in France, Germany, and Luxembourg, promoted innovative online banking services and related products such as credit cards, home banking or automated teller machines from the second half of the 20th century. The comparative and diachronic perspective sheds an interesting light on the current state of the research which deals mostly with a geographical scope focused mainly on nation states located in southern and northern Europe.²⁸ Thus, the main research question has been formulated as follows: how and under what conditions did bank digital strategies evolve to make their bank cards more attractive to their customers and to the public at large? Additionally, the thesis investigates the interactions and interrelations of the various actors in the European retail banking business. In this context, the focus remains on the intertwining between innovations in retail banking and customer needs. What are the elements that shaped the bank communication, possibly internally, at national and EU level or towards the customers and are there different national paths in the three countries? The investigation of changing needs allows further questions such as: were these financial services and products adapted to the needs of the local suburban middle class, as Louis Hyman proved in the case of the United States of America?²⁹ The last component of the research question and thesis is based on the analysis of the German, French and Luxembourgish media landscape and banking adverts. Additionally, the reconstruction of the sensitive debate about cashless methods of payment and home banking helps to identify influential actors of the European retail banking business.³⁰ Furthermore, the dissertation clarifies whether the French, Luxembourgish and German media landscape influenced innovative online banking services and products. Did the reporting about cashless methods of payment influence or shape retail banking services and products such as credit cards, ATMs and home banking? The discussed research questions allow a long-term perspective from the 1960s until 2015. This period is synonymous with the rise of

²⁸BÁTIZ-LAZO, Bernardo & EFTHYMIU, Leonidas (Ed.), *The book of payments, Historical and Contemporary Views on the cashless Society*, London, Palgrave Macmillan, 2016.

HUSZ, Orsi, *Bank Identity: Banks, ID Cards, and the Emergence of a Financial Identification Society in Sweden*, in: cambridge, URL: https://www.cambridge.org/core/services/aop-cambridge-core/content/view/0D5AF7AE7F3D989ECF542DB5A461C278/S146722271700043Xa.pdf/bank_identity_bank_s_id_cards_and_the_emergence_of_a_financial_identification_society_in_sweden.pdf (State: 16.06.2020).

²⁹HYMAN, Louis, *Debtor Nation. The History of America in Red Ink*, Princeton, Princeton University Press, 2012.

³⁰The term “sensitive debate” is used in this paper to refer to the mostly heated debates between banks, states, supranational institutions, consumers, hackers, credit card companies and engineers about cashless payment methods in the Press landscape.

communication and marketing in European banks due to the standardisation of salary and pension payments in the late 1960s as well as the growth of computing and online communications. The need arose to communicate with a new, growing customer base. The following sections will clarify the research questions and demonstrate how they advance the current state of the art.

Timeframe - From the emergence of mass retail banking in Europe to the implementation of banking industry standards on a European scale

In the late 1950s, the first large computer centres were installed in European banks and dematerialisation and automatisisation of payment systems emerged. In addition, credit card companies such as American Express (Amexco) and Diners Club entered the market and challenged the hegemonic position of European banks in the cashless payments market. These American credit card providers discovered that the European cashless payment market was still in its infancy and started to spread their cards in Europe at the end of the 1950s.³¹ However, the automation of internal bank processes originated in the United States and from there it spread to the Anglo-Saxon countries caught up with this development. In the United States, the use of punched cards as well as computer centres became necessary at an early stage, considering that in 1955 8 billion cheques had to be handled and processed.³² It should be noted that in the world of banking the term “*automatisation*” was explicitly used and based primarily on the automated processes of mass industry.³³ The automatisisation trend can be observed at slightly delayed intervals at the end of the 1950s until late 1960s in Germany, France and Luxembourg. For example, on 20th February 1961, one year after the purchase of the first IBM computers, *Banque Générale du Luxembourg* (BGL) installed a computer centre at *Rue Aldringen* No. 16 in Luxembourg city. The rapid increase in paperwork due to the growing number of transfers and the processing of cheques, to name just a few examples, made technical tools as indispensable in Europe as in the Anglo-Saxon sphere. Apart from increased efficiency through automatisisation, European banks needed to keep up with their American counterparts

³¹FLON, H., *Rapport sur la question de la mécanisation à la Banque Générale du Luxembourg*, Luxembourg, le 10 July 1959.

³²ENGLER, Rolf, *Zur Automation im Kreditgewerbe*, in: *Zeitschrift für die Bediensteten der Deutschen Bundesbank* N°26, Frankfurt am Main, Deutsche Bundesbank, 1967, p. 2.

³³Unknown author, *Automation als Grundlage neuer wirtschaftlicher Entwicklungen*, in: *Wirtschaftsberichte* N°28, Wien, Bankverein Wien, 1957, pp. 3-7.

to stay competitive.³⁴ However, during this period, not only computer centres were set up. The first cash machines made their way to urbanised areas. This was the beginning of the eventful evolution of electronic payment systems.³⁵

Consequently, the year 1968 represents the starting point of this research in which European banks discussed for the first time concretely about a common European cashless means of payment in Frankfurt, the so-called Eurocheque. Although there existed cashless means of payment in the various European countries, the Eurocheque can be understood as one of the first steps towards a common European cashless payment method.³⁶ It is therefore clear from the outset that the European cashless payments market has always been highly fragmented and competitive.

The research period is not only characterised by the internal automatisisation of banks, the first cashless plastic payment devices and automated teller machines. With the advent of Videotex systems in Europe, a new era of innovation impacted the continent's financial world. Home banking emerged in the 1980's on a large scale in France. The Minitel users could find more than 100 home banking offers in their *Listel*, a directory that listed all services available on their interactive medium through digitising of telephone information.³⁷ Valérie Schafer and Benjamin Thierry describe this period in France as a period of acclimatisation of the French people to screen text and the transition from the Minitel to the Internet.³⁸ Consequently, this work also examines the transition from home banking via *Bildschirmtext* (BTX), *Vidéotex* (VTX) and Minitel to online banking.³⁹ With the emergence of the Web during the '90s, financial institutions and direct banks started to implement online-banking. These developments led to an upcoming European digital market that forced the European Union to set up new directives. Therefore, the time frame closes with the Payment Service Directive II

³⁴Archive Banque Générale du Luxembourg BNP Paribas, Unknown author, *Chronologie de l'histoire de la BGL*, Luxembourg, 1994, p. 10.

³⁵BÁTIZ-LAZO, Bernardo & EFTHYMIU, Leonidas (ed.), *The book of payments*, London, Palgrave, Macmillan, 2016.

³⁶Archive Deutsche Bank, International Eurocheque Secretariat, Eurocheque 1968-1978, Brussels, 1978, pp. 5-18.

³⁷LISTEL, *Annuaire des services teletel*, n°1 Décembre, Paris, Les Éditions Télématiques de France, 1985, pp. 204-220.

³⁸SCHAFER, Valérie & THIERRY, G. Benjamin, *Le Minitel, l'enfance numérique de la France*, Paris, Nuvis, 2012.

³⁹BTX and VTX are the German and Luxembourg correspondents to Minitel. The special feature of VTX, however, was that Luxembourg users could dial in from Luxembourg to France, Germany and Switzerland, as can be seen from the user manual of the VTX of the Luxembourg Post. Source: Administration des Postes et Télécommunications, *Vidéotex, Guide d'utilisateur, Bedienungsanleitung*, Luxembourg, 1991.

(PSD II) in 2015. The security concept of two-factor authentication for home banking and credit card payments was anchored in European legislation. The Time frame covers the period from the creation of a favourable environment for the implementation of innovative services such as credit cards, ATMs and home banking and closes with the decision of the European Union to implement software security standards of non-cash payments methods to stay compliant with their consumer protection policy. The analysis of the influence of the European Union on banks' communication and marketing strategies regarding credit cards serves not only to leave the one-dimensional institutional narrative behind, but also to provide an insight into the European digital payments' market in the concluding parts of this thesis.⁴⁰ This timeframe is therefore based on the work by Sebastian Gießmann called *Money, Credit, and Digital Payment 1971/2014: From the credit card to Apple Pay*.⁴¹

Thus, the time frame of this work is limited to the introduction of the first credit cards to digital payment methods between 1968 and 2015. This makes it possible to reconstruct the developments from the cheque-less to a cashless society in Europe. The bank communication policies in France, Germany and Luxembourg, especially regarding credit cards, will not only demonstrate how banks advertised credit cards, but that the development from checkless to cashless society is in most cases portrayed too boldly. Based on this time frame, it is demonstrated that between the development towards a cashless society, the transition phase of the “*cardless society*” set in. It is currently developing into a “*less cash & less card society*”. The term “*less*” specifically precedes “*cash & card*”, as this dissertation uses the communication strategies of banks to show that actors of the cashless payment worldwide are working on the vision of the “*cashless society*”, but face limits of European regulations related to the cashless payment market.⁴²

A comparative and transnational scope

The chosen transnational geographical scope is rather an unexplored space in terms of the historical analysis of digital banking products and service as well as related in retail banking.

⁴⁰Bundesanstalt für Finanzdienstleistungsaufsicht, Pressemitteilung, PSD II: *BaFin ermöglicht Erleichterungen bei Kundenauthentifizierung Bundesanstalt für Finanzdienstleistungsaufsicht*, 21.08.2019.

⁴¹GIEßMANN, Sebastian, *Money, Credit, and Digital Payment 1971/2014: From the Credit Card to Apple Pay*, in: *Administration and Society* 50/9, 2018, pp. 1259-1279.

⁴²GIEßMANN, Sebastian, *Money, Credit and Digital Payment 1971/2014: From the Credit Card to Apple Pay*, in: *Administration and Society* 50/9, 2018, pp. 1259–1279.

The current state of research mostly refers to case studies of individual retail banking products at a national level. Most case studies neglect or briefly consider the historical comparison or transnational analysis. The Eastern and Southern European markets of retail finance are not considered in this thesis, as researchers such as Bernardo Bátiz-Lazo, Maixé-Altés J. Carles and Paul Thomes focused on these “peripheral markets”.⁴³

The historical comparison of France, Luxembourg and Germany in retail banking business intends to overcome the geographical scope of nation states, while considering three close spaces that may have influenced each other. The chosen geographical context has the advantage that for the first time in Luxembourgish financial historiography the emergence and implementation of ATM networks, points of sales and home banking are historically reconstructed for Luxembourg.⁴⁴ Most scientific works related to the banking industry reconstruct the development of the financial centre. In the 1970s, Luxembourg developed into one of the most important financial centres in the world. In 2002, Luxembourg ranked 8th among the world’s leading financial centres. During the investigated period, the Luxembourgish economy evolved from heavy industry into a service economy, which became the predominant sector. Luxembourg’s economic boom spilled over into neighbouring countries, especially Germany, France and Belgium, although the Luxembourgish financial centre and its development remained the primary research by historians. A limitation to existing historical work on the Luxembourgish financial sector is its overwhelming contributions by financial experts who usually reflected on their expertise and personal experience. Consequently, there are legal and economic qualification studies on the Luxembourgish financial centre.⁴⁵ For example, Jaques Santer, former President of the European Commission from 1995 to 1999, reconstructs Luxembourg’s development from an “agricultural to a financial and media mecca” in the work, *Innovation-Integration*, based on his expertise.⁴⁶ However, a comprehensive historical reconstruction of the development of the Luxembourgish

⁴³BÁTIZ-LAZO, Bernardo & MAIXE-ALTÉS, J. Carles & THOMES, Paul (ed.), *Technological Innovation in retail Finance*, New York, International Historical Perspectives, 2011.

⁴⁴PAULY, Michel, *Geschichte Luxemburgs*, München, C.H. Beck, 2011, pp. 104-117.

⁴⁵FRANZ, Norbert, *Der Finanzplatz Luxemburg als Ergebnis wirtschaftlichen Bedarfs, politischen Willens und europäischer Integration*, in: Christoph Maria Merki (ed.), *Europas Finanzzentren, Geschichte und Bedeutung im 20 Jahrhundert*, Frankfurt am Main, Campus Verlag, 2005, pp. 149-166.

⁴⁶SANTER, Jacques, *Vom Agrar- und Industriestaat zum Finanz- und Medienmekka. Das Luxemburger Modell als Paradigma für Innovation durch Integration*, in: KIRT, Romain & MEISCH, Adrien (ed.), *Innovation-Integration. Festschrift für Pierre Werner. Mélanges pour Pierre Werner*, Luxembourg, Editions St. Paul, 1993, pp. 19-31.

financial centre which not only considers its development from a bank's perspective is still lacking.⁴⁷

Luxembourg, France and Germany represent adequate countries for a comparison. France is a country that focused already in the 1960s on the modernisation of its payment instruments. Germany counts to the European countries which relied on cash until today. For example, 90 percent of goods in Germany were paid in cash in 1990. Only 5 percent of the German population paid with Eurocheque and 5 percent with credit cards during the 1990s. Therefore, the French Press and population perceived their neighbouring country as lagging regarding the modernisation of cashless payment methods. This research represents pioneering work for Luxembourg regarding the emergence of cashless payment methods therefore the aim of this dissertation is also to clarify whether Luxembourg was an intermediary model of its two neighbouring countries between modernisation and cash.⁴⁸

Consequently, this thesis addresses the need for a comprehensive historical reconstruction of the development of the Luxembourgish financial centre as well as an analysis of retail banking and aims to give it a more international scope and one which is not exclusively focused on investment banks. Considering that most of the banks that settled in Luxembourg came from France and Germany, the chosen geographical scope contributes to the question of whether there were interconnections, common strategies, or knowledge exchange outside of investment banking, more precisely in the communication of banks. Moreover, French and German banks always tried to establish themselves within Luxembourgish retail banking. The most notable example of such a development is the *Banque Générale du Luxembourg*, which was taken over several times by French and Belgian banks. Combining these findings with the knowledge that the Luxembourgish government holds large shares in most Luxembourgish financial institutions and that the Luxembourgish state has always been economically, culturally and legislatively oriented towards Germany and France, the comparison between Luxembourg,

⁴⁷MAJERUS, Benoît & ZENNER, Benjamin, *Too small to be of interest, too large to grasp? Histories of the Luxembourg financial centre*, in: *European Review of History: Revue européenne d'histoire*, 2020. DOI: 10.1080/13507486.2020.1751587.

⁴⁸Unknown author, Les Allemands découvrent la carte de crédit, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1991/10/04/les-allemands-decouvrent-la-carte-de-credit-jusqu-a-present-ils-preferaient-payer-en-liquide-ou-par-cheque-la-carte-connaît-aujourd-hui-outre-rhin-un-veritable-boom-mais-elle-est-d_4040228_1819218.html (State: 02.08.2021).

France and Germany clarifies whether these tendencies were also the case in retail banking.⁴⁹ Works such as, *ICT the Nordic Way and European retail banking*, by Joan Carles Maixé-Altés and Orsi Husz show that analysing small-scale countries in a European context is fruitful for historical research. Maixé-Altés demonstrates that Nordic financial institutions participated in technological change as early adopters of computer technologies mostly by relying on their own manufacturers and by adopting and even using foreign technologies to develop more appropriate models.⁵⁰ Orsi Husz's work *Bank Identity: Banks, ID Cards and the Emergence of a Financial Identification Society in Sweden*, familiarises the reader with the reasons underlying the rapid spread of cashless means of payment in Sweden. The study shows how the population in Sweden has strongly identified with banks and the upcoming of cashless means of payment since the mid-1960s and how this was further advanced by the introduction of *Bank ID* in 2003.⁵¹ Consequently, this dissertation contributes to clarify the question whether Luxembourgish credit institutions also went their own way to keep up technologically with the European competitors in retail banking? This approach will be deepened in this dissertation. In addition, the chosen geographical scope allows a historical perspective on the Luxembourgish banking industry, but also underlines the differences in retail banking regarding digital payment methods in Germany and France. In this comparative analysis, it is possible to demonstrate why digital payment methods found greater acceptance in France as well as in Luxembourg than in Germany. Furthermore, the research topic invites to study how fast the European consumer accepted a newly introduced banking innovation and to investigate national disparities such as those that Sabine Effosse and Isabelle Gaillard presented in their work about the European credit consumer market.⁵²

Furthermore, the chosen geographical context helps to shed light on the still undiscovered history of why credit card payments frowned upon in Germany and why Luxembourg and France are among the European countries with the highest number of credit card payments today. Luxembourgish banks were geographically located centrally between the sphere of

⁴⁹TRAUSCH, Gilbert, *Belgique-Luxembourg, Les relations belgo-luxembourgeoises et la Banque Générale du Luxembourg 1919-1994*, Luxembourg, Banque Générale du Luxembourg, 1995, p. 243.

⁵⁰MAIXE-ALTÉS, Joan Carles, *ICT the Nordic Way and European Retail Banking*, in: Gram C., Rasmussen P., Østergaard S., *History of Nordic Computing*, in: *Information and Communication Technology*, vol 447. Cham, Springer, https://doi.org/10.1007/978-3-319-17145-6_27.

⁵¹HUSZ, Orsi, *Bank Identity: Banks, ID Cards, and the Emergence of a Financial Identification Society in Sweden*, in: Cambridge, (State: 11.02.2020).

⁵²EFFOSSE, Sabine & GAILLARD, Isabelle, *l'Europe et le crédit à la consommation*, in: *Entreprises et histoire* (n° 59), *Consommer à crédit en Europe au XXe siècle*, 2010, pp. 5-11.

influence of the *Groupement des Cartes Bancaires* (CB) and the *Gesellschaft für Zahlungssysteme* (GZS). France has always been under the influence of Visa since 1974.⁵³ In Germany, Eurocard and MasterCard dominated the cashless payment market. Although most Luxembourgish banks distributed the Eurocheque, Eurocard and MasterCard and only the *Crédit Européen* distributed Visa in the early 1980s, Luxembourg is now one of the countries with the highest credit card transactions. Both countries serve as a point of reference for the historical reconstruction of Luxembourg retail banking regarding the emergence of cashless payments and banks' communications. As already demonstrated, the Luxembourgish economy and state traditionally adapted French or German economic models or technology.⁵⁴ The historical comparison of this dissertation aims to deconstruct the linear success narrative of French banks as well as media landscape. For example, the historians of the *BNP Paribas* tell a one-dimensional history of the French chipcard.⁵⁵

Regarding Germany, the focus is primarily on Western Germany and later the Federal Republic of Germany. The German Democratic Republic (GDR) is not included in this research because the GDR banking system was part of the organised state in terms of a planned economy. The savings banks were part of this state banking monopoly and primarily collected the savings deposits of the population. These savings deposits were later forwarded to the state bank. This income was then granted in the form of loans to the national economy. This also explains the almost non-existence of scientific work on retail banking regarding consumer credit in the GDR and the corresponding advertising.⁵⁶ Although the history of advertising of the German Democratic Republic banks about digital services and products is not included in this work, audio-visual material relating to advertising was analysed. A snippet of the show *AHA* from the end of the 1980s is probably the only audio-visual document that was preserved concerning the topic of mass marketing for digital banking services and products in the GDR. Some instructions on how to use ATMs and how to handle the necessary *Geldkarte* as well as some

⁵³SUHR, Frauke, *Mit Karte, bitte!*, in: de.statista, URL: <https://de.statista.com/infografik/22921/anzahl-der-kartenzahlungen-je-einwohner-in-der-eu/> (State: 11.02.2020).

⁵⁴TRAUSCH, Gilbert, *Belgique-Luxembourg, Les relations belgo-luxembourgeoises et la Banque Générale du Luxembourg 1919-1994*, Luxembourg, Banque Générale du Luxembourg, 1995, p. 243.

⁵⁵Unknown author, *La carte à puce, l'invention française qui a révolutionné les paiements (2/2), L'Adoption*, in: histoire.bnpparibas, URL: <https://histoire.bnpparibas/la-carte-a-puce-linvention-francaise-qui-a-revolutionne-les-paiements-22-ladoption/> (State: 11.02.2020).

⁵⁶KUßMAUL, Heinz, *Bankensystem in der ehemaligen DDR*, in: gabler-bankenlexikon, URL: <https://www.gabler-banklexikon.de/definition/bankensystem-der-ehemaligen-ddr-55980> (State:25.03.2019).

few Press articles were also retrieved. The State Bank advertised its ATMs and debit card with the following information in general:

“The ATM is a self-service facility where you can get cash without the assistance of our employees. The operating elements of the ATM are protected at certain locations by a security shield which opens automatically and immediately after you have entered your cash card and automatically closes a few seconds after you have removed it. You will be informed about all actions to be conducted via the screen.”⁵⁷

The first cash dispensers were inaugurated in the GDR in March 1987. The first one was installed not far away from *Robotron* based in Dresden. The reason behind it was relatively simple: *Robotron* had constructed every single cash dispenser in the GDR. In 1989, about 250,000 GDR citizens had access to these machines and received a cash card. The *Geldkarte* was a simple debit card. By the end of 1989, cash could be withdrawn from 274 machines in the GDR, 80 of them installed in East Berlin. The other 194 ATMs were placed in the GDR’s district towns. Therefore, primarily those living in the GDR’s suburbs had access to these ATMs and were recipients of a debit card to have access to their current accounts. As mentioned, the only document known to date of mass marketing regarding digital bank products and services in the GDR is a snippet from the television quiz show *AHA*. During the show, the Deputy President of the GDR state bank, Eberhard Geißler, presented the functions of the electronic bank teller and the cash card.⁵⁸ The *Geldkarte* was the only payment card issued to citizens in the GDR. Separate credit cards were not issued or distributed by the state bank or the savings banks. Consumer credit did not fit into this socialist world view. Nevertheless, it does not mean that it was not possible to pay with credit cards in the GDR as a foreigner. Until the end of the 1970s, it was possible to do so for the inhabitants of West Germany before the Hessian central bank decided to act against credit card organisations. The GDR had negotiated agreements with Diners Club and American Express in the 1960s however the Hessian central bank declared these contracts invalid in 1977. To underline the seriousness of their warning, the GDR threatened anyone from West Germany who paid their bill by credit card with a prison sentence of five years and fines of up to 25,000 marks. Surprisingly the GDR continued to allow West Germans to use cash and travellers’ cheques. Only personal items, such as hotel bills or small purchases, could be paid by the credit card. The GDR did not mess

⁵⁷Unknown author, *Anleitung-DDR-Geldautomat*, in: mdr, URL: <https://www.mdr.de/zeitreise/geldautomaten-in-der-ddr-100.html> (State:28.04.2021).

⁵⁸MITTELDEUTSCHER RUNDFUNK Archiv, *Geldautomaten in der DDR*, in: MDR Zeitreise, Fernsehbeitrag am 20.11.2018.

with the rest of the world when it came to credit cards. Somehow money had to be pumped into the empty state treasury.⁵⁹ After all, these insights give already hints why the credit card in Germany did not find the same spread as in France or Luxembourg until today.

The analysis includes the comparison of nation states as well the as the European and international scope. Thus, this dissertation conducts a German, French and Luxembourgish comparison to obtain a deeper understanding of the targeted users of financial services on a national and European scale. In other words, the question will be answered whether the French, German and Luxembourgish populations were equally prepared for the age of online banking. Additionally, obstacles which banks faced when implementing cashless payment methods and home banking in Luxembourg, Germany and France, will be identified. Furthermore, the case study of the European retail banking market and credit card market allows comparisons with other countries in Europe. For example, the European credit card, called Eurocard, was based on the structures of the Eurocheque. This already included a European banking network of 39 countries.⁶⁰ As a result, not only Luxembourg, Germany and France are considered, but a global and European perspective is provided without losing the main research focus. By setting the geographical scope of the study within Luxembourg, Germany, and France, one can then make larger scale comparisons with other, even non-European, countries.

Studying European digital payment systems allows to adapt the reflections done on the US market for the European market. For example, George Ritzer underlines in his work, *Expressing America: A Critique of the Global Credit Card Society*, that credit cards brought Americanisation and modernity to much of the rest of the world in combination with other elements of American popular culture, one example being the affluence and boom in mobility that occurred after the war. Juan Carles Maixé-Altés observes that the “*first plastic cards in Europe were introduced to the changing needs of European consumers*” such as increased interest for tourism.⁶¹ This leads us to the following question: Do we find the elements of the American way of life, modernity and mobility in the presented European cases?⁶² Is there an

⁵⁹Unknown author, *Rechtes Fossil*, in: spiegel.de, URL: <https://www.spiegel.de/wirtschaft/rechtes-fossil-aca24dbe-0002-0001-0000-000040749010> (State:28.04.2021).

⁶⁰Archive Banque Générale du Luxembourg BNP Paribas, Unknown author, *Notes aux services et agences, Eurocard*, N°52, 1980.

⁶¹MAIXE-ALTES, J. Carles, *Retail trade and payment innovations in the digital era. A cross-industry and multi-country approach*, in: *Business History*, DOI: 10.1080/00076791.2018.1471062.

⁶²RITZER, George, *Expressing America: A Critique of the Global Credit Card Society*, in: scholarworks.umass, URL: https://scholarworks.umass.edu/cgi/viewcontent.cgi?article=1001&context=resec_faculty_pubs (State: 25.03.2019).

increased need for mobility in Europe after the second world war? Considering that the focus of the analysis is on hardware and software, one of the questions that arises is whether bank customers have developed specific needs around software for cashless payment methods over the years? Therefore, the needs of the bank customer are analysed in relation to innovative online banking services and products. This identifies the customer's changing needs in terms of cashless payment methods in a long-term perspective on the European single market and the European digital market. By comparing German and French retail banking economies, which belong to the strongest in Europe, European-wide and worldwide comparisons are possible. Moreover, it provides evidence for the reasons why Europe is still far away from having a common European cashless method of payment. Regarding credit cards, the dissertation will take also in count MasterCard and Eurocard because Visa card has been over investigated in the field of the history of retail banking and there is a major lack of knowledge related to MasterCard and Eurocard for France, Germany and Luxembourg.⁶³ There is no consensus in the common literature about definitions and terms of cashless payment methods. In this dissertation the term credit card refers to general smart and chip cards as a carrier of personal data and documents used in European retail banking.⁶⁴ The research starts with the analysis of ATMs which had at least computerised accounting system and data management system and were connected to a central computer.⁶⁵ It ends with the analysis of digital marketing strategies of financial institutions in 2015.⁶⁶ The analysis of cooperation and innovation is therefore not limited to institutional and technical infrastructure but includes advertising material. The first forms of home banking emerged in the 1980s in Europe such as Minitel in France or later BTX in Germany, all the way up to highly complex distance and self-service banking services. Private customers as well as corporate customers of the retail banking business are considered equally. Historical research and historiography regarding retail banking and cashless payments is being hampered in its transnationality, particularly by a non-existent standardised terminology.

⁶³EVANS S., David & SCHMALENSEE, Richard, *Paying with Plastic*, Cambridge MA, The MIT Press, 2005, p. 110.

⁶⁴RUIF, Bruno, *Smart Cards as Carrier of Personal data, and Documents*, in: BRENNER, Walter & KOLBE, Lutz (ed.), *The information superhighway and private households case studies of business impacts*, Freiberg, Physica Verlag A Springer Verlag company, 1996, pp. 65-74.

⁶⁵BÁTIZ-LAZO, Bernardo, *Emergence and Evolution of ATM Networks in the UK, 1967-2000*, 2010, published online as open access document, <https://doi.org/10.1080/00076790802602164>.

⁶⁶Archive Banque Générale du Luxembourg BNP Paribas, Unknown author, *Notes aux agences, Introduction Bancomat au Luxembourg*, 1983.

Enlightening new stakeholders

The dissertation contributes to new insights in the history of modelling of technical networks and retail banking and analyses the network architecture of ATM's, home banking and credit cards. This leads to the following question: to what extent the sensitive debate in Germany, Luxembourg and France shaped credit cards, ATMs and home banking? To what extent did they have an influence on the shaping of networks and non-cash payment methods?

Numerous works examine so-called “*giants of computing*” or “*pivotal pioneers*”. Their reconstruction of is often limited to the lifepath of individual programmers and geniuses of programming. By analysing the Press, however, the dissertation draws a more detailed panorama of the actors involved in retail banking in order to demonstrate their specific influence on software and hardware of banking services and products.⁶⁷ The analysis of the sensitive debate of the media landscape in Luxembourg, Germany and France identifies actors, such as hackers and engineers, who have received little attention in previous research.⁶⁸ Patrice Flichy contributes to this domain with his work, *L'innovation technique*, which explores the question how technical innovations develops? He proposes abandoning the traditional approach of the innovation theory and to focus on designers and users.⁶⁹ The shift of focusing on the public and the designer can also be observed in entrepreneurial legal studies and technological innovation studies. For example, Eric von Hippel investigates in his work about free innovation in the role of the consumer and shows its impact on national economies. Von Hippel underlines overall the fact that researchers, governments and other actors in the field focused too intensely on the Schumpeterian idea of innovation.⁷⁰ Nathan Ensmenger illustrates the necessary change of perspective in *Power to the people: toward a social history of computing* and raises the following question to achieve a change of perspective: “*Who were the early champions of commercial electronic computing within corporate organisations, and what did they hope to accomplish?*”⁷¹ Ensmenger's question can also be applied in the field of financial history early on. What was the aim of financial institutions' programmers and

⁶⁷O'REGAN, Gerard, *Giants of Computing A Compendium of Select, pivotal pioneers*, Heidelberg, Springer, 2013.

⁶⁸GRISSET, Pascal & BENJAMIN, Thierry, *Histoire de la modélisation des réseaux techniques*, in: *Flux*, vol. 85-86, no. 3, 2011, pp. 4-7.

⁶⁹FLICHY, Patrice, *L'innovation technique. Récents développements en sciences sociales. Vers une nouvelle théorie de l'innovation*, Paris, La Découverte, 2003.

⁷⁰VON HIPPEL, Eric, *Free innovation*, Cambridge MA, The MIT Press, 2017.

⁷¹ENSMENGER, Nathan, *Power to the people: toward a social history of computing*, in: *IEEE Annals of the History of Computing* 26:1, 2004, pp. 95-96.

engineers? On which principals did they programme security standards of non-cash payment methods? To follow the change of perspective described by Ensmenger, the research focus is directed specifically at the sensitive debates by analysing individual actors, public opinion, and societal trends without losing the focus on the communication of banks. Finally, a slight detachment of the traditional perspective can be observed in various sciences such as political sciences. For instance, David Howarth published an article about the European consumer in 2008. In its article, Howarth focuses on how the European Union has strengthened its support for consumer interests to encourage EU citizens to support the European single market. So, Howarth's work focuses on the efforts of the EU Commission to show its usefulness for the protection of consumers in general. Consequently, this dissertation also addresses the question of whether the EU's regulation of the cashless payments market can be understood as part of their consumer protection policy.⁷² To conclude, the thesis advances in recent historiographic trends in the field of the history of finance, the history of the bank communication, network studies and the history of computing which focus on the digitisation and automation of banks, the analysis of bank advertisement campaigns and the role of actors neglected in the traditional history of computing and networks such as hackers, engineers, or programmers. Overcoming the boundaries of an institutional historiography and analysis does not mean, however, that the traditional approach is ignored. Altogether, these research questions make it possible to entwine both a top-down and a bottom-up approach which seeks to identify the big picture and all its components as well as to include neglected actors such as hackers, engineers, or programmers in the historical analysis.

Advertising material as a historical research object

The analysis of marketing strategies, campaigns, slogans and advertising films is a useful tool for historical analysis as Sabine Effosse's work on the rise of the cheque in France shows. The French historian uses advertising not only as a method of illustrating the marketing strategies of banks, but also to prove that the advertising of the cashless mass payment instrument was an element that led to the spread of the cheques in France. Thus, the analysis of advertising

⁷²HOWARTH, David, *The Commission Defends the European Consumer*, in: *Journal of Common Market Studies*, 46 (s1), 2008, pp. 91-107.

posters and slogans enables her to find answers to research questions such as “*Which conditions, then, allowed the cheque to become a mass payment method?*”. Sabine Effosse uses advertising to illustrate how banks promoted the cheque in France. For example, she decodes women’s access to banking services in the 1960s and decodes the newly discovered target group of users in the competition for customers and the establishment of the cheque based on the banks’ communication. She concludes that the woman in the target group for a French bank belongs to the upper middle classes and is married to a “*good husband*” who is successful in life and takes care of her by giving her a cheque book to pay for living costs.⁷³ The aim is to answer the still unresolved question of which roles men and women played in the spread of innovative cashless payment methods in Europe. Furthermore, the dissertation includes the reflections of Barbara Bonhage and describes the development of the information society as a process shaped by social and technical changes. She uses concrete case studies of the Eurocard and Eurocheque to portray the process towards the consumer society and the information society. This thesis also pays special attention to social and technological change within the research time frame, as Bonhage has shown that European retail banking and society were strongly influenced by social and technological processes. This dissertation also sees social and technological change in context and not as a single process. The analysis of the advertising material serves to identify the changing needs of the bank customers. The analysis from advertising campaigns in combination with the reflections of Bonhage’s approach help to see the big picture and to better understand the sources by knowing that European retail banking was permanently changing due to social and technological changes.⁷⁴

Methods and sources

As a result of the discussed theoretical framework and definitions established above, our material and corpus consist of bank reports, advertising campaigns, legislations, expert interviews, banking manuals, audio-visual material and newspaper articles. Annual bank reports, contain summaries of the annual activities of the individual business areas of the respective financial institutions which helps to analyse the technological process within banks

⁷³EFFOSSE, Sabine, *El cheque en Francia: el lento ascenso de un medio de pago de masas (1918-1975)*, in: MAIXE-ALTES, Joan Carles & DEL ANGEL, Guillermo & BÁTIZ-LAZO, Bernardo, *Retail payments in historical perspective*, in: *Revista de la Historia de la Economía y de la Empresa*, XI, 2017, pp. 77-94.

⁷⁴BONHAGE, Barbara, Eurocheque, Creating a ‘common Currency’ European Infrastructure for the cashless Mass Payments Systems, in: *Materializing Europe*, BADENOCH, Alexander & FICKERS, Andreas, *Transnational Infrastructures and the Project of Europe*, Hampshire, Palgrave Macmillan, 2010, pp. 182-197.

and the building of non-cash payment networks in Europe. Therefore, all annual reports of *Société Générale*, *Deutsche Bank*, *Banque Générale du Luxembourg*, *Crédit Agricole*, *Deutscher Sparkassen und Giroverband e. V.* (DSGV), and the *BNP Paribas* from 1960-2015 were examined. The analysis of visual and audio-visual advertising campaigns in particular helps to reconstruct the target groups of banks in retail banking. The *Institut national de l'audiovisuel* (INA), Luxembourgish *Centre national de l'audiovisuel* (CNA) and the online archives of the state television stations at the federal level in Germany such as the *Mitteldeutscher Rundfunk* (MDR). The combination of these archives provided the main corpus of over 300 audio-visual documents. Consequently, hours of audio-visual material from France, Germany and Luxembourg on the topic of credit cards, ATMs and online banking were analysed. The focus was explicitly on advertising campaigns for ATMs, credit cards and online banking to identify target groups or changes in how a product was advertised over a long-term perspective.

Newspapers articles are used for the analysis of sensitive debates. Furthermore, the Press serves to analyse printed campaigns and articles related to credit cards, ATMs, and home banking. *Der Spiegel*, *Le Monde* and *Luxemburger Wort*, with millions of readers count to the most influential newspapers in France, Germany and Luxembourg. Furthermore, *der Spiegel* runs its own online editorial department under the name of *Spiegel-Online* since 1994 and is one of the first digital daily newspapers in the world. Between 1960 and 1980, the sensitive debate primarily takes place in technical magazines in France, Germany and Luxembourg. In addition, the sensitive debate reaches its peak in the 2000s.⁷⁵ Thus, the coverage of the three newspapers in paper and the digital space is captured. *Der Spiegel*, *Le Monde* and *Luxemburger Wort* are supplemented by business newspapers and in-house employee newspapers of banks, such as the *Geld* of the Deutsche Bank, *Sogéchos* from the *Société Générale*, *BGL Info* of the *Banque Générale du Luxembourg*, *LesEchos*, *Handelsblatt* and the *d'Lëtzebuenger Land*. For example, the *d'Lëtzebuenger Land* is a liberal weekly newspaper founded by Carlo Hemmer in 1954. The newspaper was a platform for non-party intellectuals in a time of modernisation from society and state. The *d'Lëtzebuenger Land* defended the interests of the national industry, free trade, nature conservation and the social-liberal coalition in Luxembourg. Furthermore, Carlo

⁷⁵Press report, *der Spiegel*, *20 years of SPIEGEL ONLINE - 20 years of online journalism: On 25 October 1994, SPIEGEL became the world's first magazine to go online*, 21 October 2014.

Hemmer did not agree with the opinion-monopoly of the local party newspapers.⁷⁶ To sum up, *d’Lëtzebuurger Land* was a response to the biased Luxembourgish daily newspapers. Their intention was to stand out of the local newspaper jungle with precise and analytic articles. Over time, the liberal newspaper had different owners, but that did not change their values. The “*Land*” was published in 54.5 x 33,5 cm format, in 1976 they changed it to 43.5 x 30,5 cm. Each issue had about twelve or sixteen pages.⁷⁷ However, the sensitive debate addressed to the ordinary reader and to a professional audience are illustrated. The sensitive debate serves to identify individual actors, considering that credit institutions use for example newspaper interviews and articles for marketing purposes. A corpus of more than 8,300 articles was generated by the online archives of the newspapers *der Spiegel*, *Le Monde* and *Luxemburger Wort*. The online archive *eluxemburgensia.lu* of the *Bibliothèque Nationale du Luxembourg* (BNL) was consulted to study the Luxembourgish Press landscape.⁷⁸ All three online Press archives work with a simple search mask. The request was consciously kept simple, concentrating on the following words: ATM, credit card and online banking. The publication date of the newspaper articles was set between 1960 and 2015. All articles were then filtered out which, in addition to the keywords just mentioned, dealt with various actors of payment transactions, such as credit card companies, direct banks, consumers or hackers. These articles were selected according to the following criteria: Which actors are mentioned in these articles or have been mentioned? What role did these actors play? Furthermore, the articles were categorised according to their format. Consequently, the newspaper articles were also differentiated according to the different points of view of the individual actors. The following questions were used to sort out the articles: Is the article part of an educational campaign to advertise a product? Is it an interview with an expert? Is it an independent contribution by the newspaper to the topic? Does it take into account the view of the consumer of digital services and customers? A corpus of 1,200 articles remained after this selection process. The most representative articles were used for this work. In the case of this quantitative study, one cannot speak of publication peaks between 1960 and 2015. The reporting on credit card fraud and the blowing up of ATMs in France, Luxembourg and Germany was permanently present. Since

⁷⁶HILGERT, Romain, *Zeitungen in Luxemburg, 1704-2004* in: luxembourg.public URL: <http://luxembourg.public.lu/de/publications/e/journaux-luxembourg/journaux-luxembourg-2004-DE.pdf> (State: 14.11.2020).

⁷⁷LAND: *Historique* in: land URL: http://www.land.lu/online/www/menu_content/history/FRE/index.html (State: 14.11.2020).

⁷⁸Bibliothèque Nationale du Luxembourg, *About us*, in: eluxemburgensia, URL: <https://eluxemburgensia.lu/en> (State: 14.11.2020).

the 1980s and the 2000s, there was a steadily growing interest in cybercriminal in the Press. To understand advertising campaigns, annual reports, technical differences, definitions, or marketing strategies and to be able to create new knowledge regarding the research question, a deeper understanding of the research subject had to be established. This was mainly achieved through an examination of European banking law, the development of a banking teaching manual corpus from 1960-2015 and by conducting interviews with 10 bank experts.⁷⁹

Furthermore, the analysis of regulations and laws helped to understand the influence of nation states and the European Union on retail banking services. With its detailed digital archiving of regulations, legislation and directives, the archive of the European Commission contains a considerable corpus of sources on retail banking in Europe. The European Union is committed to transparency. However, this transparency causes opacity during research. In other terms, the search engine of the archive of the European Union usually leaves the user in a jungle of hyperlinks and PDFs.⁸⁰ The corpus of banking textbooks provided the main contribution to a deeper understanding of the marketing strategies used in retail banking between 1950 and 2015. Furthermore, the French, German textbooks contained important historical background information, such as on the emergence of ATM networks within the geographical scope of this thesis as you can see exemplarily by the work of Eckert Van Hooven and Süchting *Handbuch des Bankmarketing*.⁸¹

The 10 expert interviews lasted no longer than one hour in the form of a free discussion with the expert. The interview partners were specifically asked about their expertise in ATMs, credit cards, online banking and marketing. The main aim was to find out technical know-how and historical key data. In summary, the expert interviews and textbooks helped not only to gain a better understanding of European banking law but also to expand technical knowledge in the fields of marketing, financial networks and cashless payments in French, German and Luxembourgish retail banking. A complete list of interview partners can be found in the annex. In the dissertation, however, only the statements of Mr Marc Hemmerling of the *Association des Banques et Banquiers luxembourgeois* (ABBL) and Mr Jean-Claude Schneider, then head of the marketing department of retail banking at the *Banque Générale du Luxembourg* (BGL),

⁷⁹A complete list of the interviewees is provided in the list of sources.

⁸⁰The Publications Office of the European Union maintains the website, eur-lex.europa.eu, to facilitate public access to European Union law.

⁸¹SÜCHTING, Joachim & VAN HOOVEN, Eckart, *Handbuch des Bankmarketing*, Wiesbaden, Gabler, 1987.

were used and excerpts were quoted, as most of the interviews did not create any new historical additional insides to the current state of research. Nevertheless, the interviews helped to delve deeper into the subject matter and to better understand French, Luxembourgish and German retail banking. The interviews with Mr Hemmerling and Mr Schneider were included because they not only provide an insider's perspective on communication strategies regarding cashless payment methods of banks in Luxembourg, but also contain important information about which actors have driven digitalisation in Luxembourg.

More than 20 digital and physical archives were consulted. But, to gain new historical information and perspectives on retail banking within the geographical scope of this work, it was necessary to conduct research over several weeks in archives of financial institutions such as *Banque Générale du Luxembourg*, *BNP Paribas*, *Deutsche Bank*, *Société Générale*, *Crédit Agricole* and the *Deutscher Sparkassen und Giroverband e.V. (DSGV)*. However, the focus stays on universal banks and direct banks, as savings banks tend to concentrate on the sale of savings products than on consumer credit.

Through the Internet Archive and the analysis of web domains of direct banks, the sales strategies of direct banks could be compared with those of universal banks in the digital space. The Internet Archive and its Wayback Machine were also used to reconstruct the development of home banking in Europe between 1995-2015, from a landing page to a sophisticated financial and marketing tool.⁸² The first traces of web archiving can be found in 1996, when Brewster Khale founded the Internet Archive. At the very beginning, the Internet Archive conserved every web page indicated on the search engine Alexa. Later, they started to take in count various file formats such as pictures etc. This was a logical step to conserve the depth of websites and the whole world wide web.⁸³ Coming to the technical issues, the crawlers used for the harvesting procedure is not without shortcomings. For example, content from the deep web, data that need authorisation, dynamic elements or hyperlinks hidden in web documents cannot be found from the crawler during archiving websites.⁸⁴ Nevertheless, Jane Winters that

⁸²SPARDA BANK HAMBURG eG, *110 Jahre Sparda Bank Hamburg. Von der Eisenbahn auf die Daten Autobahn*, Hamburg, Spardabanken, 2013, pp. 10-15.

⁸³MUSIANI, Francesca, PALOQUE-BERGÈS, Camille, SCHAFER, Valérie, THIERRY, G., Benjamin, *Qu'est-ce qu'une archive du Web?*, Marseille, in: *OpenEdition Press*, 2019, <https://books.openedition.org/oepp/8713>, pp. 13-30.

⁸⁴RAUBER, Andreas & LIEGMANN, HANS: *Web-Archivierung zur Langzeitarchivierung von Internet-Dokumenten*, in: *nestorhandbuch*, URL: http://nestor.sub.uni-goettingen.de/handbuch/artikel/nestor_handbuch_artikel_293.pdf (State: 14.11.2020).

is nearly impossible to undertake historical research nowadays without using one digitised source.⁸⁵ In their co-edited book, *The Sage Handbook of Web History*, Niels Brügger and Ian Miligan deal with these issues just mentioned and provide an insight into the history of web archiving and the archived web as source. In this context, Brügger and Miligan place great emphasis on understanding the technical background of the Internet archives and point out that the analysis should pay particular attention to the visual layer and the layer of code.⁸⁶ However, as the dissertation focuses primarily on the visual and textual content of the web pages, these points of criticism did not represent an obstacle for the historical research of this dissertation as the visual analysis of the user interface does not require metadata of the website. Nevertheless, documents such as press releases or annual reports published by banks on their websites and archived by the Wayback Machine were used in this work. A more detailed explanation of the added value of using this digital tool is provided in the following paragraph. Consequently, the “Changes” function of the Wayback Machine, which allows you to compare the changes of the website over the years, represents one of the main functions used during the analysis of banks websites. The technical issues during the harvest procedure, regulations and digital source criticism represent problems to be solved. Nevertheless, the Internet Archive allows to identify the different encryption and security software of banks since 1996 with the emergence of direct banks such as *Sparda Bank* in Germany. Furthermore, a precise picture of direct banks can be drawn. The websites of traditional universal banks such as Deutsche Bank, *Banque Générale du Luxembourg* and *Société Générale* are visually analysed. The more than 50,000 captures of the *Société Générale* website taken by the Wayback Machine between 1999 and 2015 illustrate the added value of this corpus for a visual analysis.⁸⁷ A corpus of more than 250,000 screenshots taken by the Wayback Machine between 1995 and 2015 served to identify target groups, products and the design of the websites of traditional universal banks in France, Germany and Luxembourg. In this way, the Wayback Machine helped to circumvent the self-imposed archive laws and retention periods of the banks about their private archives. Through the Wayback Machine and digital archives, it was nevertheless possible to view documents covering the period between 1990 and 2015.

⁸⁵WINTERS, Jane, Digital History, in: TAMM, Marek & BURKE, Peter (ed.): *Debating new approaches to history*, London, Bloomsbury Publishing Pic, 2019, pp. 277-294.

⁸⁶BRÜGGER, Niels & MILIGAN, IAN (ed.), *The SAGE handbook of web history*, London, SAGE Publications Ltd, 2019.

⁸⁷Webpage Wayback Machine, *Stats Société Générale*, in: web.archive.org, URL: <http://web.archive.org/details/http://societegenerale.fr/> (State:14.03.2021).

Early difficulties encountered in the production of this work nevertheless prove to be strengths in the final historical analysis. For instance, the analysis of historical sources in four languages, deepening digital analysis skills and getting access to bank archives represented the main difficulties of the research. To overcome these boundaries, it was necessary to analyse the documents in French, German Luxembourgish, and English and to develop a profound knowledge of French, German and Luxembourgish terminology regarding retail banking. Thus, as already discussed, a knowledge of banking law, communication and innovation had to be acquired in the respective national language. To obtain access to banking archives and to do research on retail banking is also not a simple matter. In many cases, access to bank archives could only be gained through networking, high bureaucratic effort and long travels. Access to archives was usually refused for data protection reasons, as it was the case with the *Banque et Caisse d'Épargne de l'Etat, Luxembourg* (BCEE).⁸⁸ In general, Luxembourgish, German and French banks only provided documents from the period before 1990 if they had been published. For internal documents, a retention period of 30 years applied, whereby financial institutions refer to the archive and data protection laws of the individual countries. It must be pointed out, however, that banks are reluctant to give insights to their advertising material. During the research stays at French, German and Luxembourgish bank archives the archivists explained their reluctance based on their own uncertainty who holds the author's rights, image rights or copyrights of the advertisement campaigns, commercials or images. However, it should be noted that bank archives place a high emphasis on commercial confidentiality. During the research stays it was often not possible to access vast quantities of documents containing sensitive information about individual companies or business partners of the French, Luxembourgish and German financial institutions. To start with the decoding of this black box called archival laws, the Wayback Machine helped to provide new insights. The Internet Archives preserves not only the visual dimension of websites from the mid-1990s to the present day, but also provides access to countless documents on the financial institutions websites such as press releases, product descriptions, handbooks or annual reports. These documents are often not accessible in physical or digital archives of banks due to the before mentioned archival laws. The combination of digital⁸⁹ and traditional archives used in the context of this work demonstrates how a well-balanced corpus of digital and analogue sources leads to the extension

⁸⁸Email from Michèle Fohl, Secrétaire du Comité de direction Service Secrétariat Général SPUERKEES received on 09.08.2019 after a request for access to their archives, 10:23.

⁸⁹A complete list of used born digital archives is provided in the list of sources and archives at the end of the volume.

of the boundaries of knowledge in the field of financial history of European retail banking. Furthermore, it highlights the *hybrid* historical approach discussed during the theoretical framework.

Time travel in three stages

This dissertation is divided into three parts. As already indicated, the dissertation has been structured thematically. This approach avoids a simple chronological reconstruction of milestones in the European cashless payments market. In addition, a thematic structure was chosen to clearly distinguish from traditional financial history, which often follows a strictly chronological structure. Moreover, it is not feasible to date back the emergence of banks' communication strategies in the same extent as the implementation of the first cashless payment methods in Luxembourg, Germany, or France.

Therefore, the first part of the dissertation analyses the banks' internal policies in favour of credit and payment cards. In particular, the marketing strategies of Eurocheque, Visa, MasterCard and Eurocard between the 1968 and 2015 fall within the focus of research. Consequently, the communication, marketing strategies and internal meetings of banks as well as developments of their policies, are the core of the first part. In this way, it is particularly ensured that advertising is not only discussed on a visual dimension. This approach thus makes it possible to reconstruct the complexity of the communication strategies of financial institutions from the beginning.

The second part analyses the debates and fears around credit and payment cards as influencing factors on the regulation of the European cashless payment market. This approach allows to identify the leaders of the debates and the main actors of the European payments market. Therefore, the second part of this thesis concludes with an analysis of the role of actors such as engineers and how their work within financial institutions influenced the communications strategies of banks regarding credit cards and cashless payments. Concrete case studies illustrate which actors, software and hardware contributed to the acceptance of cashless means of payment over cash.

In the last part of this thesis, the communication policy of French, Luxembourgish and German banks in the Press and in the media is reconstructed, drawing from an analysis of marketing

campaigns, public relations, and the introduction of technological standards at the supranational dimension. The analysis of the marketing campaigns of credit card providers and financial institutions serves to work out the marketing strategies and media used to promote cashless methods of payment. In addition, an analysis of engineers' impact on the visual as well as perceptible dimension of banks communication strategies is reconstructed in the last part. The banks' marketing strategies also serve to identify changing needs within European society and regarding the banking products and services themselves which will be discussed by the case studies of Eurocard, Visa and MasterCard. Furthermore, the analysis of advertising campaigns serves to identify neglected actors of retail banking in Europe such as women and their influence on the spread of innovative banking services and products. Thus, the *public-facing side* of credit and cashless payment between 1960s and the 2015 is historically reconstructed and discussed.⁹⁰ The third part of this thesis concludes with an outlook on the current situation in the European payments market and its actors with the PSD II as concrete case study. In this way, it is demonstrated that the concerns of consumers were perceived by the European Union, but that the increasing competition between 1980 and 2015 posed greater concerns. Consequently, this part of the dissertation demonstrates that the implementation of European directives should counteract these fears but at the same time represented comprised marketing strategies. Furthermore, these directives served to maintain market shares of the European cashless payment market against emerging actors in the digital age.

This time travel in three stages allows to understand the path from a “*cheque-less*”, to a “*less card*” society thanks to the analysis of banks' communications strategies regarding credit cards and cashless payments. A more accurate panorama of the emergence of cashless payments in Europe is drawn than is the case in recent literature. The historical reconstruction and analysis of the European cashless payment market also helps to better define the ubiquitous term of “Fintechs” and to narrate the story of their predecessors.⁹¹

It should be noted that the different parts of this thesis overlap thematically. Especially regarding ATMs, POS, credit cards, engineers and their security as well as the regulations of the European cashless payment market. Nevertheless, the individual parts of this thesis build

⁹⁰In this thesis, the term public-facing refers to the visual dimension of banks' communication strategies in relation to credit cards and cashless payment (public relations, advertising campaigns, interfaces of digital credit cards.

⁹¹ALT, Rainer & Thomas, Puschmann, *Digitalisierung der Finanzindustrie, Grundlagen der Fintech Evolution*, Berlin, Springer-Verlag, 2016, p. 8.

on each other according to a certain logic. In the first part, the internal strategies of banks regarding credit cards and cashless payments are discussed. In other terms, the introduction of ATMs and POS, and inter-banking networks as a marketing strategy for the distribution of payment cards is portrayed. Therefore, the second part of this paper analyses the debates around these innovations and what influence they had on the internal communication strategies of financial institutions. Furthermore, it is demonstrated that especially the debates around the security of cashless payment method and applied pricing policies led to the regulation of the European payment market in the digital age. Consequently, the impact of the implemented regulations by the European Union and main actors such as engineers on banks communication strategies are discussed. Here the research focus mainly lays on which actors within banks had the strongest impact on the internal, perceptible and visual dimension of banks' communication policies regarding cashless payment methods. It should be underlined that this story takes place in the context of a highly fragmented and competitive European cashless payments market, the emergence of tourism, cost reduction through digitalisation and the emergence of the digital cashless European payments market. After all, the story is told how European banks promoted credit cards as travel money for businessmen with a certain financial flexibility until the digital age. European banks began to increase transaction volumes of credit cards by promoting them as the easiest, safest and fastest cashless payment method for e-commerce from the 2000s onwards. Furthermore, it is demonstrated that communication strategies of financial institutions in France, Germany and Luxembourg between 1968 and 2015 did not differ significantly in the geographical context, although some differences between Luxembourg, France and Germany were identified.

Part 1 - Banks strategies within a fluctuating European payment market

1. Banks strategies within a fluctuating European payment market

By initially analysing the banks' internal policies in favour of credit and payment cards allows us to understand the cashless payment market at the European level as well as the internal marketing strategies of the French, Luxembourgish, and German banks. The market conditions under which the European banks had to promote their cashless means of payment serve to understand why institutions aimed to make credit payment cards attractive to their customers and the public at large.

The marketing strategies of Eurocheque and Eurocard in Luxembourg, France, and Germany between the 1960s and 2000s are also at the heart of this first part. Including the analysis of bank's marketing strategies regarding Eurocheque is inevitable in this context. Eurocheque was one of the most widespread non-cash means of payment in Europe between the 1960s and 1980s. Consequently, the analysis of bank's marketing strategies regarding the Eurocheque illustrates why there has been an increased favouring of credit cards by European banks from the 1980s onwards.

Most historical research analyses how an individual bank built up its own corporate identity with the help of internal marketing strategies. These strategies helped the individual bank to remain competitive in the national context and to implement a certain image of the bank, as Hubert Bonin illustrates in his work *Banque et Identité Commerciale*, using the example of *Société Générale*.⁹² This chapter is primarily guided by works such as those from David L. Stearns, *Origins of the Visa Electronic Payment System*.⁹³ In his analysis, Stearns focuses primarily on the development of Visa into a global company from traditional points of view, such as the structure of the organisation, the development of networks or competition, but he also analyses Visa's internal marketing strategies. As a result, the author demonstrates that the analysis of the internal marketing strategies of banks and financial companies is essential to understand the developments of the cashless payment market in the 20th and 21st century. Consequently, the communication, marketing strategies, and internal meetings of banks as well as developments of their policies, are the core of the first part. In addition, while pioneering work in the history of bank communication often remains very one-dimensional by analysing

⁹²BONIN, Hubert, *Banque et identité commerciale*, Paris, Presses universitaires du Septentrion, 2014.

⁹³STEARNS L., David, *Electronic Value Exchange, Origins of the VISA Electronic Payment System*, New York, Springer, 2011.

a single institution and rarely includes a transnational or global perspective, this chapter includes comparison between the internal strategies of several European banks.

1.1. Eurocheque: a common marketing strategy as a counterpoint against US credit card providers

In the 1920s, there were already cashless methods of payment in Europe. For example, in Germany, bank customers could take advantage of the *Weltkreditbrief* to obtain cash or buy goods while travelling. However, customers could only cash the *Weltkreditbrief* at a limited circle of banks. *The Weltkreditbrief* was issued by the German post office and savings banks. Over the years, the post rebranded its letter of credit by the name of *Postreisescheck* because it was mainly used by travellers. The German savings banks called their service *Reisen ohne Geld* (ROB). It becomes clear that only a very small circle of customers used the letter of credit, as travelling was not common in Europe. Furthermore, not everyone had a current account at a credit institution at the beginning of the 20th century.⁹⁴ In Europe it was normal to pay with cash until the 1960s. Salaries and wages were usually paid in cash at the end of the month. To pay one's bills, people went to the post office and did their transactions at the bank counter. Cashless payment was literally a foreign concept for most people in Europe. Cashless payments were mostly used within the institutional sector by banks and governments. For example, banks used cashless payments to settle transactions between other credit institutions or central banks. At the beginning of the 1960s, European banks gradually became aware that cashless mass payments would be beneficial for their business. The banks concentrated on business with the smallest amounts and assets. European credit institutions wanted to generate an inflow of assets on their liabilities side.⁹⁵ However, it would take until the mid-60s before a European cashless method of payment could be established by European credit institutions.

⁹⁴PALYI, Melchior & QUITTNER, Paul, *Weltkreditbriefe*, in: *Handwörterbuch des Bankwesens*, Berlin, Springer-Verlag, 1933, p. 79.

⁹⁵BONHAGE, Barbara, *Eurocheque*, Hampshire, Palgrave Macmillan, 2010, pp. 182-197.

1.1.1. Prosperity and mobility as stimulating elements in the 1960s

In the 1960s, the travel behaviour of Europeans and North Americans shifted drastically. Steadily rising incomes and living standards changed the leisure behaviour. European credit institutions noticed that holidays and leisure had become an important economic factor. International travel doubled between 1960 and 1970.⁹⁶ The European banks assumed that by the end of the 1970s, the number of people worldwide who travel abroad would be around 250 million. The number of people enjoying holidays within their own countries was estimated at over 900 million people worldwide. European credit institutions noted that people of all social classes started to go on holiday, educational or sightseeing trips. According to the European credit institutions, another factor that gave strong momentum to tourism was the world of work. Globalisation progressed steadily after the Second World War. The number of international business trips, trade fairs, meetings and congresses especially increased. According to the banks, the motorisation of private households and access to mass transport also boosted international tourism. The European credit industry concluded that cars were the most popular travel vehicle in Europe. They gave tourists the highest degree of flexibility and independence in their opinion. The biggest advantage of travelling by car compared to travelling abroad to Africa or the Middle East was the cost. The market analyses showed the banks that 90 percent of all tourists from Germany and Austria, 86 percent of all French, 72 percent of all Italians and 60 percent of tourists from Denmark and Spain travelled within Europe by car. The railways as a transport method would not be an option for Europeans. Flight tourism experienced an extraordinary boom at the beginning of the 1970s thanks to a constant increase in bookings for package and charter tours.⁹⁷

However, the European banking industry agreed that most air travel in Europe was divided between four countries. Spain, the United Kingdom, Germany, and Scandinavia were the most popular destinations for Europeans. In addition, they saw another important factor coming from the mass media. Worldwide, people's desire to travel increased due to media reports about foreign cultures. The media reports meant that holidays were perceived as a recreation and experience by all social classes in the western world. According to the European Banks, the most significant explanation for the increase in international travel was the growing economic

⁹⁶IRIYE, Akira, Die Entstehung einer transnationalen Welt, in: IRIYE, Akira & OSTERHAMMEL, Jürgen (ed.), *Geschichte der Welt 1945 bis heute: die globalisierte Welt*, München, C.H.Beck, 2013, pp. 672-796.

⁹⁷Archive Deutsche Bank, International Eurocheque Secretariat, Eurocheque 1968-1978, Brussels, 1978, pp. 5-18.

prosperity. Their market analyses showed that 80 percent of all foreign tourists came from a few highly industrialised western countries. These developments showed the banks that the growth of the tourism economy was determined by the global economic situation, but tourism expenditure would not be reduced even if future income opportunities deteriorated. In Europe and North America, holidays were no longer considered as a luxury that could be sacrificed.

The European banks noted that within the 24 member countries of the Organisation for Economic Co-operation and Development (OECD), the income from world tourism from 1960 to 1980 amounted to more than 35 billion dollars. As far as Europe was concerned, the banks predicted that by the end of the 1980s, almost fifty percent of all world tourism receipts would be of European origin. According to the World Tourism Organisation, a total of about 245 million trips were made world-wide by the end of the 1970s. Another highly interesting aspect of international tourism for the banking industry was that foreign exchange earnings from travel were an important item for the balance of payments of many countries. This income resulted to a considerable extent from the total imports of goods and services of individual countries to keep tourism going. The European banking industry calculated that on average this share would be 6 percent for all European countries. As a result, governments understood that tourism represented an excellent instrument for regulating the national balance of payments. Furthermore, the European banking industry assumed that this trend would not stop in the coming decades, as working hours were constantly shortening and this would also mean additional tourism. Consequently, predictions were made as early as the 1970s that by the end of the 1980s at the latest, the tourism industry would generate a turnover of more than 200 billion dollars.⁹⁸ European banks followed this development closely and analysed the economic potential of tourism. They concluded (due to their own investigations) that tourism developed into one of the most lucrative and fast-growing economic sectors of the globalised world.⁹⁹

In retrospect, it becomes clear that the European credit institutions had carefully analysed the worldwide upswing of tourism from the 1950s to 1960s. From the post-war period to the present, the peak of tourism in Europe began, which is also referred to as the consolidation phase. Considering the entirety of all expansion and innovation processes within the tourism industry and the emergence of new holiday styles, tourism became one of the most important

⁹⁸Archive Deutsche Bank, International Eurocheque *Secretariat*, *Eurochèque* 1968-1978, Brussels, pp. 5-18.

⁹⁹Archive Banque Générale du Luxembourg BNP Paribas, *Notes aux services et agences*, N°52, Eurocard, 1980.

economic sectors worldwide. There is a consensus in secondary literature that the economic upswing of the post-war period, technical progress and high competition within the tourism industry led to the emergence of ever newer destinations and forms of travelling. In this context, increasing mobility, rising prosperity, the emergence of urban areas, the increase in leisure time, the expansion of mass transport and communication networks all contributed to the expansion of tourism to broad social classes. However, the boom of European tourism after the war was slow and concentrated on Germany, Austria, and Switzerland as domestic destinations. The intensity of the upsurge of tourism at that time remains to be differentiated within the European countries. Especially between the 1960s and 1970s, the forms of travel, trends, and holiday destinations differed considerably due to different levels of prosperity in Europe.¹⁰⁰

Nonetheless, the European banks set a goal to make cash accessible within Europe and as convenient as possible in the form of a common European method of payment. It should be noted that American providers such as American Express or Diners Club entered the European market for cashless payments in the 1960s. Thus, it becomes clear that not only the upswing in tourism pushed the European banking industry to address the issue of cashless payments, but also the increasing competition for market shares for cashless payments in Europe. The intensification of competition in the European payments market and its consequences are demonstrated at a later stage in this chapter. Therefore, increasing competition in the European payment market alongside the upswing in tourism had led many European credit institutions to the decision to create a common European cashless payment method, which was intended to make travelling easy, simple, and safe.¹⁰¹

1.1.2. Comparing cheques and credit cards

During the 1960s, the European credit institutions discussed whether they should join forces for a common European cheque and guarantee card or credit card. The idea for a common umbrella organisation for all types of European bank cards was born. As a result, a few of the essential aspects are discussed which, even before the first unofficial Eurocheque conference in Frankfurt in 1968, moved one or the other European banking group to the credit card and other banks to the cheque guarantee card. In addition to the comparison of the two payment methods, it is important to understand that the initial situations in the payment market of the

¹⁰⁰GYR, Ueli, The history of tourism: *Structures on the path to modernity*, in: ieg-ego, URL: http://ieg-ego.eu/de/threads/europa-unterwegs/tourismus/ueli-gyr-geschichte-des-tourismus#section_5 (State:21.07.2021).

¹⁰¹Archive Banque Générale du Luxembourg BNP Paribas, *Notes aux Services et Agences*, N°52, Eurocard, 1980.

individual European countries were completely different. In some European countries, cashless payment was still in its infancy. In other countries, cheques already dominated as a means of payment. This had the disadvantage for banks that their employees spent a considerable amount of time doing paperwork. As a result, in the countries where cheques already dominated as a means of payment such as France, many bankers argued for a common European credit card instead of an additional European cheque already at the beginning of the 1960s.¹⁰² Here it is important to underline that the development of cashless payment in France was encouraged by the public authorities to control the cash supply. Cheques became a powerful instrument for developing demand deposits and providing liquidity for the French treasury. Furthermore, the spread of cheques in the 20th century was accompanied by the modernisation of economic and social structures in France, such as the liberalisation of the banking system in 1966.¹⁰³

To get an idea of the advantages and disadvantages of credit cards, the European credit institutions studied their functioning and effectiveness in America, Great Britain, and Sweden. The supporters of the cheque guarantee card, most of whom came from Belgium, the Netherlands, Luxembourg, the Federal Republic of Germany, Austria, and Switzerland, considered already in the early 1960s that they did not want to accept high losses due to the introduction of credit cards as a mass payment method. The bank communities of these countries mentioned above concluded that a credit card required high introductory investments in electronics, accounting, monitoring, and marketing.¹⁰⁴ Many banks were deterred by the knowledge that a common European credit card was doomed to mass sales from the outset. For example, to acquire the number of cardholders needed to offset the initial losses, the European banking industry needed to send credit cards to their customers in mass mailings. The fact that these mass mailings of credit cards to private customers, as was common practice in the United States of America between 1965 and 1970, were heavily criticised by European credit institutions is not surprising considering that banks and credit card companies also sent them to children or family dogs.¹⁰⁵ Abuse, theft and counterfeiting of credit cards on a large scale were observed by these distribution channels in the United States of America. These conclusions deterred many European banks from adopting credit cards. Furthermore, the

¹⁰² Archive Deutsche Bank, International Eurocheque Secretariat, Eurochèque 1968-1978, Brussels, pp. 19-41.

¹⁰³ EFFOSSE, Sabine, *El cheque en Francia: el lento ascenso de un medio de pago de masas (1918- 1975)*, in: *Revista de la Historia de la Economía y de la Empresa*, XI, 2017, pp. 77-94.

¹⁰⁴ Archive Deutsche Bank, International Eurocheque Secretariat, Eurochèque 1968-1978, Brussels, pp. 19-41.

¹⁰⁵ GIEßMANN, Sebastian, *Money, Credit, and Digital Payment 1971/2014: From the Credit Card to Apple Pay*, in: *Administration & Society*, 2018, pp. 1259-1279.

general idea was that in a market of many competing credit cards, none would be able to achieve the necessary minimum sales. Cost-intensive competition between the payment systems would be the inevitable consequence. In addition, for the promoters of the cheque guarantee card, one fact was clear: cardholders would be free to choose where to shop through a common European cheque and would not be tied to certain contracting companies, as was the case with credit cards. The uncomplicated use of credit with a cheque guarantee card was in their opinion as possible as with the credit card. In the eyes of the supporters of the cheque guarantee card, the cheque card represented an optimal sales and cost solution for the trade and service industry compared to the credit card. In particular, the low-cost exchange of the cheque card was a convincing argument for the banks. According to the proponents, the elimination of contracting, embossing machines, invoice forms and checking the credit limit made the trade-in of a cheque card very easy to handle. However, the most important advantage of the cheque card was that the cheque card process fitted in with existing account relationships and billing methods already existing in Europe. Consequently, there was no need to set up additional billing centres, administrative centres, or a cost-intensive administrative body. The banks supporting credit cards in Europe, however, saw the credit card as the future of modern and convenient cashless payment. They accepted the additional costs that would result from the introduction of a common European credit card. The promoters of the credit card, most of whom came from countries where the cheque was already a mass payment method, wanted to get rid of the flood of cheques in their own countries. These countries included Great Britain, France, Ireland, and Sweden. The promoters of credit cards mainly hoped that the introduction of credit cards would have a sales-promoting effect for their consumer credit business.¹⁰⁶ For example, American banks had lost significant market share in the consumer credit business to retailers and other non-banks such as *Soers and Roebuck* department stores.¹⁰⁷ A similar development took place in Great Britain. Here, the mail order business played a decisive role in the spread of consumer credit. The department stores and mail order companies first introduced consumer credit in the form of revolving credit in the 1950s. British banks lost market shares and introduced years later their own credit cards, such as the Barclaycard with revolving credit, to close this gap.¹⁰⁸ In this context, non-banks are non-bank providers of financial services. In most cases of non-banks, financial services do not represent their main

¹⁰⁶Archive Deutsche Bank, International Eurocheque Secretariat, Eurochèque 1968-1978, pp. 19-41.

¹⁰⁷HYMAN, Louis, *Debtor Nation*, Princeton University Press, 2011, p. 163.

¹⁰⁸KLEINSCHMIDT, Christian & LOGEMANN, Jan (ed.), *Konsum im 19. und 20. Jahrhundert*, Handbücher zur Wirtschaftsgeschichte, Oldenbourg Berlin Boston, De Gruyter, 2021, p. 424.

business. In this dissertation, the term non-banks refers to large retail chains, mail order companies, hotels, restaurants, department stores and retail shops that engaged in cashless payment services during the research period in France, Germany and Luxembourg.¹⁰⁹

French banks became supporters of debit and credit cards at latest by the end of the 1970s. Consequently, this paragraph provides a more profound insight to the French cashless payment market during that period to understand why French banks did not actively join the Eurocheque association in 1968. The cheque was promoted by the French state since 1918 and became a mass payment method during the 20th century in France. The creation of the postal cheque in 1918 represents the starting point for this development. The French government was primarily interested in controlling money flows in France, especially cash. In consequence, the cheque became an instrument to increase sight deposits for financial institutions. As a result, the French state treasury became more liquid in its disposals. In addition, the cheque and cashless payment cards can be understood in the context of the modernisation of economic and social structures during the 20th century in France. The historian, Sabine Effosse gives a hint in her work because the Eurocheque did not find the same spread in France as in Germany. The author describes the period between 1966 and 1968 as follows:

“The liberalisation of banks in 1966 to ensure the financing of growth in what was now a European context and the harmonisation of the statutes of workers and employees after the events of May 1968 illustrate the country’s evolution. The end of the Gaullian Republic marks the beginning of the new society in which workers, women and young people benefit fully from growth and increasing purchasing power. The banks are not mistaken. As the third key element in the transformation of the cheque into a mass banking product, they break with the discretion of the past and go after customers. Their advertising messages were provocative and promoted new forms of use in the wake of May 1968, which included the cheque as well as the Carte Bleue introduced in 1967.”¹¹⁰

French financial institutions simply did not want to have a second cashless mass payment in form of a cheque in circulation. During the 1970s and 1980s the French financial institutions banks modernised their services and continuously used debit and credit cards to reduce processing costs of cheques. French banks were strongly committed to modernising their

¹⁰⁹SCHÖNING, Stephan, Non Banks, in: wirtschaftslexikon.gabler, URL: <https://wirtschaftslexikon.gabler.de/definition/non-banks-41158> (State: 05.10.2022).

¹¹⁰EFFOSSE, Sabine, *El cheque en Francia: el lento ascenso de un medio de pago de masas (1918- 1975)*, in: *Revista de la Historia de la Economía y de la Empresa*, XI, 2017, pp. 77-94.

payment systems and methods.¹¹¹ The French financial institutions wanted to reduce the masses of cheques, as their processing was cost-intensive due to their sheer volume. In addition, a lot of uncovered cheques were in circulation.¹¹² Nevertheless, the cheque remained a popular means of payment throughout the 20th century in France. A further reason why French financial institution preferred the national mass payment methods is that European banks fought for the hegemonic position in cashless payments since the 1950s.¹¹³ Credit cards companies such as Amexco or Diners Club entered the European cashless payment market during this period. The target group of these US-providers mainly represented bankers and businesspeople. However, the American credit card companies put the European banks under pressure with their cards. All over the world, American credit card organisations expanded their market shares. As a result, credit cards found their way into the everyday life of European society.¹¹⁴ These credit card companies relied mainly on advertising slogans such as: “From tomorrow on, your signature together with your credit card will be as good as gold all over the world.” Their credit cards promised the cardholder to be part of an exclusive business club. The general opinion of French banks was that an additional payment method would unnecessarily increase competition.¹¹⁵

1.1.3. The Frankfurt meeting in 1968 and the consensus on Eurocheque

On 10 May 1968, as already mentioned, the first meeting of the Eurocheque system was held in Frankfurt. The German credit institutions were particularly keen on an institution-neutral common European payment method. Consequently, they had the initiative of inviting European credit institutions to Frankfurt. Representatives from 15 European countries accepted the invitation to discuss the cooperation between their card systems. For the Second Eurocheque conference on 17 and 18 October 1968, they had chosen the premises of the *Association Professionnelle des Banques* in Paris. This was also where the name was chosen and the foundation stone of the Eurocheque system was laid. However, the conference was not only about finding a name for the network.

¹¹¹PLESSIS, Alain, *Histoires des banques en France*, in: presentica, URL: <https://www.presentica.com/doc/11063560/histoire-des-banques-en-france-pdf-document> (State:21.07.2021).

¹¹²QUATREPOINT, Jean-Marie., La carte de paiement universel se substituera-t-elle au cheque? in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1978/05/23/la-carte-de-paiement-universel-se-substituera-t-elle-au-cheque_2978383_1819218.html(State:21.07.2021).

¹¹³Unknown author, DIGEST, *Eurocard Präsenz*, in: d’Lëtzebuurger Land, N° 43, 25.10.1985, p. 19.

¹¹⁴BÁTIZ-LAZO, Bernardo & DEL ANGEL, Gustavo Adolfo, *The Ascent of Plastic Money: International Adoption of the Bank Credit Card, 1950-1975*, in: *Business History Review* 92/3, 2018, pp. 509-533.

¹¹⁵DER SPIEGEL, *Ohne Geld verreisen*, in: spiegel, URL: <https://www.spiegel.de/politik/ohne-geld-verreisen-a-2ce8e0a2-0002-0001-0000-000041759300> (State:21.07.2021).

A common trademark was designed and the formalities for cashing cheques were clarified by the representatives of the banks. The outcome of the first evening was sobering, as there was complete disagreement on all points. During the night, new meetings were fixed. At the end of the two-days conference, six countries had reached a consensus on the Eurocheque sign. Furthermore, the common guidelines for the cheque guarantee card and redemption conditions were written down in a booklet. The aim was to keep regulations to a minimum. The Eurocheque booklet was published in all the languages of the so-called Eurocheque countries. This base made it possible to start distributing cheque guarantee cards under the Eurocheque regulations in fifteen countries in 1969. In addition to the countries that issued bank cards, the circle was gradually expanded to include those countries that were exclusively on the cashing side. These countries were called passive countries in contrast to the active countries. The so-called passive countries had mainly an interest in promoting travel in their countries. The passive members of the Eurocheque system cashed the cheque in because they knew that their acceptance of a European mass payment method would stimulate tourism in their countries. In general, the Eurocheque association defined passive countries as those whose banks did not issue guarantee cards under the Eurocheque system but cashed guaranteed cheques. It becomes clear that most European banks decided against the introduction of a common European credit card and preferred the Eurocheque.¹¹⁶



Figure 2 - Archive Sparkassen und Giroverband e.V. Eurocheque advertisement, *Reisen ohne Bargeld*, 1970.

¹¹⁶Archive Deutsche Bank, International Eurocheque Secretariat, *Eurochèque 1968-1978*, Brussels, pp. 19-57.

1.1.4. The Eurocheque network in the 1970s

In 1971 at the Eurocheque conference in Berlin the active countries noted: “*The name Eurocheque and the blue and red EC emblem are reserved for the Eurocheque system. The system’s authorised paying agents must identify themselves by means of a sticker showing this emblem. Only authorized paying can use it.*”¹¹⁷ The emblem’s main purpose was to introduce a common symbol to easily help the travellers and cardholders to identify banks and financial institutions offering the Eurocheque service.¹¹⁸ However, it took until 1972 before a uniform Eurocheque guarantee card and cheque were introduced in the Benelux countries, the Federal Republic of Germany and Finland. As an international cheque, the Eurocheque required uniformity in appearance but also the elimination of national currency symbols. The currency of the country of origin had to be indicated, but now the cheque could be issued in the currency of the host country. This was done in a third stage in 1975. Uniform payment instruments were not an expression of egalitarianism, nor were they a matter of faith in the eyes of the European credit institutions. According to the Eurocheque Association, a uniform cheque offered the best guarantee for low-cost clearing.

In a fourth step, the Eurocheque system was extended to the non-banking sector. Arrangements were made with hotels, restaurants, department stores and retail shops to accept Eurocheque from foreign visitors. The credit institutions that provided their customers with cheque guarantee cards were unable to make direct redemption agreements with foreign shops, hotels, etc. as the credit card organisations did. Therefore, they had to find another way to guarantee that cheques were easily accepted everywhere, even by non-banks. In this respect, the standardisation of cheques and cheque cards was measured to improve the service for customers and to counteract the increasing competition with foreign providers of cashless payments in Europe. In 1978, a total of around 27 million cardholders in 39 European and Mediterranean countries used the Eurocheque. Furthermore, the Eurocheque symbol was displayed on more than 170,000 European bank counters. A gigantic network was visible to everyone who travelled through Europe from the end of the 1970s.¹¹⁹

¹¹⁷Archive Banque Générale du Luxembourg BNP Paribas, Banque Générale du Luxembourg, Directives en vigueur dans le système Eurochèque, Luxembourg, 1980, p. 2.

¹¹⁸Unknown author, *Eurochèque*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1969/05/02/eurocheque_2426328_1819218.html (State: 21.07.2021).

¹¹⁹Archive Deutsche Bank, International Eurocheque Secretariat, Eurochèque 1968-1978, Brussels, pp. 43-57.

1.1.5. The Eurocheque in practice

A look at the functioning of the Eurocheque system in terms of banks' handling and processing of cheques reveals another reason why the Eurocheque association dominated cashless payments between 1968 and 1978.

1.1.5.1. Regulations and payment conditions

Member banks in active and passive countries formed the Eurocheque network. The member banks provided all their paying counters with the Eurocheque sticker. In addition, it was binding for all member banks to provide their payment windows with the Eurocheque logo. Each country had to ensure that non-bank counters fulfilled all the conditions of guarantee control that were required of bank counters themselves. Non-banks were responsible for compliance with these conditions vis-à-vis the bank from which one they drew their cheques. Non-banks also had to ensure that payment instructions and warnings were passed on at these counters. Furthermore, they were obliged to display the Eurocheque sticker on their counters. The national banking organisation of an active country that allowed non-banks Eurocheque payment counters had to inform the Eurocheque working group. For Eurocheque counters in passive countries, the Eurocheque working group decided on a case-by-case basis whether they felt it necessary to have certain counters managed by non-banks in a passive country. However, whether a counter of a bank or non-bank, the behaviour of the responsible paying agent was always the same. In the case of cheques drawn from foreign banks under the Eurocheque system with the appropriate guarantee card, the paying agent had to observe the general payment regulations in order to be able to claim the guarantee of the foreign institution. The name of the bank and the account number on the guarantee card had to match the name of the bank and the account number on the cheque. If there was no account number on the guarantee card, the name and surname or the first letters of the first name on the guarantee card had to match the name and surname on the cheque. Furthermore, the signature on the guarantee card and the signature on the cheque, which was affixed in the presence of the counter employee, had to match. The amount of the cheque could not exceed the maximum guaranteed amount or its equivalent. The cashier had to check the card and make sure that the card number was written exactly on the back of one of the cheques. If a customer cashed more than two cheques at the same time, his identity had to be verified by a passport or an identity card.¹²⁰ The type and

¹²⁰Archive Deutsche Bank, International Eurocheque Secretariat, Eurochèque 1968-1978, Brussels, pp. 43-61.

number of the passport or identity card had to be written on the back of one of the cheques. The commission was deducted by the paying bank when it was disbursed to the beneficiary. The cheque had to be presented to the drawee bank within 20 days of the date of issue. The regulations and payment conditions, which were the collection of guidelines for the payment of guarantee cheques, were distributed to all paying offices of the system in the relevant country's national bank or banks participating in the Eurocheque system. Each paying counter was responsible for ensuring that this collection of regulations and decisions was complete and up to date. When distributing the new guidelines to all paying agencies and counters, a cover letter always had to indicate which old pages of the regulations were revised and on which date. A summary list of the current guidelines needed to be attached to each new page sent by the Eurocheque Working group. The member countries had to coordinate the uniform labelling and dispatch of new instruction sheets with the *Bank Verlag GMBH* in Cologne.¹²¹

1.1.5.2. The governance of Eurocheque and its flexible technostuctures

The banks of the Eurocheque association had agreed to set up the following bodies: National Eurocheque liaison offices, the Eurocheque working group, a security committee, an international Eurocheque secretariat and a congress to work on strategic issues. The national Eurocheque liaison offices provided a contact point for receiving and passing on information about decisions taken by the Eurocheque association. Each country had to set up its own liaison office.¹²² The national liaison offices passed on the measures decided by the Eurocheque association to the banks of their respective countries, such as the introduction of new designs of the guarantee card up to informing the member banks of new security measures related to the Eurocheque.¹²³ Furthermore, the national liaison offices had to deliver a report once a year on the national situation of the Eurocheque to the Eurocheque working group. These reports included, for example, statistics on the number of cardholders and national statistics of fraud.¹²⁴ An additional important task of these offices was to ensure that the guidelines for the design of the Eurocheque were respected by the individual banks of their countries. The printing of the Eurocheque was done by *Gisecke & Devrient GmbH* in Munich. Therefore, the banks had to

¹²¹ Archive Banque Générale du Luxembourg BNP Paribas, Directives en vigueur dans le système Eurochèque, p. 14.

¹²² idem, pp. 6-9.

¹²³ Archive Banque Générale du Luxembourg BNP Paribas, Eurocheque International SC, La carte au nouveau design 70/30, 1990.

¹²⁴ Archive Banque Générale du Luxembourg BNP Paribas, Accord Internationale Eurochèque, Communauté Luxembourgeoise Eurochèque, Statistique internationale sur les fraudes Eurochèque, Luxembourg, 1984.

contact the manufacturer directly and communicate their design wishes.¹²⁵ Undated letters from the *Banque Générale du Luxembourg* indicated that there were communication problems between the manufacturer and the Luxembourgish bank. Either *Giesecke & Devrient GmbH* made production errors, or the bank did not follow the guidelines of the Eurocheque association when selecting the design.¹²⁶ The Eurocheque working group represented the decision-making and coordination body of the Eurocheque association. All participating countries had to be represented in this body by their national association and by their representatives. The representatives of the countries were allowed to set up their own team of financial experts. The experts selected by the representatives were supposed to act in an advisory function and had no direct decision-making power. The financial experts had to add value to the Eurocheque working group and bring expertise in the field of cashless payments. The number of representatives per country was limited to 4 persons. However, the designated countries responsible for hosting the congress and meetings of the Eurocheque association were allowed to select five experts. The Eurocheque working group held meetings twice a year on a regular basis. A rotation between the active countries was established for the organisation of the meetings and the congress. At the beginning of each meeting, a representative of the delegation of the inviting country was selected chair and remained in charge until the next meeting. Furthermore, the decisions of the Eurocheque working group were taken unanimously. The decisions of the Eurocheque working group were binding for all banks participating in the network. The languages used during the meeting were German, English, and French. After the meeting, the decisions taken by the representatives were written down in these three languages and sent to the active countries of the Eurocheque association after 6 weeks. The Eurocheque working group had the right to form and set up further working groups when the group realised any problems within the Eurocheque association and network. These working groups had to forward their findings and proposals for solutions to the Eurocheque working group as a report. Nevertheless, a permanent working group existed the so-called security committee. The task of this working group was to promote security within the Eurocheque system and to act as a monitoring body for incidents arising from the Eurocheque. However, the security committee was not in charge of direct negotiations between national banks and their insurance

¹²⁵Archive Banque Générale du Luxembourg BNP Paribas, Directives en vigueur dans le système Eurochèque, p. 14.

¹²⁶Archive Banque Générale du Luxembourg BNP Paribas, Unknown author, unknown creation date, letter exchange from the *Banque Générale du Luxembourg* and *Giesecke & Devrient*.

compagnies.¹²⁷ For example, the security committee did not interact with the national authorities to ensure that the member banks of the Eurocheque system were covered against fraud.¹²⁸

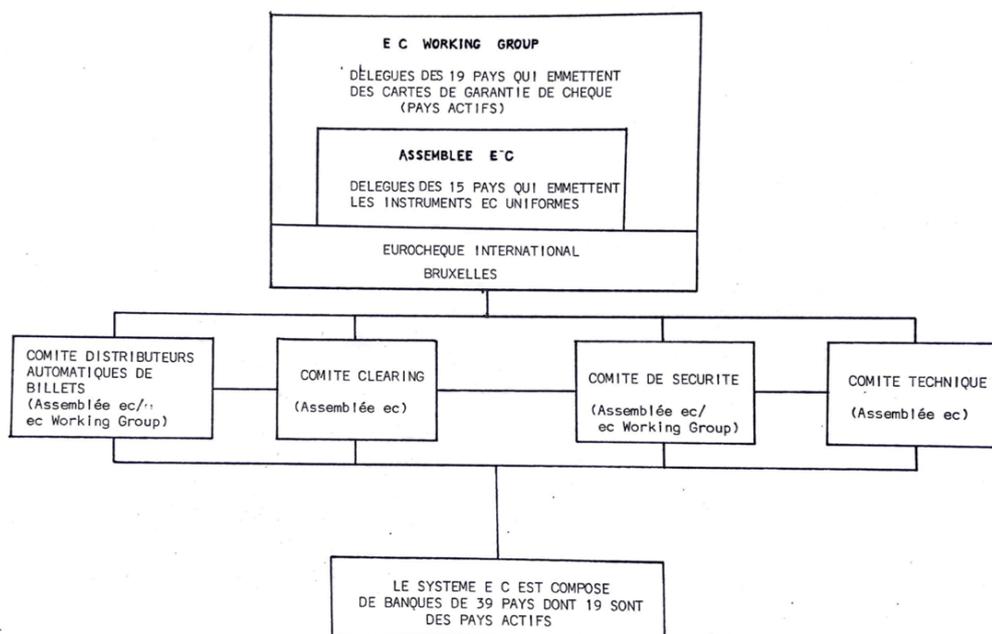


Figure 3 -Archive Crédit Agricole, Structure of the Eurocheque association 1980s.

The security committee met twice a year. Its decisions had to be ratified by the Eurocheque working group before the representatives decided to introduce their advice as a new directive for the entire Eurocheque system. The Eurocheque association had clearly defined principles for the election of the members of the security committee and its activities. The activities of the security committee were under the exclusive responsibility of the Eurocheque working group. The advice of the security committee had to be oriented towards the proper functioning and promotion of Eurocheque. To ensure the neutrality and independence of the security committee, its members could not act as representatives for the interests of specific banks or national bank associations. Each member had to bring their personal convictions to the project and not those of the organisation for whom they were working for. However, they had to be

¹²⁷Archive Banque Générale du Luxembourg BNP Paribas, Directives en vigueur dans le système Eurochèque, pp. 6-8.

¹²⁸Archive Banque Générale du Luxembourg BNP Paribas, Compagnie Luxembourgeoise de Conseil, Assurance vol/perte cartes et chèques Eurochèques, Luxembourg, 1985.

able to represent the views of the banking institutions in their country. The security committee could not have more than seven members. Therefore, all active countries had been given the opportunity to participate regularly in the work of the security committee. One permanent seat within the security committee was held by Germany, France, and the United Kingdom. The other four seats were distributed among the other active countries considering the amount of guarantee cards issued. The Eurocheque working group elected the members of the security committee on the proposal of the respective national delegation. The Eurocheque working group reserved the right to elect the chair of the security committee. The Eurocheque congress was composed entirely of representatives of the active and passive countries. It met only on proposal of the Eurocheque working group. The congress had to guarantee and promote the exchange of information between the active and passive countries. The responsible organiser of the Eurocheque working group meeting was at the same time responsible for facilitating the congress. For this purpose, the bank communities of the other active countries could be asked for help. Between two sessions of the congress, the passive countries were only informed about the new decisions of the Eurocheque working group by the international Eurocheque secretariat. The international Eurocheque secretariat, in agreement with the Eurocheque president, was responsible for the preparation of the work and the execution of the decisions of the Eurocheque working group. The secretariat proposed the agenda of the meetings as well as a summary for the passive countries. In addition, the international Eurocheque secretariat ensured the necessary contacts between active and passive countries and kept them informed about innovations in the Eurocheque system. Consequently, the secretariat, in cooperation with the active and passive members of the Eurocheque association, coordinated the tasks for the proper functioning of the system. An internal regulation approved by the Eurocheque working group defined the obligations of the secretariat staff and their functions. An annual activity report was prepared by the international Eurocheque secretariat and presented each year at the spring meeting of the Eurocheque association.¹²⁹ From the 1980s, the Eurocheque Association set up a committee for automated teller machines, committee for technical issues, and a clearing committee, which dealt exclusively with the technical infrastructure of the Eurocheque system and the function of their guarantee card.¹³⁰

¹²⁹Archive Banque Générale du Luxembourg BNP Paribas, *Directives en vigueur dans le système Eurochèque*, pp. 7-8.

¹³⁰Archive Crédit Agricole, *Note à l'attention des membres du comité de direction du groupement Carte Bleue* par Rolland Bellanger, 03.06.1981, Résumé du Meeting Eurocheque Working group in Dublin, 07 and 08 May 1981.



Figure 4 - Archive Banque Générale du Luxembourg BNP Paribas, Eurocheque leaflet, 1980s.

1.1.6. The downfall of Eurocheque between the 1980s and 2000s

Between the 1980s and the end of the 1990s, the European banking industry decided to rely more on debit cards and credit cards. Furthermore, the introduction of the European single currency posed a threat to the Eurocheque. Debit card payments and a single European currency made the system useless. The member banks decided to abandon the Eurocheque. As a result, European banks were able to concentrate their resources on the introduction of euro banknotes and coins. Furthermore, due to the developments discussed above, the European banking industry moved closer to MasterCard's Maestro debit card, which was becoming increasingly popular in Europe.¹³¹ The importance of cheques in cashless payment transactions has thus progressively decreased more and more since 1999. For example, only four percent of all cashless payment transactions were still cheque-based in Germany. On 31 December 2001, the

¹³¹BÁTIZ-LAZO, Bernardo, *Cash and Dash*, Oxford, Oxford University Press, 2018, p. 174.

cheque guarantee function expired and continuously reduced the use of the card.¹³² The Eurocheque system lasted until 2002, when it was dissolved by Europay International. Europay is a European payment systems organisation which held the licences for Eurocheque.¹³³ Europay International decided the abandon of the Eurocheque because they noted a decline in the use of the cheque guarantee card. This development resulted due to the strong preference of consumers for electronic payment options as well as the sharp decline in the acceptance of Eurocheque in several countries. As a result, banks no longer guaranteed the payment of cheques. Nonetheless, Eurocheque forms could still be used as means of payment without a guarantee after 2002.¹³⁴ According to Europay, the abolition of the guarantee was a reaction to the significant decline in the use of Eurocheque. Furthermore, the decline in use of the Eurocheque meant that handling cash and cheque-based transactions were no longer economical and represented a significant cost item for banks. At the peak of the Eurocheque with 42.1 million cross-border payments came to an end. In the early 2000s, there were only 14.2 million cross-border payments executed with Eurocheque.¹³⁵ Eventually the Eurocheque was no longer a contemporary cashless payment solution. This became evident in the bank's reaction in cases of financial losses caused by the customer due to the loss of the Eurocheque card. For the most part, the customer had the burden of proof and was at the same time dependent on the goodwill of their bank for a refund. Furthermore, in the case of loss of an Eurocheque card and the Eurocheque forms, even a subsequent blocking could not prevent the misuse of the card and its redemption.¹³⁶ To gain a deeper understanding how the Eurocheque established itself in many European countries, the following section analyses the administrative body and the functioning of the Eurocheque.

The banks of the Eurocheque system were aware that credit cards were becoming increasingly important in Europe. Business and private travellers around the world began to rely more and more on credit cards to obtain cash when travelling abroad at the end of the 1970s. This credit card market was mainly shared by American Express and Diners Club. At that time, these credit

¹³²DANNENBERG, Marius, *E-Payment und E-Billing, Elektronische Bezahlssysteme für Mobilfunk und Internet*, Wiesbaden, Gabler Verlag, 2004, p. 115.

¹³³EWALD, Judt & WALDOCK, Jeffrey (ed.), *Plastic Money Terminology*, Frankfurt, Fritz Knapp Verlag, 1998, p. 95.

¹³⁴HADDING, Walther & J. HOPT, Klaus & SCHMANSKY, Herbert (ed.), *Kartengesteuerter Zahlungsverkehr Außergerichtliche Streitschlichtung, Bankrechtstag 1998*, Berlin, De Gruyter, 1999, pp. 85-90.

¹³⁵EUROPAY INTERNATIONAL, *Euroscheckgarantie entfällt ab 2002*, in: Presstext, URL:<https://www.presstext.com/news/19990615020>(State: 21.07.2021).

¹³⁶HADDING, Walther & J. HOPT, Klaus & SCHMANSKY, Herbert (ed.), *Kartengesteuerter Zahlungsverkehr Außergerichtliche Streitschlichtung*, Berlin, De Gruyter, 1999, pp. 86-90.

card organisations had not been able to establish themselves in Europe, as they were only in loose cooperation agreements with credit institutions. As early as the mid-1970s, experts at the *Deutsche Bank* were concerned that future developments on the cashless payment market would have far-reaching effects on the cost structure of credit institutions. In their eyes, the common interest of the European banking industry lay in a constant improvement of the service offered to their customers while at the same time preventing additional costs in cash procurement. Nevertheless, the German banking industry was convinced that the countries represented in the Eurocheque working group had successfully worked according to these aspects discussed above. However, they were sure that the administrative structures and processing of the cheques, which they considered simplistic, would suffice to expand their supremacy.¹³⁷

1.1.7. Different attitudes towards Eurocheque in France, Germany, and Luxembourg

In order to demonstrate the different positions of active and passive countries within the Eurocheque association, an analysis of the development of the Eurocheque in Luxembourg, Germany, and France is illustrated in following sections. Luxembourg and Germany joined the active countries of the Eurocheque system in 1968. France belonged to the passive Eurocheque countries and only accepted Eurocheque.¹³⁸ As already discussed, the French credit institutions belonged to the cheque association but did not have the same voting rights as the active Eurocheque countries. The active countries were those in which the participating banks issued cheque guarantee cards to their customers and paid out cheques at their counters. To become an active Eurocheque country, an application had to be submitted in principle by the national banking community. The application of a respective bank community was only considered on condition that country could fulfil the Eurocheque conditions discussed above. Any country wishing to become an active member of the system had to submit its application to the international Eurocheque secretariat. The decision on whether to become an active member of the Eurocheque system was taken by the Eurocheque working group. The Eurocheque working group then decided whether the applying country fulfilled the conditions required by the Eurocheque association. First, the applying country had to be in Europe. In addition, the applicant country was required to have a sufficient network of counters. Furthermore, no limit

¹³⁷Archive Deutsche Bank, Experten Einschätzung der Deutschen Bank in Hinblick zum bargeldlosen Zahlungsverkehr, Überblick über die Situation im Zahlungsverkehr europäischer Banken und Überlegungen zu möglichen Kooperationen, in: Folder cashless payment & credit cards, Frankfurt, 24.09.1976, pp. 2-14.

¹³⁸Archive Crédit Agricole, Note à l'attention des membres du comité de direction du groupement Carte Bleue par Rolland Bellanger, 03.06.1980.

could be imposed on the number of cheques paid in a single transaction and the frequency of payments by the future member banks. The procedure for the payment of guaranteed cheques had to be in accordance with the general payment rules. If a foreign exchange regulation was in force in a country, its non-observance by the issuer of the cheque could not be used to refuse the guarantee to the foreign paying office.¹³⁹ Consequently, a comparison of the active and passive countries of the Eurocheque system follows in the coming sections and sheds light on the initial circumstances of the individual national cashless payment markets.

1.1.7.1. Luxembourgish banks in need of a Europe-wide accepted cashless payment method

Luxembourg joined the Eurocheque system as an active country in 1968. However, it lasted four years before the Benelux countries, Germany and Finland introduced uniform Eurocheque guarantee cards for the first time. Until then, all Luxembourgish banks with a membership at the *Association des Banques et Banquiers Luxembourgeoise* (ABBL), the Luxembourgish savings bank issued the *carte-chèque luxembourgeoise* under the guidelines of Eurocheque since 1969. In countries such as Belgium and Luxembourg, where cheque transactions were not widespread, the cheque guarantee card was expected to provide a significant boost in consumer credits. To obtain a *chèque luxembourgeoise* from a Luxembourgish bank, the customer had to be creditworthy, a permanent residence in Luxembourg and over 18 years old. Luxembourgish Banks did not issue more than one cheque guarantee card because they feared that the customer might otherwise get into financial difficulties. Married women could only have a cheque card if they were authorised to do so by their husband.¹⁴⁰ In 1972 the situation for women changed with changes of the rights and duties of spouses, and the general disenfranchisement of married women in Luxembourg ended, according to the new Article 221 of the *Code Civile*. Both spouses could now open a custody account and hold securities in their own name without the consent of the other. The custodian spouse was still considered to be free to dispose of the funds and securities held in custody vis-à-vis the depositary. In principle, married women were now allowed to take out a loan on their own. However, the *Banque Générale du Luxembourg*

¹³⁹Archive Banque Générale du Luxembourg BNP Paribas, Directives en vigueur dans le système Eurochèque, p. 14.

¹⁴⁰Archive Banque Générale du Luxembourg BNP Paribas, Banque Générale du Luxembourg, Note aux services et aux agences N°17, Note d'organisation concernant l'émission de la carte chèque luxembourgeoise, Luxembourg, 1969.

considered it advisable to provide greater security for the bank that the husband and wife were jointly and severally liable.¹⁴¹

The Luxembourgish cheque was introduced in 1969 and consisted in a cheque guarantee card of the size of a playing card and of course a cheque. To ensure the security of the cheque, the name of the holder and the issuing financial institution were entered. Each card bore a number as well as a reference to the account number and the card expiry date. The redemption details were noted on the back. The Luxembourgish banks had agreed to guarantee that the cheques covered by the cheque guarantee card allowed a credit to a maximum amount of 2,500 Luxembourg francs. Bank customers received a cheque book of 10 cheques in addition to the cheque guarantee card. As a result, cardholders had a cash reserve of up to 25 000 Luxembourg francs under the condition that their bank account was suitably funded. The cashing rules for Luxembourgish and Belgian cheque issuers differed slightly from those of the other countries that had joined the Eurocheque Agreement. Luxembourgish and Belgian cheque issuers, unlike their counterparts from other countries, were obliged to issue their cheques in the currency of the visited country. This regulation was adapted to the rules of the *Institut belgo-luxembourgeois du Change*, since the Belgian and Luxembourgish foreign exchange regulations distinguished between a market with official rates and a market with free currency rates. This provision was intended to prevent currency manipulation. Another deviation for Belgium and Luxembourg was that the cheque was paid to the customer in full, without deduction of a commission. The reason for this was that in the Belgian and Luxembourgish case the commission was charged directly to the issuing bank. The issuing of cheque cards to bank customers was linked to the payment of a conversion fee of 100 Luxembourgish francs. Until then, only the Luxembourgish *Automobile Club*, with its *Carnet d'Assistance*, had been able to create a comparable card to the cheque guarantee card or credit card. The Automobile Club sold 15,000 cards to its customers until 1972. The Luxembourgish banks united in the ABBL, and the Luxembourgish savings bank introduced the uniform Eurocheque in 1972. Additionally, the banking associations of Belgium, Luxembourg and the Netherlands had agreed to introduce a uniform version across the Benelux region. As already mentioned, the cheques of the various banks used with a cheque card differed until that time in size, design, colour and the quality of the paper. The advantage of having uniform cheques was increased

¹⁴¹Archive Banque Générale du Luxembourg BNP Paribas, Banque Générale du Luxembourg, Note aux services et aux agences: Concerne La capacité de la femme mariée N°3, Luxembourg, 1973.

security for the bank and for the customer. The design, the composition of its colours and the quality of its watermark paper were intended to protect against counterfeiting and fraud. The new cheques were delivered to the customers in a cardboard envelope. The old booklets from which the customer had torn the cheques were replaced by the new generation of Eurocheques.¹⁴²

No. (1000)	1971	1973	1975	1976	1977
Austria	150	200	230	320	400
Belgium	400	836	1200	1300	1500
Denmark	-	-	-	30	33
Finland	-	-	-	-	-
France	620	1,000	1,570	1,650	1,900
Germany	4,000	6,279	8,000	9,000	10,500
Great Britain	4,000	6,200	7,500	10,000	11,000
Ireland	120	195	285	330	390
Italy	275	300	313	370	416
Luxembourg	5	25	26	30	40
Netherlands	1,500	2,100	2,200	339	1,000
Spain	-	-	-	5	9
Switzerland	100	181	250	260	300
All countries	11,170	17,316	21,574	23,637	27,493

Figure 5 – Cheque guarantee cards in the Eurocheque system from 1971 until 1977.¹⁴³

The *Banque du Benelux*, *Banque Commerciale*, *BGL*, *Banque Internationale à Luxembourg* (BIL), *Banque Mathie Frères*, *BCEE*, *Crédit Industrial d'Alsace et de Lorrain*, *Kreditbank*, and *Société Générale de Banque* started to distribute the uniform Eurocheques. Not only the design of the cheque changed, but also its credit limit. The limit was raised from 2500 Luxembourgish francs to 5000 Luxembourgish francs. Furthermore, it became possible for Luxembourgish bank customers to cash their cheques in 30 countries of the Eurocheque

¹⁴²ASSOCIATION DES BANQUES ET BANQUIERS LUXEMBOURGEOISE, Introduction Eurochèque, in: d'Lëtzebuurger Land, 21.04.1972, p. 10.

¹⁴³This illustration is based on data from Archive Deutsche Bank, International Eurocheque Secretariat, Eurochèque 1968-1978, Brussels, p.26.

system. The Luxembourgish banks advertised the increase of the limit with the slogan *Now Eurocheque makes your account even more valuable!*¹⁴⁴ At the end of 1983, the Luxembourgish liaison office of the EC system recorded 91,691 Eurocheque cards issued.¹⁴⁵ The Eurocheque enjoyed great popularity in Luxembourg. This was also due to the low commissions of 1-2% of the converted amount of currency which was requested by the financial institutions from their customers when issuing a cheque in a different currency than their national one.¹⁴⁶ Between 1986 and 1991, the number of Eurocheque holders jumped from 112,602 to 164,848. Visa jumped from 40,416 to 101,302 cardholders and Eurocard from 11,254 to 58,736. The analysis demonstrates that the Luxembourgish cashless payment market has always been highly competitive during the research period. It should be noted that Visa's dominance in Luxembourg was largely a result of its role as the first provider of credit cards in Luxembourg.¹⁴⁷ 11 percent of Luxembourgish shops accepted Eurocheque in 1998. It was possible to pay at more than 500 merchants in Luxembourg. However, they slowly switched to Maestro and V-Pay. Finally, the era of a common European means of payment also came to an end in Luxembourg with the abolition of the Eurocheque in 2002.¹⁴⁸ Consequently, high adoption rates of plastic money could be observed especially Eurocheque and Visa in Luxembourg since 1985. At that time, the total population of Luxembourg was approximately 366,706.¹⁴⁹

1.1.7.2. Germany as one of the largest customers' markets

In the Federal Republic there were no credit cards issued by credit institutions until the 1960s. The widespread introduction of cashless salary payments in the 1960s led to this payment method. Subsequently, the current account spread along Germany. As a result, opinion spread in the German credit industry that a common European cashless means of payment would be

¹⁴⁴ASSOCIATION DES BANQUES ET BANQUIERS LUXEMBOURGEOISE, *Crédit automatique durch Eurocheque*, in: d'Lëtzebuurger Land, 21.04.1972, p. 11.

¹⁴⁵Archive Banque Générale du Luxembourg BNP Paribas, *Accord Internationale Eurochèque*, Communauté Luxembourgeoise Eurochèque, *Statistique internationale sur les fraudes Eurochèque*, Luxembourg, 1984.

¹⁴⁶GLOGOWSKI, Erhard & MUNCH, Manfred (ed.), *Neue Finanzdienstleistungen*, Wiesbaden, Gabler Verlag, 1990, p. 30.

¹⁴⁷TRAUSCH, Gilbert, *Belgique-Luxembourg, Les relations belgo-luxembourgeoises et la Banque Générale du Luxembourg 1919-1994*, Luxembourg, 1995, p. 243.

¹⁴⁸Archive Luxemburger Wort, *Sammelmappe Elias 7*, Luxemburger Wort, *Les commerces luxembourgeois entrent dans la danse du succès de Maestro*, Ressort Handel, Luxembourg, 02.07.1998.

¹⁴⁹UMERSBACH, Bruno, *Gesamtbevölkerungszahlen von Luxemburg bis 2027*, in: de.statista, URL: <https://de.statista.com/statistik/daten/studie/19307/umfrage/gesamtbevoelkerung-von-luxemburg/> (State: 05.10.2022).

beneficial for everyone.¹⁵⁰ Consequently, the Eurocheque represented an opportunity for the German banking industry, especially the savings banks, universal banks, and cooperative banks to find a European response to the rapid expansion of American credit card systems in Europe. The German banks wanted to achieve their goals through a united appearance. As a result, the German bank community joined the Eurocheque system in 1968. In the first two years of the cheque card system the German credit industry set the creditworthiness criteria high, as they wanted to get used to the new medium first. According to the German credit industry's this was an important measure as they did not want to hand out a loan in the form of a cheque book lightly to just anybody. Their motto was to keep the risk low for the bank and the customer. However, the already mentioned positive development of incomes in Germany and the positive experience that the German banks had with the cheque guarantee card in the first two years encouraged the willingness within the German credit industry to ease the creditworthiness criteria. This decision led to an upswing in the acceptance of the Eurocheque in Germany. In addition, the social mobility of the urban population made the Eurocheque quickly popular in Germany. In German urban areas, the Eurocheque was much more in demand than in the national average of the rural population. At most savings banks in urban areas, up to 50 percent of current account holders had a Eurocheque card. On average, the Eurocheque card was used 3 to 4 times a month for shopping luxury goods or travelling. Thus, within a very short time, the Eurocheque became an indispensable payment instrument and companion for many bank customers in Germany at the beginning of the 1970s. In 1972, the Federal Republic of Germany offered the uniform Eurocheque. In addition, German cardholders were able to use the Eurocheque card for the first time in the non-banking sector. The opening of the Eurocheque to the non-banking sector made it possible to use the cheque guarantee card abroad. This had the advantage that German bank customers were freed from having to adhere to the counter opening hours of foreign credit institutions, which were often not comparable with German conditions. The intensity of use of the Eurocheque in Germany was very high. In 1972, 4.5 billion Eurocheque forms were put into circulation by the German banking industry. Nearly every current account holder in Germany used the services of the Eurocheque association. German cardholders were able to debit their account with 300 deutsche mark. Random checks of the German credit institutions showed that an average customer only debited their cheque with 250 deutsche mark. Due to the turntable function of the current account, the Eurocheque

¹⁵⁰KLEINSCHMIDT, Christian & LOGEMANN, Jan (ed.), *Konsum im 19. und 20. Jahrhundert*, Oldenburg, De Gruyter, 2021, p. 424.

was an instrument to intensify overdraft facilities. The German credit industry usually granted the current account holder an overdraft limit of 1 to 3 monthly salaries. This enabled the current account holder to use the Eurocheque and the Eurocheque card to overdraw his/her current account balance at anytime and anywhere within the agreed limit.¹⁵¹

In 1978, the Eurocheque system issued 22 million cards to its customers in Europe. It was the Federal Republic of Germany, with 10.5 million cheque guarantee cards issued, that brought the largest customer base into the EC system. For example, Luxembourg had 40,000 cardholders at that time and France had only 500,000.¹⁵² In addition, the German banking industry installed up an Eurocheque clearing centre, which became part of the *Gesellschaft für Zahlungssystem* (GZS) in 1982. The joint Eurocheque clearing centre made it possible to keep costs low for the German bank customers and banks. As a result of these developments discussed above the Eurocheque could compete with credit card systems as a mass payment method since its introduction in Germany. Consequently, competition from the United States of America could be fended off until the beginning of the 1980s. For example, Diners Club and American Express, which were Euro cheques' strongest competitors at the time, were only able to sell together 650,000 cards in Germany by 1985.¹⁵³ Nonetheless, it must be noted that in the early 1980s the system became increasingly unprofitable, especially for the German banking industry with their high number of cheques in circulation. The reason for this is that cashless payment transactions are only profitable for banks if the transaction can be carried out directly. Eurocheque, however, had to be processed several times. The paper flood due to overspreading cheques feared by the passive countries had occurred in the active countries of the Eurocheque. Verifying signatures, sending cheques to the post office, or having to repeat the same transaction several times at different banks incurred considerable costs. Furthermore, the Eurocheque card and form had been distributed free of charge from the beginning. This internal marketing decision was another expense that could no longer be covered. The financial failure of the system was also encouraged by retailers and other companies in the service sector, who accepted the Eurocheque but did not accept the costs incurred. As a result, the Eurocheque slowly became unprofitable for active countries. In the 1980s, disillusionment set in even

¹⁵¹GLOGOWSKI, Erhard & MUNCH, Manfred (ed.), *Neue Finanzdienstleistungen*, Wiesbaden, Gabler Verlag, 1990, pp. 24-28.

¹⁵²Archive Banque Générale du Luxembourg BNP Paribas, International Eurocheque Secretariat, Eurocheque 1968-1978, Brussels, p. 25.

¹⁵³GLOGOWSKI, Erhard & MUNCH, Manfred (ed.), *Neue Finanzdienstleistungen*, Wiesbaden, Gabler Verlag, 1990, p. 31.

though American credit card companies had been defied.¹⁵⁴ Although the German banks had already realised in the 1980s that Eurocheque was becoming too costly to process, the cashless means of payment was enjoying great popularity in Germany. In 1972, there were 5 million Eurocheque holders. In 2001, there were 52 million. Credit cards were becoming increasingly popular, but the German population preferred to pay with their Eurocheque card, which had meanwhile been equipped with a chip and a personal pin. There was a simple reason for this: for both retailers and customers, the Eurocheque card was a comparatively inexpensive alternative to credit cards, which were tied to a high credit worthiness for customers and high fees for the merchant in Germany until the 2000s.¹⁵⁵

1.1.7.3. A limited development in France



Figure 6 – Archive Deutsche Bank, Cheque of the Société Nationale des Chemins de Fer Français in 1968.

To understand why the Eurocheque did not spread in France, it is important to understand that France was one of the passive countries in the Eurocheque system. Moreover, France was one of the European countries that already had to deal with a flood of cheques as mentioned above. This did not exclude the existence of different guarantee cards in a country where only some of the banks participated in the Eurocheque system. However, all banks participating in the Eurocheque system had to agree on a single card. Passive countries had to also apply to join the Eurocheque association in principle. An application from a major banking sector of a passive country could be considered from Eurocheque working group. Any country wishing to become a passive member of the Eurocheque system submitted its application to the

¹⁵⁴BONHAGE, Barbara, *Eurocheque*, Hampshire, Palgrave Macmillan, 2010, pp. 182-197.

¹⁵⁵DEUTSCHE BANK, Monatsbericht März 2002, in: Bundesbank, URL: <https://www.bundesbank.de/resource/blob/692054/bf061a24e00f4f560e383f567585343b/mL/2002-03-monatsbericht-data.pdf> (State: 21.07.2021).

international Eurocheque secretariat, which forwarded the application to the Eurocheque working group. First condition was that the country was within the geographical borders of Europe. The country had to provide the Eurocheque system with a sufficient network of bank counters or non-bank counters. Furthermore, the general Eurocheque payment guidelines had to be recognised by the passive countries. Of course, the Eurocheque association laid particular importance to the fact that passive countries glued the Eurocheque sticker and logo to the doors and windows of all their participating counters. In addition, the number of payments in a transaction and the frequency of payments could not be limited.¹⁵⁶

France joined the Eurocheque system in 1968 as a passive country and generally used it as a *système de dépannage*. This decision was taken by French bank community to ensure that their credit or debit card holders could also use their cards abroad for transactions at restaurants, shops, and bank counters through follow-up contracts with Eurocheque. French banks that sold their own debit and credit cards to their customers, were not at all interested in their customers paying their hotel bill abroad with a cheque. The benefit to French banks was the discount that was collected by the credit card organisation when paying with a credit card.¹⁵⁷ This allowed French tourists and businesspeople to travel through Europe without cash or travellers' cheques from 1968 onwards and still maintain their liquidity. All the bank customer needed was a credit card and a Eurocheque booklet to withdraw money from a bank in the currency of the country they were visiting in need of cash. The foreign banks where the credit card was presented took over the payment of the cheque up to a limit of 500 francs per cheque, regardless of whether there was a credit balance or not. The Eurocheque worked at 90 percent of bank counters in France. The majority of French bankers preferred to introduce a common credit card, but their foreign colleagues from the Eurocheque association felt that cheques were not yet fully assimilated in Europe.¹⁵⁸ Nevertheless, French bankers were sure that credit cards had significant advantages over cheque guarantee cards, such as the further accreditation of non-cash money, the elimination of the paper flood due to cheques, automatic verification of the customer's creditworthiness, and the increase in the number of accounts, which would have

¹⁵⁶Archive Banque Générale du Luxembourg BNP Paribas, Directives en vigueur dans le système Eurochèque, p. 19.

¹⁵⁷Archive Banque Générale du Luxembourg BNP Paribas, International Eurochèque Secretariat, Eurocheque 1968-1978, Brussels, pp. 57-74.

¹⁵⁸Unknown author, Un nouveau système de paiement pourra être utilisé dans quinze pays: l'eurochèque, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1968/10/22/un-nouveau-systeme-de-paiement-pourra-etre-utilise-dans-quinze-pays-l-eurocheque_2494786_1819218.html (State:21.07.2021).

led to an increase in the volume of deposits. French bankers were sure that although credit cards were not used daily, consumers would have generally welcomed the introduction of credit cards in France and Europe.¹⁵⁹ Overall, the leading French bankers did not see the Eurocheque as a cashless mass payment solution. In France, a country where cheque transactions already were largely accepted, the banking community felt that the Eurocheque was only an interim solution and that in the long run, after the Europeanisation of the cheque card, a Europeanisation of the credit card should represent a higher goal for the Eurocheque association. The French credit industry realised in 1968 that in the coming decades, with increasing prosperity and the spread of travel, the European credit card market would attract an expanded clientele that needed to be given the greatest attention. It would not be enough to counter the American credit card providers with a piece of paper, since in the United States of America there was already talk of the “*checkless society*”. The French credit industry was not averse to the idea of a European cashless means of payment. Nevertheless, the French banks hoped that the Eurocheque would be a step nearer a European credit card.¹⁶⁰

In France, some banks had already decided in the 1950s to create a salary card linked to the customer’s current account, which could compete directly with cheques. Five French banks joined the idea in 1967: *Crédit Lyonnais*, *Société Générale*, *Banque Nationale de Paris*, *Crédit Commercial de France*, *Crédit Industriel et Commercial*, *Crédit du Nord* and *Bred*. These banks had in essence created a counter-model to the credit card, a deferred debit card. In 1971, the name *Groupement Carte Bleue* was given to this economic interest group.¹⁶¹ However, since many European countries had spoken out in favour of the common European cheque guarantee card as a counterweight to American credit cards, the *Groupement Carte Bleue* launched the *Carte Bleue Internationale* on the market in 1974 in cooperation with the *Bank of America* in addition to its standard deferred debit card. The American partner had already issued 34 million BankAmericards worldwide in 1974. This allowed *Carte Bleue Internationale* holders to access a supplementary network of 1,500,000 merchants in 84 countries. In addition, one could use the simple *Carte Bleue* to withdraw money from banks affiliated to the Eurocheque system in 33 countries. *The Carte Bleue* was used by 900,000

¹⁵⁹DEMEULENAERE, Luc, Celles-ci sont admises comme accreditifs du chèque dans toute l’Europe, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1968/11/05/celles-ci-sont-admises-comme-accreditifs-du-cheque-dans-toute-l-europe_2488976_1819218.html (State: 21.07.2021).

¹⁶⁰Unknown author, Euroscheck, in: d’Lëtzebuurger Land, 13.06.1974, p. 3.

¹⁶¹GASTON-BRETON, Tristan & KAPFERER (ed.), Patricia, *Carte Bleue la petite carte qui change la vie*, Paris, Cherche Midi, 2004, pp. 40-50.

people in France at that time and gave access to a network of 51,000 merchants and 10,000 bank branches in France.¹⁶² Bank of America had first named its credit card BankAmericard. In 1976, it was renamed Visa to give it an international image and to reflect its worldwide expansionist ambitions.¹⁶³ In 1978, only the *Banques Populaires* and the *Crédit Mutuel* joined the Eurocheque in France. However, the *Carte Bleue* gradually became the most popular non-cash means of payment in France. The *Carte Bleue* was distributed by most French banks, with *Crédit Agricole* and *Crédit Mutuel* being the main cardholders.¹⁶⁴ On 19 November 1982, the thirty-nine *Banques Populaires* left the Eurocheque system and joined the *Groupement Carte Bleue* with their 2.6 million customers. The *Banques Populaires* no longer wanted to bow to the technostuctures of the Eurocheque association. Furthermore, they were no longer willing to participate in the Eurocheque network because of the increasing fraud cases regarding Eurocheque guarantee cards. *Crédit Mutuel* decided by a narrow majority to remain in the Eurocheque system. During the months before, the *Caisses d'Épargne de l'Écureuil* and the *Chèques postaux* system with 7.6 million holders started to distribute the *Carte Bleue*. The *Carte Bleue* illustrates that the French banks wanted to introduce a common debit and credit card nationwide and not rely on a further cheque system.¹⁶⁵ Consequently, it is not surprising that *Libération* wrote the following lines in 1999: “Eurocheque, unknown. In France, individuals, except for the Alsacians, only know the Eurocheque logo: two intertwined blue and red letters that decorate, alongside Visa and Eurocard/MasterCard, the shop windows of French retailers.” *Crédit Mutuel* remained the only bank in France to issue the Eurocheque to its customers until the Eurocheque system was abandoned at the beginning of the 2000s.¹⁶⁶

¹⁶²Unknown author, Lancement d'une carte bleue internationale, in: Le Monde.fr, URL:https://www.lemonde.fr/archives/article/1974/03/27/lancement-d-une-carte-bleue-internationale_2515344_1819218.html (State: 21.07.2021).

¹⁶³LOOSVELT, Derek, *Vault Guide to the top financial services employers*, New York, Vault Inc, 2006, p. 498.

¹⁶⁴Unknown author, La guerre des cartes de credits et des chèques de voyage, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1978/12/19/la-guerre-des-cartes-de-credit-et-des-cheques-de-voyage_2985375_1819218.html (State: 21.07.2021).

¹⁶⁵RENARD, François, Le groupement carte bleue et le crédit agricole ont signé un accord de principe pour l'unification de leurs cartes de paiement, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1984/01/31/le-groupement-carte-bleue-et-le-credit-agricole-ont-signé-un-accord-de-principe-pour-l-unification-de-leurs-cartes-de-paiement_3000808_1819218.html (State: 21.07.2021).

¹⁶⁶MAUSSIN, Catherine, Les banques françaises épinglées sur l'eurochèque, in: *Libération*, URL: https://www.liberation.fr/vous/1995/03/10/les-banques-francaises-epinglees-sur-l-eurocheque_127536/ (State: 21.07.2021).

1.1.8. Conclusion

It was not until the 1960s that retail banking emerged in Europe. Through the abolition of the payment of salaries in the form of cash. Cashless payments were primarily inter-institutional. Cashless payment systems as well as mass payment systems were still far from the European population. With the standardisation of salary payments and wages large parts of society became bankable. In the 1960s, the travel behaviour of Europeans and North Americans changed drastically. Steadily rising incomes and living standards changed drastically. The boom in the tourism industry did not go undetected by the European banking industry. European credit institutions wanted to secure their shares of the cashless payment business. As a result, the European banking industry decided to create a common European cashless method of payment that would allow people within Europe to easily obtain cash while travelling. The creation of the Eurocheque was also a suitable instrument to compete with American credit card providers such as Diners club, BankAmericard or American Express in the 1960s. Consequently, European financial institutions decided in favour of the cheque guarantee card because it seemed cheaper to introduce a common cheque than a credit card. The introduction of the Eurocheque in 1968 made it possible for the European banks to avoid a legal framework and large administration. The decision for the Eurocheque also eliminated the costs of a huge staff, marketing costs, dedicated computer and the setting up of computer centres. Consequently, a functioning European cashless payment system could be established within a very short time as a counterweight to the emerging credit card organisations in Europe between 1968 and 1980. The standardisation of the Eurocheque symbol and guidelines played a significant role in its success story. The implementation of the Eurocheque symbol at all participating banks and their bank counters made the network visible to the customer virtually overnight. As a result, the Eurocheque became the number one method of payment in Europe. Luxembourg and Germany adapted the system favourably, as the cheque was not yet widespread in their countries either. The Eurocheque was particularly popular in Germany's big cities, as the Eurocheque could also be used to make payments at non-banks. The Luxembourgish and German banking industries thus became great supporters of the Eurocheque system in the time frame studied because they could increase consumer credit. The French banking industry was not averse to the Eurocheque and used it primarily as a *système de dépannage* [a troubleshooting system] with follow-up contracts for debit and credit cards. Nevertheless, the French credit institutions pursued the idea of designing their own card as a counterweight to American credit cards. As a result, it is not surprising that the *Carte Bleue*

has been able to expand its dominance in France since 1967. The French credit industry did not want to fight against a common European payment option, but it had to fight against the flood of cheques within their own country. In addition, the dominance of the German banking industry within the Eurocheque system was always noticeable and could be felt in little things like the printing of Eurocheque cards exclusively in Cologne. However, one can assume that the French credit industry primarily wanted to put an end to the cheque as a mean of mass payment in France. Nevertheless, in the end the Eurocheque association was able to defend against American providers for at least 10 years. The different opinions of introducing the cheque or credit card among the European countries fragmented the European banking industry and European cashless payment market from the beginning. The fragmented European payment landscape becomes clear with the example of France. Before the *Carte Bleue* became the common national means of payment, several payment systems existed side by side. Nevertheless, a common European means of payment was indeed created, but companies like Visa were able to take advantage of these disagreements and secure important contractual partners like the *Groupement Carte Bleue* as early as 1974. These decisions were originally made to combat the flood of cheques, but widely opened a floodgate for American providers. Thus, the French credit industry with its *Carte Bleue* and *Carte Bleue Internationale* was light years ahead of most countries in the Eurocheque system where credit cards were not widely spread.

These developments demonstrates that the Eurocheque was a European success story, but European disagreement prevailed and prevented the establishment of a stable common basis for a European cashless payment method. Therefore, European banks primarily marketed their own debit cards or the Eurocheque to compete against the American credit card providers. In the end, the Eurocheque proved to be no longer profitable from the 1980s onwards because, as the passive countries had already predicted, the costs of the system would spike due to the flood of cheques and the resulting costs. Nevertheless, even though countries like France were only passively involved, the European banks succeeded in making the Eurocheque attractive to their customers for several decades with simple technical structures, a common Eurocheque symbol, the inclusion of the non-banking sector, and a gigantic counter network. However, explaining the disappearance of a common European means of payment based on consumers' increasing preference for debit and credit cards since the 1980s as Europay International did in 2002 is not sufficient. The founders of the Eurocheque succeeded in implementing their idea of a

uniform and transnational cheque system with a European identity. They found a temporary response to the expansion of the American credit card providers. However, they could not stop the increasing fragmentation of the European cashless payment market. The success and downfall of the Eurocheque can therefore not only be explained by its digitalisation. In addition to very technical insights such as those provided by Barbara Bonhage, this dissertation offers an analysis of the influence of non-banks on the Eurocheque as well as insights into the flexible technical structures of the Eurocheque Association that reveal a variety of circumstances that led to the demise of the Eurocheque in 2001.¹⁶⁷ It becomes clear that the gigantic network of non-banks that were part of the Eurocheque system contributed to its success and decline. This network consisted mainly of hotels, restaurants, department stores and retail shops without trained bank employees. The next section provides a detailed analysis of the development of the credit card market between the 1980s and 2000s using the Eurocard as a case study. Furthermore, the analysis of Eurocard serves to illustrate the marketing strategies used by banks in Europe to promote credit cards. The final chapter of this thesis focuses in depth on the extent to which the political will of individual countries and central banks influenced the spread of cashless means of payment. In conclusion, it is demonstrated that with the emergence of the European single market also a strong political will arose to overcome the fragmentation of the European cashless payment market through its deregulation.

¹⁶⁷BONHAGE, Barbara, *Eurocheque*, Hampshire, Palgrave Macmillan, 2010, pp. 182-197.

1.2. The Eurocard: how competition in retail banking influenced European bank marketing strategies

The banks that were active in the Eurocheque Association had been pursuing the idea of bringing a European credit card onto the market alongside the Eurocheque since 1964. The Eurocard was created on the initiative of the Swedish banking industry. However, the Eurocard was not issued on a large scale by the European banks until the second half of the 1970s.¹⁶⁸ Until then, only a few European banks were interested in the Eurocard. Nevertheless, Eurocard and several European credit institutions entered into cooperation agreements with MasterCard as early as 1968. Although they were aware that foreign credit card companies wanted to expand their market share in European cashless payments, an early cooperation was established with the American provider. This cooperation was primarily of interest to the European credit institutions so that the Eurocard would be accepted at an international level.¹⁶⁹ As a result, they operated on a national level, for example as Eurocard France, and internationally as Eurocard International with MasterCard. Eurocard International had its headquarters in Brussels.¹⁷⁰

1.2.1. A standardised European credit card in 1970s

From 1978 onwards, a growing number of European banks joined the Eurocard. The participating banks were thus able to issue a standardised European credit card. The Eurocard was owned by European banks. In general, the European credit card was intended to compete with all digital cashless payment cards from non-banks and American credit card providers. Furthermore, the banks supporting the European credit card hoped to retain the responsibility for the management and control of cashless retail payments in Europe by introducing the Eurocard. Consequently, it is not surprising that one of the most important aspects during the creation phase of the Eurocard was its differentiation from the American market. There was a widespread opinion in the European banking industry that American credit card companies would certainly take over the Eurocard organisation in most European countries in the next decades. In response to this speculation, European bankers were afraid that the supremacy they had achieved with the Eurocheque as a European cashless payment would be threatened. Many European banks felt cornered and feared that the Eurocheque and Eurocard would no longer

¹⁶⁸BONHAGE, Barbara, *Eurocheque*, Hampshire, Palgrave Macmillan, 2010, pp. 182-197.

¹⁶⁹MASTERCARD, Markengeschichte, in: brand.mastercard, URL:<https://brand.mastercard.com/brandcenter-de/more-about-our-brands/brand-history.html> (State: 02.08.2021).

¹⁷⁰RAAB, Gerhard, Kartengestützte Zahlungssystem und Konsumentenverhalten, Eine theoretische und empirische Untersuchung, in: *Beiträge zur Verhaltensforschung*, Heft 34, Berlin, Duncker & Humblot, 1996, pp. 55-57.

exist. Dr Eckard van Hooven, Chairman of the Commission for Retail Banking of the German Bankers' Association and Member of the Board of *Deutsche Bank* heavily promoted the expansion of a common European credit card. He believed that this was only possible if the entire European banking industry worked together.¹⁷¹

In the German banking industry, there were increasing voices that Visa and MasterCard were advancing a policy that was harmful to European banks. Both credit card organisations pursued a policy of recruiting card issuers among European credit institutions directly and indirectly via European banking organisations. According to their opinion these developments weakened the common voice of European banking industry worldwide, as these individual agreements with Visa and MasterCard already led to a fragmentation in the European payment market. The business policy of the two US providers had the negative side effect for many European credit institutions that the European payment market opened to non-banks already at the end of the 1970s. The German banking industry shared the opinion that a common business policy for Eurocard would prevent the European banking industry before a further fragmentation of the cashless payment market.¹⁷² As a result, the German banking industry tried to convince the other European bank communities to join the Eurocard and to promote it under a common marketing strategy. In their opinion, the advantage of a joint marketing would be that the debtor side of the participating European credit institutions and the entire banking system could be strengthened in the long term. The European banking communities discussed whether European credit institutions should become sales agents for American credit card organisations or whether they should realise a specifically European solution by designing a European payment system. Many of the Eurocheque member banks still believed that the cheque guarantee card could compete with American credit card providers. However, on 15 September 1978, Belgian, Danish, French, Irish, Dutch, Swiss and West German representatives of the national banking organisations met and held a so-called *European Council for Payment Systems*. On this day, they discussed how useful it was to keep the Eurocheque alive. The meeting convinced many representatives of the need for a supplementary common European credit card. In the same year, Great Britain, the Federal Republic of Germany, Switzerland, France, Italy, Denmark, Sweden, and Spain joined the Eurocard system. The Benelux countries

¹⁷¹BONHAGE, Barbara, *Eurocheque*, Hampshire, Palgrave Macmillan, 2010, pp. 182-197.

¹⁷²WEISS, Ulrich, *Gemeinsames Bankmarketing im Zahlungsverkehr mit der privaten Kundschaft*, in: SÜCHTING, Joachim & VAN HOOVEN, Eckart, *Handbuch des Bankmarketing*, Wiesbaden, Gabler, 1987, pp. 335-351.

followed several months later.¹⁷³ However, the European Council for Payment Systems has nothing to do with the *European Payments Council* (EPC). The EPC was founded in 2002 as part of the mandatory migration to the *Single Euro Payments Area* (SEPA).¹⁷⁴

The Eurocard was supposed to be marketed as a worldwide accepted payment method by European banks. In the end, however, it remained unclear which target group was addressed. Sebastian Gießmann illustrates in his paper, *Ein weiteres Medium zur Bankenkooperation, der Fall der Eurocard*, the lack of clarity concerning whether Eurocard was a credit card for the European upper class or middle class ever since its introduction within the European market between the late 1970s and mid-1980s. However, the first tensions within the Eurocard association emerged at the technical level and not on the marketing strategies. However, the distribution of the data centres was resolved through diplomatic negotiations. The clearing of the Eurocard took place in Paris, the British took over the payment authorisation including the connection to MasterCard's global authorisation centre in St. Louis. At the heart of the technical infrastructure was the *Eurocard Net Settlement System* (ENESS) and was a digital settlement system. ENESS made it possible to settle the various European currencies with each other and was put into operation in Brussels in 1981. According to Gießmann, for many European banks this was the start of the digital payment society. The system was in line with the European values of the participating banks, but the cost reduction remained low. ENESS was linked to Eurocard and in its combination represented a European currency, but it must be considered that Eurocard was designed for an exclusive and small group of customers.¹⁷⁵

1.2.2. Who controls cashless payments controls retail banking

In the following years, the steadily increasing competition on the European payment card market created a certain awareness that whoever would control cashless payments would control retail banking in Europe. As a result, it was not surprising that tensions were overcome at the technical level by the member banks of Eurocard. Furthermore, the international card schemes such as Diners Club, Visa, American Express, and MasterCard competed fiercely with each other to expand their influence at the European and global level. To counteract the

¹⁷³BONHAGE, Barbara, *Eurocheque*, Hampshire, Palgrave Macmillan, 2010, pp. 182-197.

¹⁷⁴EUROPEAN PAYMENTS COUNCIL, The EPC and the SEPA process, in: European payment council, URL: <https://www.europeanpaymentscouncil.eu/about-us/epc-and-sepa-process> (State: 02.08.2021).

¹⁷⁵GIEßMANN, Sebastian, *Ein weiteres gemeinsames Medium zur Banken-Kooperation, Der Fall der Eurocard*, in: *Materialität der Kooperation*, hg. v. Sebastian Gießmann, Tobias Röhl und Ronja Trischler, Wiesbaden, Springer VS, 2019, pp. 169-198.

penetration of the American providers, the European member banks of Eurocheque and Eurocard attempted to merge both organisations in the 1980s. The main aim was to increase the profitability of their two systems. In the Eurocheque system, the issuing bank paid an interbank commission to the bank that accepted the cheque. This commission was used to cover the costs of the accepting bank, in return for which the issuing bank collected the exchange rate profit, so that in this system the issuing bank bore the costs of its own customers' transactions. This may seem normal at first sight, but it was exactly the opposite in the case of credit cards, where the issuing bank received part of the commission that the merchant paid to the accepting bank. The financial interest of the card-issuing banks was therefore obvious. By merging Eurocheque and Eurocard, the intention was to reduce these costs incurred for all parties involved. In addition, by joining forces the member banks were able to build up a communication infrastructure between Eurocard and Eurocheque. Until then, the banks organised themselves to exchange data and information through the channels they considered most appropriate. However, they were aware that the two systems would complement each other perfectly. For example, Eurocard had an efficient communication network, but unlike Eurocheque, it did not have access to many ATMs in Europe. Therefore, the Eurocheque and Eurocard systems were combined. This decision was primarily done due the request of most German member banks of Eurocheque and Eurocard. They wanted to harmonise marketing strategies and technical infrastructures to avoid duplication of work. At the End of the 1980s Eurocheque took a 35 percent stake in the Eurocard communication network, *Europay Payment Systems Service* (EPSS), and decided to use this network for the exchange of information between the different countries. In addition, the Eurocheque ATMs network enabled Eurocard customers to withdraw cash.¹⁷⁶ In this context, it is important to underline that bank wanted to keep the exchange rate risk low. Therefore, mass data processing was used for the conversion and further settlement of Eurocheque transactions. In the long run, the traditional procedure of foreign settlement was too costly for customers and financial institutions. Therefore, mass data processing was used for the conversion and further settlement of Eurocheque transactions. In this way, the exchange rate risk for all participants could be kept low and Eurocheque could be issued at low cost.¹⁷⁷

¹⁷⁶Archive Banques Générale du Luxembourg BNP Paribas, H. Simonart (ed.), *Bulletin de la Générale de Banque: Les cartes de paiement en compétition*, Brussels, Weissenbruch S.A., 1989, pp. 24-28.

¹⁷⁷GLOGOWSKI, Erhard & MUNCH, Manfred (ed.), *Neue Finanzdienstleistungen*, Wiesbaden, Gabler Verlag, 1990, pp. 24-47.

However, it was not only Eurocheque and Eurocard that attempted to harmonise European payment transactions at this time. In October 1987, the leading European banks decided to sign a contract in Florence to promote interoperability between the various cashless means of payment. Each bank accepted all cards issued by the other banks within the framework of clearly defined technical and price agreements. This agreement was strongly criticised by American Express. They felt left behind and feared that they were facing a kind of banking cartel. Not all the terms of the agreement in 1987 were unanimously accepted on the banks' side either, so it was agreed to leave it to the major payment systems to create the conditions for interoperability themselves and to link their central computers to avoid duplicating the European gateway infrastructure.¹⁷⁸ American Express feared a banking cartel because Visa, Eurocard and MasterCard issued their credit cards from partner banks. American Express, on the other hand, always issued its cards by itself. Therefore, this accusation was not unjustified to a certain degree.¹⁷⁹ The European Council for Payment Services announced that the agreement would make life easier for travellers who had difficulty using their cards in countries other than their own. The agreement affected more than 100 million credit card holders, including Visa, Eurocheque and Eurocard/MasterCard. A harmonisation of the European payment systems had been long overdue.¹⁸⁰ Furthermore, in 1987 the British company *Lafferty* conducted a survey of 6,000 bank customers in six European countries and concluded that European banks were not sufficiently meeting the financial needs of their private customers. MasterCard International commissioned to investigate how financial behaviour was changing in Europe in the 1980s. The study confirmed to MasterCard International that Europeans were adopting new payment methods with enthusiasm, as they were much more open-minded about even short-term personal debt than the immediate post-war generation. *Lafferty* observed that the prevailing mismatch between European banks' supply of non-cash payment methods and the demand from individuals benefited non-European banks, specifically the American and Japanese banks. The study revealed several interesting developments of the customers' behaviour regarding the use of credit cards. First, it showed that while customers were still very loyal to their bank overall, loyalty tended to decline among younger generations and higher

¹⁷⁸Archive Banques Générale du Luxembourg BNP Paribas, H. Simonart (ed.), Bulletin de la Générale de Banque: Les cartes de paiement en compétition, Brussels, Weissenbruch S.A, 1989, pp. 24-28.

¹⁷⁹Unknown author, Kreditkarten, MasterCard, Visa Card und Amex, in: welt.de, URL: <https://www.welt.de/finanzen/vergleich/article127904169/Kreditkarten-Mastercard-Visa-Card-und-Amex.html> (State: 02.08.2021).

¹⁸⁰Unknown author, Europe, Les banques vont reconnaître toutes les cartes de crédit, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1987/10/17/europe-les-banques-vont-reconnaitre-toutes-les-cartes-de-credit_4072771_1819218.html (State: 02.08.2021).

earners, especially in France. For example, almost one out of two bank customers in France who had a current account and a bank card said that they would not hesitate to switch to a new credit card provider if another bank offered them a cheaper card than their own.¹⁸¹ The higher competition on the European payment market and changing customer behaviour finally led to the cooperation of Eurocard and Eurocheque in 1989. In the context of technical infrastructure, they worked together with MasterCard International to be able to extend the activities to non-European countries. In 1992, Europay International S.A. was founded and mainly responsible for the processing of cross-border payments. At that time MasterCard International already owned 50 percent of the newly founded company.¹⁸² MasterCard International merged with Europay International in 2002 to form a globally acting company for payment systems. The takeover of the Eurocard brand was imminent. Until then, both brands had been present on the Eurocard with their Logo. From 2002, the Eurocard logo was no longer used on their credit cards in Europe. The change from the dual brand led to the sole designation MasterCard. MasterCard then repositioned itself to clearly differentiate itself from Eurocard. With the takeover of Eurocard, the American company wanted to position itself more strongly, especially in Germany, and advertise itself as an innovative company with internationally recognised credit cards. Its aim was to enable customers to benefit from globally uniform credit cards that enabled cardholders to withdraw cash and pay cashless at over 29 million acceptance points worldwide in 2002. The credit cards with the old double Logo were exchanged for cards with the MasterCard logo. The brand change was accompanied by an information and advertising campaign. The television and print campaign were divided into two phases. In the first phase, the public was informed about the upcoming rebranding with a so-called announcement campaign about the upcoming brand change. This phase was advertised under the slogan “*Eurocard becomes 2003 MasterCard*”. In addition, the credit cards, forms, and advertising of the credit institutions issuing Eurocard were gradually switched over to MasterCard. In addition, retailers were instructed to remove the stickers with the combined logo and replace them with MasterCard stickers.¹⁸³

¹⁸¹Unknown author, Une enquête sur les particuliers et les moyens de paiement, Les banques européennes menacées, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1987/07/03/une-enquete-sur-les-particuliers-et-les-moyens-de-paiement-les-banques-europeennes-menacees_4044608_1819218.html(State: 02.08.2021).

¹⁸²KRUMNOV, Jürgen & GRAMLICH, Ludwig (ed.), Europay International SA, in: *Gabler Bank Lexikon*, Wiesbaden, Gabler, 2000, p. 486.

¹⁸³EUROKARTENSYSTEME GMBH, Eurocard wird 2003 MasterCard, in: presseportal, URL:<https://www.presseportal.de/pm/38715/410329> (State: 02.08.2021).



Figure 7 – MasterCard advertisement announcing their takeover of Eurocard in 2003.

1.2.3. Eurocard in Germany: A credit card with an exclusive aura ever since

The only German bank that was interested in the European credit card when the Eurocard was created at the end of the 1960s was *Kundenkreditbank KGaA* from Düsseldorf. However, it was the *Deutsche Bank* that showed the greatest interest in 1975 when *Eurocard Deutschland* was put up for sale. Nevertheless, negotiations between *Deutscher Sparkassen und Giroverband e. V.*, *Volksbanken* and private banks took place in 1976 and Eurocard Deutschland was jointly bought.¹⁸⁴ With the large-scale introduction of the Eurocard at the end of the 1970s, the German banking industry agreed to cooperate with MasterCard and decided against Visa. Even though the German credit industry had decided in favour of Eurocard and MasterCard, Visa repeatedly tried to contact individual credit institutions to work with them. But each time Visa received a rejection. However, the *Volksbanken*, *Sparkassen* and private banks observed the rise of American credit cards for the mass market with scepticism and rejection. Since the 1950s, German banks had begun to offer their customers small loans. This involved a simple logic of data collection. A customer was linked to a single account. The US credit cards, however, linked each customer to a second account. As a result, their own organisational principle was threatened by the US-providers. From April 1977, the German credit industry offered its customers the Eurocard as an answer to the American credit card providers. However, the problem with the Eurocard was its aura of exclusivity. It was therefore not surprising that in 1982 there were about 16 million Eurocheque cardholders compared to 200,000 Eurocard users.¹⁸⁵

¹⁸⁴LIPPE, Gerhard & ESEMANN, Jörn & TÄNZER, Thomas (ed.), *Das Wissen für Bankkaufleute*, Wiesbaden, Gabler, 2001, p. 750.

¹⁸⁵GIEBMANN, Sebastian, *Ein weiteres gemeinsames Medium zur Banken-Kooperation*, Wiesbaden, Springer VS, 2019, pp. 169-198.

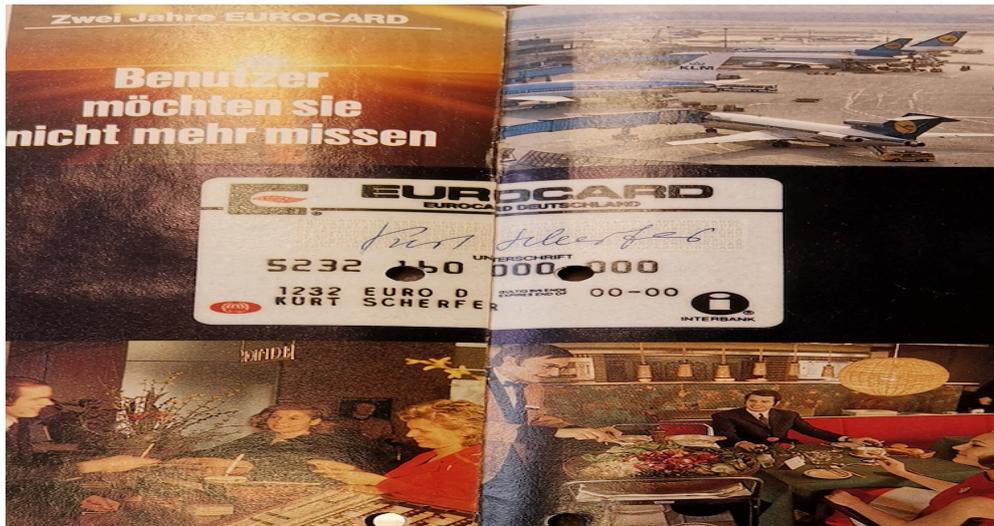


Figure 8 – Archive Deutsche Bank, Eurocard advertisement in 1979.

With the creation of the *Gesellschaft für Zahlungssysteme (GZS)*, *EURO Kartensysteme GmbH* was founded by the German Banking industry. As a result, *Eurocard Deutschland* and the German Eurocheque Head Office were merged. Besides the problem of giving the Eurocard a clear profile, there was the problem that private banks, and savings banks always disagreed on issuing the Eurocard as the only credit card in Germany. Until the end of the 1980s, the German credit industry was primarily busy developing its own credit card alongside the Eurocard to keep German retailers out of the cashless payment market. Especially the private banks debated about what would be the best for the entire German credit industry and for the existing payment systems. Since 1982 and the founding of the GZS from the German banking industry, there has been a consensus that inaction in response to significantly changing markets would never lead to convincing results for any payment card. Their conclusions resulted in the creation of a new credit card called Europlus in 1986. In addition, for many German bankers it was no longer an option to follow the previous concept of commonality. The decision for a supplementary credit card had a specific reason. Non-banks discovered credit cards as advantages for customer loyalty in Germany between 1984 and 1986. Services providers and retailers such as *Kaufhof*, *Karstadt*, *Metro*, *Ikea*, *Quelle*, *Lufthansa* and regional department stores and hotel chains issued their own credit cards in cooperation with the American providers.¹⁸⁶

¹⁸⁶ Archive Deutsche Bank, Beitrag für die Bank, Von Eurocheque über Eurocard zu Europlus, schl/ps, Frankfurt, 1987, pp. 1-8.

Payment cards in Germany	1958 - 2015
Debit cards	
Electronic-Cash	1990 - 2007
Girocard (co-badging) with Maestro and V-Pay	Since 2007
Credit cards	
American Express	Since 1958
Diners Club	Since 1958
Eurocard	1968 - 2003
VISA	1982
MasterCard	2003

Figure 9 - Main cashless payment methods in Germany from 1958 until 2015.

1.2.3.1. Europlus failure in the 1980s

However, these developments must be placed in the overall context to understand why these providers were considered as a danger by German banks. The German credit industry was undergoing structural change during the 1980s due to emerging technologies such as telematics. Retailers and merchants entered the retail banking market with their first home banking services. For example, *Noris-Verbraucherbank GmbH* was created by a fusion of *Norisbank GmbH* and *Verbraucherbank GmbH* in 1984. *Norisbank GmbH* offered the possibility of financing products from the mail-order company *Quelle* via *Noris Kaufhilfe* from 1954. Consequently, *Norisbank* customers were familiar with the advantages of doing business remotely for years. *Noris-Verbraucherbank GmbH* was the first German bank to handle all its business transactions via terminals and *Bildschirmtext* (BTX). The bank charged a fee of 80 deutsche mark for their complete service. The bank's customers could access so-called *multi-accounts*, which linked all their accounts together.¹⁸⁷ With the possibility of distributing their own payment cards in shops and via BTX, companies like *Quelle* posed a serious threat for the German credit industry and their retail banking business. As a result, it is not surprising that the ZKA of the German banking industry adopted an inter-institutional agreement on BTX in

¹⁸⁷WEIß, Gerhard & GEORGIEFF, Peter (ed.), *Automation im Geldverkehr, Wirtschaftliche und soziale Auswirkungen*, Köln, Westdeutscher Verlag, 1991, p. 234.

1984. The agreement included uniform security standards and special conditions for the use of BTX. The ZKA specified that the bank customer would receive direct access to his account if he had a personal identification number and a transaction number list. The first thing a bank customer had to do when making a BTX transfer was to dial his bank's BTX page and enter his account number and pin. As a result, the transfer mask stored in the bank system was displayed. This process enabled the user to enter the transaction data and confirm the execution with a TAN number from the transaction number list. Every transaction number could only be used once for security reasons. However, the user had a transaction number list of 50 to 100 of these TANS. The use of the TANS was necessary for those BTX banking services that went beyond a simple procurement of information, such as transfers or the change of the BTX-pin.¹⁸⁸ A TAN is a one-way password, usually taken from a list of random numbers. The so-called TAN provides additional security, especially for financial transactions.¹⁸⁹

The declared marketing goal of these card issuers such as *Quelle, Ikea* or *Kaufhof / Karstadt* was to achieve stronger customer loyalty due to overdraft lines and shopping advantages. Moreover, in 1987, the *Hauptgemeinschaft des Deutschen Einzelhandels*, together with the *Deutscher Hotel und Gasstättenverband* presented to the public the plan to launch its own trade card called *Deutsche Kreditkarte*. The German credit industry was very surprised by this decision, as it had been the retail and service sector that had repeatedly spoken out in favour of the Eurocheque and against credit cards for over two decades. However, the *Deutsche Kreditkarte* was not the only reason for the German banking industry to react. Nevertheless, due to the circumstances just discussed, the Eurocard had been neglected. Consequently, the announcement of the *Deutsche Kreditkarte* by German service providers and retailers, accelerated the decision-making process in the relevant bodies of the banking industry. Consequently, the German banking industry agreed to issue another method of payment in addition to the Eurocheque cards and the Eurocard because they realised that the demand structures from customers changed, and they did not want to leave cashless payment transactions to retailers and service providers. Based on these two simple facts, the banking industry felt it had no other choice but to introduce a competitive credit card in the interest of their customer care and to secure existing customer relations. In addition, European bankers

¹⁸⁸KONERT, Bertram, *Sozio-ökonomische Aspekte und Perspektiven des Electronic Banking in der Bundesrepublik Deutschland, Technische, ökonomische und soziale Determinanten und Wirkungen*, Köln, Verlag Hänsele-Hohenhausen, 1993, pp. 265-314.

¹⁸⁹DANNENBERG, Marius, *E-Payment und E-Billing, Elektronische Bezahlssysteme für Mobilfunk und Internet*, Wiesbaden, Gabler Verlag, 2004, p. 51.

hoped that a uniform credit card would accelerate the preparations for the introduction of paperless cash register systems in Germany. International transactions with Europlus should be cleared in cooperation with Eurocard and MasterCard.¹⁹⁰ Europlus did not come to realisation. The *Bundeskartellamt* (BKartA) vetoed the idea of the German banking industry because they noted that the German Banking industry would be unable to implement the credit card due to a serious lack of resources and technical expertise. Moreover, these severe shortcomings would lead to a monopoly situation in Germany.¹⁹¹

It should be underlined that it was not the entire banking industry that relied on Europlus in 1987. The savings banks pursued a secret plan to offer their own credit card. Due to the inactivity of the entire banking industry on the cashless payment market, the German savings banks wanted to create the S-Card as a credit card. The savings banks estimated to have considerable advantages for themselves in the competition for shares of the cashless payment market by introducing their own credit card. The 591 savings banks had a dense network of 17600 bank branches. Consequently, they hoped to be able to provide their bank customers a uniform credit card within a very short time and to leave the rest of the banking industry and the non-banks behind.¹⁹² The aim of the S-Card functioning as a credit card was to overcome the disadvantage of savings banks' regional scope. 210 savings banks joined the S-Card project in 1987. Nevertheless, the S-Card and the Europlus as credit cards did not become a reality. In the End, the entire German banking industry was aware of the threat of the *Deutsche Kreditkarte*. As, the German trade was close about to launch their own payment card, the German banking industry decided to work together again. The fragmentation of the cashless payment market into Eurocheque, Eurocard, S-Card, Europlus and the *Deutsche Kreditkarte* represented a horror scenario for all German banks.¹⁹³ As a result, it was decided in October 1986 at an extraordinary meeting to continue to issue Eurocard as a common credit card and to focus on its worldwide acceptance in cooperation with MasterCard. A new factor was that the credit card was issued as a chip card so that people could pay at point of sale directly on site. In addition, a common identification mark and the Eurocard logo were added to the credit card.

¹⁹⁰Archive Deutsche Bank, Beitrag für die Bank, Von Eurocheque über Eurocard zu Europlus, Frankfurt, 1987 pp. 1-8.

¹⁹¹Archive Deutsche Bank, Author Unknown, German cartel office tangles with Europlus, Retail Banker International, The worldwide consumer financial services bulletin Issue No. 151, December 1987.

¹⁹²Unknown author, Ei gelegt, in: spiegel.de, URL: <https://www.spiegel.de/wirtschaft/ei-gelegt-a-611c6fae-0002-0001-0000-000013517463> (State: 02.08.2021).

¹⁹³Archive Deutsche Bank, VON DER ROPP, Nina, Ein Opfer für die Gemeinsamkeit, in: Handelsblatt, 9 September 1987.

The newly branded card also received the trademark of the issuing bank. The MasterCard logo stayed on it to underline its international acceptance. However, the hope was that by refocusing on the Eurocard, this would make the Eurocheque superfluous, which was becoming increasingly expensive to clear at the end of the 1980s for German banks as they flooded the whole country.¹⁹⁴ Consequently, GZS continued to distribute the Eurocard. In the end, this was the most rational decision from the point of view of the savings banks, private banks and *Volksbanken*, as GZS had already been taking care of *Eurocard Deutschland* for five years.¹⁹⁵ The resumed cooperation between the German banks started to bear fruits, and the numbers at the end of the 1980s also reflect this development. The German banks had been able to increase the acceptance of the Eurocard considerably. The contract network of Eurocard in Germany was able to increase from 2000 partners at the beginning of the 1980s to 55,000 at the end of the 1980s. This success was stimulated by the expansion of acceptance points for cash withdrawals, the introduction of travel insurance, and the three-month trial of the Eurocard without fees. Furthermore, it was possible to withdraw money with the Eurocard at 2200 bank counters and 125 post offices in the Federal Republic of Germany. Furthermore, holders of the Eurocard who had the necessary creditworthiness and were travelling had the possibility to dispose of 1000 US dollars per week in the respective national currency. In contrast to retailers which partly cooperated with Visa, Visa itself was not perceived as a threat at that time as the German banking industry stuck to the gentleman's agreement with MasterCard. It is important to underline that the agreements were in fact collusive and distorted competition. As a result, only *Bank of America* issued Visa in Germany between 1981 and 1987.¹⁹⁶ In 1987, Visa held unsuccessful negotiations again with the savings banks and private banks to issue their credit cards in Germany. Visa then adopted a new strategy and started talks with 6 foreign banks that were active in Germany. The only bank issuing Visa cards at that time was *Banco di Santander*. The Spanish bank had taken over the Visa Card business from Bank of America in mid-1987. As the German banks continued to refuse to work with Visa, *Banco di Santander* launched a costly advertising campaign to attract tourists to acquire a Visa card. Despite all its efforts,

¹⁹⁴Unknown author, Kreditinstitute einigen sich auf gemeinsames Plastikgeld, in: [spiegel.de](https://www.spiegel.de/wirtschaft/kreditinstitute-einigen-sich-auf-gemeinsames-plastikgeld-a-02600577-0002-0001-0000-000013526539), URL: <https://www.spiegel.de/wirtschaft/kreditinstitute-einigen-sich-auf-gemeinsames-plastikgeld-a-02600577-0002-0001-0000-000013526539> (State: 02.08.2021).

¹⁹⁵KRUMNOV, Jürgen & GRAMLICH, Ludwig (ed.), Europay International SA, in: *Gabler Bank Lexikon*, Wiesbaden, Gabler, 2000, p. 486.

¹⁹⁶LIPPE, Gerhard & ESEMANN, Jörn & TÄNZER, Thomas (ed.), *Das Wissen für Bankkaufleute*, Wiesbaden, Gabler, 2001, p. 750.

Visa was unable to expand its market share in Germany during the 1980s.¹⁹⁷

1.2.3.2. Visa's difficulties and strategies

Although Visa had difficulties on the German market, it performed quite well in Europe. The European market represented the biggest growth worldwide at that time, especially in southern Europe. In Europe many banks started issuing Visa during period. The expansion of market shares by Visa did not go unnoticed by the German banks but since it was not possible to issue Visa and MasterCard alongside Eurocard until the early 1990s, German banks sought other ways to profit from Visa's boom without harming their gentleman's agreement. Consequently, it was no coincidence that in 1986 *Deutsche Bank* took over *Banco d'America Italia*, the leading issuer of Visa in Italy. Traditionally, the major issuing banks of the Eurocheque community had long opposed Visa. They accused Visa of being dominated by American banks such as Citycorp.¹⁹⁸

Number of cardholders	Eurocard	Visa
Germany	300,000	110,000
Europe	10,2 Mio.	17 Mio.
Worldwide	103 Mio.	110 Mio.
Number of contract companies	Eurocard	Visa
Germany	40,000	25,000
Europe	750,000	900,000
Worldwide	4,3 Mio.	4 Mio.

Figure 10 - Overview of cardholders and contract companies of Eurocard as well as Visa in Germany in 1985.¹⁹⁹

Therefore, Eurocard was able to achieve a leading position with the help of MasterCard in Germany. Nevertheless, their supremacy began to crumble after 1991. Eurocard together with MasterCard were no longer the only credit card accepted by the *Gesellschaft für*

¹⁹⁷Archive Deutsche Bank, copy of the article, Visa mit neuer Deutschland Strategie, in: Börsenzeitung, 10 June 1987.

¹⁹⁸Archive Banques Générale du Luxembourg BNP Paribas, H. Simonart (ed.), Bulletin de la Générale de Banque: *Les cartes de paiement en compétition* 1989, pp. 24-28.

¹⁹⁹This illustration is based on data from Archive Deutsche Bank, Kreditkarten im Überblick, Anlage zur GZS-Information, 1/85, May 1985.

Zahlungssysteme. All credit cards and debit cards from different brands could now be issued by any bank at the same time. It was an important step for the GZS because in Germany a mere 5 percent of payments were made by credit or debit cards. Most payments in the early 1990s were still made in cash or Eurocheque by the German population. The German credit industry was under pressure to open the cashless payment market to achieve their goal to move away from cash payments and overall, the Eurocheque.²⁰⁰ However, the leading position of Eurocard and MasterCard only began to break down definitively in 1995, when the *Deutscher Sparkassen und Giroverband e. V.* began to issue Visa cards to its customers beside Eurocard and MasterCard.²⁰¹ The extent to which the German credit industry stuck to MasterCard and Eurocard is particularly evident in the case of *Deutsche Bank*. It was not until 1997 that the financial institution began issuing Visa cards to its customers. A comparison of *Deutsche Bank*'s offer in the 2000s shows that MasterCard always remained their preferred cooperation partner. *Deutsche Bank* offered several credit card variants. However, MasterCard's selection dominated with its standard and premium editions, Gold, Silver, WorldFlex, Platin, and Black.²⁰² To be fair, one must add here that GZS was restructured in 1997. Since then, GZS distributed both Eurocard-MasterCard and Visa licenses. Thus, it was not until the end of the 1990s that a German bank was able to issue Visa to its customers in addition to Eurocard-MasterCard. MasterCard's takeover of Eurocard in 2003 is therefore not surprising. However due to the gentleman's agreement with the German credit industry, MasterCard was able to keep its leading position alive until 2019 in Germany. It was not until 2019 that there were more Visa than MasterCard holders.²⁰³

1.2.4. Eurocard in Luxembourg: a highly competitive credit card market

In Luxembourg, the Eurocard was advertised by the *Banque Générale du Luxembourg* (BGL) in 1980 as follows:

“In 1968, the rapid development of international tourism prompted Europe's financial institutions to expand the range of services that would make travel easy and safe from a financial point of view. Thus, the

²⁰⁰Unknown author, Les Allemands découvrent la carte de crédit, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1991/10/04/les-allemands-decouvrent-la-carte-de-credit-jusqu-a-present-ils-preferaient-payer-en-liquide-ou-par-cheque-la-carte-connaît-aujourd-hui-outre-rhin-un-veritable-boom-mais-elle-est-d_4040228_1819218.html (State: 02.08.2021).

²⁰¹KRUMNOV, Jürgen & GRAMLICH, Ludwig (ed.), *Das Wissen für Bankkaufleute*, Wiesbaden, Gabler, 2001, p. 750.

²⁰²FROST, Reinhard, *Wünsche werden Wirklichkeit*, München, Zürich, Piper, 2009, p. 83.

²⁰³JANSON, Matthias, Plastikgeld auf dem Vormarsch, in: de.statista, URL: <https://de.statista.com/infografik/20842/ausgegebene-kreditkarten-ausgewahlter-marken-weltweit/> (State: 02.08.2021).

*Eurocheque system was born, which has since undergone considerable expansion, with the creation of standardised instruments and its extension to the non-banking sector. On the strength of this conclusive experience, the European partners decided in 1978, to meet the growing needs of a clientele travelling throughout the world for business or leisure purposes, to develop other complementary payment instruments entirely controlled by them and usable also beyond the borders of the 39 member countries of the Eurocheque system. These are the EUROCARD payment card and the EUROPEAN TRAVELER'S CHEQUE.*²⁰⁴

Since 1980, Luxembourgish banks who joined the Eurocheque also issued the Eurocard in cooperation with Belgian financial institutions. The Eurocard was also introduced in Luxembourg by most banks in order to defend their market shares against the emerging US providers. As a result, the Eurocard could be used at Belgian and Luxembourgish banks and complemented the Eurocheque. The Luxembourgish-Belgian Eurocard was connected to their interbank network. The Luxembourgish cardholder received a total monthly statement of expenses and paid this statement once a month by automatic debit from their current account. The Eurocard was sold at a price of 1,000 Luxembourgish francs and was designed for bank customers who travelled for working reasons and in their free time according to the Luxembourgish banks. The implementation of Eurocard in Luxembourg and Belgium was the result of negotiations between Belgian and Luxembourgish public and private financial institutions, which had led to the foundation of *Eurocard Belgium-Luxembourg S.A.*²⁰⁵

1.2.4.1. The introduction of Eurocard in Luxembourg and Belgium because of negotiations between their banking associations in the 1980s

The Eurocard was introduced to the Luxembourgish market on 24 November 1980. With Eurocard, the Luxembourgish banks responded especially to the growing demand of their customers for cross-border payments. According to the Luxembourgish banks, the main advantages of the Eurocard were the reduction of cash, the increase of liquidity, the strengthening of international creditworthiness and the simplification of cashless payments.²⁰⁶ As a result, *Eurocard Belgium-Luxembourg S.A.* became one of the market leaders in Luxembourg and Belgium in association with MasterCard and Access to process international payments. *Eurocard-Belgium S.A.* did not manage the 100,000 Belgian-Luxembourgish

²⁰⁴Archive Banque Générale du Luxembourg BNP Paribas, Eurocard, Notes aux services et agences, N°52, Luxembourg, 1980.

²⁰⁵ASSOCIATION DES BANQUES ET BANQUIERS LUXEMBOURGEOISE, Eurocard, in: d'Lëtzebuenger Land, 05.10.1979, p. 14.

²⁰⁶ASSOCIATION DES BANQUES ET BANQUIERS LUXEMBOURGEOISE, Eurocard in Luxembourg, in: d'Lëtzebuenger Land, 28.11.1980, p. 11.

cardholders but mainly coordinated Eurocard marketing. In addition, *Eurocard Belgium-Luxembourg S.A.* was responsible for the 250 banks which issued Eurocard.²⁰⁷ In Luxembourg, the *Banque Générale du Luxembourg*, *Banque Internationale à Luxembourg*, *Banque du Luxembourg*, *Caisse Centrale Raiffeisen*, *Caisse d'Épargne de l'État*, *Crédit Industriel d'Alsace et de Lorrain Succursale de Luxembourg* and *Kredietbank S.A. Luxembourgeoise* issued Eurocards. After a promising start the Luxembourgish banks issued only 8,500 cards in 1986. Consequently, the banks reacted to the stagnating numbers with a marketing campaign and were finally able to recruit 700 new cardholders at the end of the year. The stagnating numbers had a particular reason. *Crédit Européen* and *UCL Banque* issued Visa as a mass payment method. Thus, both banks were able to issue over 40,000 credit cards in Luxembourg from 1980 until 1986. The Luxembourgish Eurocard banks had to react if they did not want to lose large market shares to these two banks. As a result, an advertising campaign for the Eurocard was launched in autumn 1986. Furthermore, the banks wanted to immediately stop the growth of Visa by fixing the price of the Eurocard from 1500 Luxembourgish francs to 250 Luxembourgish francs. Nevertheless, they did not directly change their target group. In their opinion the Eurocard represented an international payment card with a convenience programme and insurance coverage of 100,000 US dollars. Additionally, the banks launched a further advertisement campaign which invited customers to receive a second card free of charge. Already existing cardholders were informed of this possibility by an information form. Nevertheless, at the end of 1986 the Eurocard was introduced as a means of mass payment and as a premium version to hold on to the values of European unity. The premium version was introduced for 2000 Luxembourgish francs and was called Eurocard Gold. The mass card was intended to be widely distributed and to offer its holders the most important basic services. The usage limit per card was set at 100,000 Luxembourgish francs. The amount of the revolving credit corresponded to the usage limit of 100,000 Luxembourgish francs with the obligation to pay at least 10 percent of the total amount on the monthly payment deadline. The golden card was a prestige card with exclusive benefits. It included an international payment card with a revolving credit, a death insurance of US\$ 200,000, a cash advance function of 20,000 Luxembourgish francs per week, as well as the possibility to extend the credit limit to 300,000 Luxembourgish francs depending on the customer's creditworthiness. The target group for the Golden Card represented private individuals and businesspeople. According to the banks, these

²⁰⁷Unknown author, DIGEST, Eurocard-Präsenz, in: d'Lëtzebuenger Land, 25.10.1985, p. 19.

target group would value the prestige of a Golden Card and the assistance programmes it offered. However, these were not the only strategies to counter the Visa dominance in Luxembourg. Even Eurocard international sent sales representatives from Brussels to the Grand Duchy of Luxembourg during the autumn campaign. The Eurocard international representatives aimed to bring the network of Eurocard member banks in Luxembourg in line with Visa by applying their commission rates.²⁰⁸ Comparing the numbers of credit cards issued by Eurocard and Visa in 1986, it becomes clear that Eurocard had already reached its target groups of travelling and working businesspeople. *Crédit Européen* and *UCL Banque* could draw from the fullest and owned large parts of the mass business in Luxembourg.²⁰⁹ The Luxembourgish Eurocard banks tried everything to keep up with *Crédit Européen* and *UCL Banque* to break their steadily growing credit card market shares. Eurocard faced a difficult situation in competing with Visa in Luxembourg. As a result, the Eurocard was issued free of charge from 1987 onwards on a regular basis.²¹⁰ The *Banque Générale de Luxembourg* sold Visa and Eurocard side by side since 1986 with the slogan: “*Elle est valable partout, je dirais même plus. Elles sont valables partout.*” The advertisement shows the characters Thomson and Thompson from Tintin by Hergé walking on the moon. The advertisement conveyed that one could now pay anywhere in the world and even in the universe with Visa and Eurocard, both available at BGL.²¹¹



Figure 11 - Archive Banque Générale du Luxembourg PNB PARIBAS, *Le duo inséparable [the inseparable pair]*, campaign, 1986.

²⁰⁸ Archive Banque Générale du Luxembourg BNP Paribas, Direction Commercial RH/ bdu, Note au comité de direction, Nouvelles stratégies Eurocard, Luxembourg, 2.10.1986.

²⁰⁹ TRAUSCH, Gilbert, *Belgique-Luxembourg*, Luxembourg, Banque Générale du Luxembourg, 1995, p. 243.

²¹⁰ Unknown author, Karte in Gold, d’Lëtzebuurger Land, 05.06.1987, p. 11.

²¹¹ Unknown author, Thomson & Thompson, in: titin, URL: <https://www.tintin.com/en/characters/thomson-and-thompson> (State:16.05.22).

1.2.4.2. Visa's ascension as mass payment method in Luxembourg

However, all these measures to spread the Eurocard as a mass payment method were unsuccessful. In 1988, the Luxembourgish banks left *Eurocard Belgium-Luxembourg S.A.* The need to respond to the growing market demand for Visa led the Luxembourgish and Belgian banks to reconsider their marketing strategies on issuing credit cards. Both banking organisations decided to issue Eurocard, MasterCard, and Visa. Consequently, they had to restructure the company *Eurocard Belgium-Luxembourg S.A.* In this context, the Luxembourgish banks were asked to withdraw their shares of *Eurocard Belgium-Luxembourg S.A.* The developments of the Luxembourgish payment market forced the Luxembourgish Eurocard banks to create their own subsidiaries to issue credit cards. However, their plans almost failed because banks were not allowed to issue Eurocard, MasterCard, and Visa under one umbrella organisation due to article 85 of the Treaty of Rome in 1957.²¹² In fact, Article 86 of the Treaty of Rome stated: “*The following shall be prohibited as incompatible with the common market: all agreements between undertakings, decisions by associations of undertakings and concerted practices which may affect trade between Member States, and which have as their object or effect the prevention, restriction or distortion of competition within the common market.*”²¹³

These circumstances led to the creation of *Eurocard Luxembourg*. Furthermore, the banks additionally decided to establish Visa Luxembourg. The two companies were founded in the second quarter of 1989, and each received initial capital of 10,000,000 Luxembourgish francs. The starting capital was used to finance licensing, start-up costs and to build up a certain capital. Both companies were established as a cooperative enterprise. The merging of both companies would create economies of scale due to the common management of the systems as well as the processing of transactions and the acquisition of merchants. In this way, it was possible to circumvent European directives and offer Visa and Eurocard in Luxembourg at one bank at the same time. As a result, Luxembourgish banks could promote credit cards of their choice. *Eurocard Luxembourg* and *Visa Luxembourg* took care of the administration of the licensees, to acquire merchants, to grant partner licenses to banks, and to fix merchant tariffs. Later, the

²¹²Archive Banque Générale du Luxembourg BNP Paribas, Systèmes de Paiement RH/lf, Note au comité de direction, Constitution de la société Eurocard Luxembourg, Luxembourg, 1989.

²¹³EUROPÄISCHE WIRTSCHAFTSGEMEINSCHAFT, Treaty of Rome, Article 85, in: <https://eur-lex.europa.eu/legal-content/DE/TXT/PDF/?uri=CELEX:11957E/TXT&from=en> (State: 02.08.2021).

management of these activities was transferred to jointly founded *Centre de transferts électronique* (Cetrel). The role of the *Eurocard* and *Visa Luxembourg* was then limited to the management of licences, overhead marketing, and the setting of merchant rates. The founding of Eurocard and Visa Luxembourg achieved the desired effect that the Eurocard member banks could issue Visa themselves and push back *Crédit Européen* as well as *UCL Banque* since 1989.²¹⁴

	Total of cards	Eurocheque	Visa	Eurocard
1986	163,872	112,602	40,416	11,254
1987	197,253	122,414	50,770	24,069
1988	231,151	133,957	60,608	36,586
1989	259,733	146,419	70,317	42,997
1990	293,524	151,858	93,085	48,581
1991	324,886	164,848	101,302	58,736

Figure 12 – Evolution of the number of Eurocheque, Visa and Eurocard holders in Luxembourg from 1986 until 1991.²¹⁵

In 1991, according to the *Institut Monétaire Luxembourgeois*, 325,000 Eurocheque and credit cards were in circulation. At that time, 390,000 people lived in Luxembourg. Thus, at the beginning of the 1990s, almost every household in Luxembourg possessed at least one cashless payment method. The demand for cashless means of payment had increased by eleven percent compared to the previous year. Nevertheless, Eurocheque accounted for half of all cards in circulation. Visa credit cards recorded a growth rate of nine percent in 1991 and had a market share of 31 percent. The marketing strategy of using the Eurocard as a mass payment method proved as successful. In 1991, the Eurocard recorded a growth rate of 20 percent. As a result, Eurocard reached a market share of 18 percent in 1991. This evolution of the credit card market underlines that the demand for Visa was higher in Luxembourg than for Eurocard and MasterCard. In 1991, one fifth of all cashless payment transactions were made via credit cards. In Luxembourg, credit cards were primarily used to pay small sums. In 1991, 23 percent of the volume of all non-cash payments were made with credit cards, 90 percent were settled by bank

²¹⁴Archive Banque Générale du Luxembourg BNP Paribas, Systèmes de Paiement, 1989.

²¹⁵This illustration is based on data from TRAUSCH, Gilbert, Belgique-Luxembourg, *Les relations belgo-luxembourgeoises et la Banque Générale du Luxembourg 1919-1994*, Luxembourg, 1995, p. 243.

transfers, and 7.7 percent came from cheques.²¹⁶ After the foundation of Europay in 1992, *Eurocard Luxembourg* was rebranded to *Europay Luxembourg*. Nevertheless, Luxembourg became a Visa country. It should be noted that the Luxembourgish credit industry always claimed to be a Visa and MasterCard country. This statement was true from the point of view of the existence of both payment systems in Luxembourg, but the ever-increasing market share of Visa showed a different picture. Eurocard and MasterCard remained a credit card for the upper class, although they were offered as a method of mass payment from the end of the 1980s.²¹⁷



Figure 13 – Archive eluxemburgensia - Advertisement Eurocard and Visa, The winning Team, 1994.

In 1998, Cetrel processed more than 26.1 million card transactions. The Vice-President of Cetrel's Board of Directors stated that their company managed 381,000 payment cards. This included all payments made with these cards in Luxembourg and abroad, as well as all withdrawals at ATMs. A strong increase was recorded in withdrawals at automatic bank counters and transactions made at electronic terminals with debit cards, while payments with the Visa and Eurocard stagnated, as the market was saturated.²¹⁸ The Luxembourgish Eurocard banks had succeeded in controlling the Luxembourgish market for cashless payments with the creation of Cetrel, Visa and *Europay Luxembourg*. As a result, there were 576 000 debit cards and 484 000 credit cards in circulation in 2009. At that time, around 500 000 people lived in

²¹⁶Unknown author, Kartenliebhaber, in: d'Lëtzebuurger Land, 04.09.1992, p. 9.

²¹⁷Archive Banque Générale du Luxembourg BNP Paribas, LISOIR, Daniel & WEYRICH, Danielle, Cartes bancaires au Grand-Duché de Luxembourg et à la BGL, DL/al, Luxembourg, 1994, pp. 1-12.

²¹⁸Archive Luxemburger Wort, Sammelmappe - Elias 7, PICARD, Jean-Jaques, Cetrel, Das Zahlen mit Plastik setzt sich immer mehr durch, in: Luxemburger Wort, Ressort: Wirtschaft und Finanzen - Économie et Finance, 26.03.1998.

Luxembourg. The *Banque Centrale du Luxembourg* (BCL) explained this high amount of credit- and debit cards with the large number of cross-border workers in Luxembourg. However, this statement was too one-dimensional because Luxembourgish banks, as already discussed, the Luxembourgish banks wanted to gain back market shares from *Crédit Européen* and *UCL Banque* at the end of the 1980s. They created an inter-banking cooperation and started to issue up to two credit cards to each customer with sufficient creditworthiness. It is therefore not surprising that to this day Luxembourgish authorities claim to be a Visa and MasterCard country but no longer provide any concrete information about market shares or adoption rates.²¹⁹

1.2.5. Visa's dominance and the difficult status of Eurocard in France

The *Eurocard France* existed in France from 1967 onwards and was managed by the *Société française des cartes des crédits*. *Eurocard France* was bought by *Crédit Agricole* at the end of the 1970s. However, Eurocard did not find the same distribution as Visa in France.²²⁰ However, *Crédit Agricole* saw the purchase of the Eurocard as an opportunity to increase its profits in the credit business. At that time, *Crédit Agricole's* customers still did relatively few financial transactions abroad. Thus, until the 1980s, the Eurocard was distributed exclusively by *Crédit Agricole* in France but did not reach a larger clientele.²²¹ In France, as already discussed in the previous chapter, it was the *Groupement Carte Bleue* that dominated the French debit and credit card market with its *Carte Bleue* national and international *Carte Bleue*. The financial sector was in favour of a uniform cashless mass payment method in the form of a plastic cards as early as the 1970s. Visa and American Express were expanding strongly throughout Europe at that time. As a result, Eurocheque, Eurocard and MasterCard tried to stop this expansion in countries such as France in the form of travellers' cheques. Some member banks of the Eurocheque association joined forces and tried to overtake the travellers' cheque department from Thomas Cook. As a result, at the second congress of the European Financial Marketing Association (EFMA) in Monte Carlo in 1980, the banks affiliated to the Eurocheque system announced the purchase of Thomas Cook's travellers' cheque department from the British

²¹⁹Archive Luxemburger Wort, Sammelmappe - Elias 7, WOLFF, Ronny, Cetrel, Elektronische Geldbörsen wie Minicash haben einen schweren Stand: Kreditkarten sind praktischer, in: Luxemburger Wort, Ressort: Wirtschaft und Finanzen - Économie et Finance, 25.11.2010.

²²⁰GASTON-BRETON, Tristan & KAPFERER, Patricia (ed.), *Carte Bleue*, Paris, Cherche midi, 2004, p. 42.

²²¹Unknown author, Le Crédit Agricole souffre des restrictions monétaires, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1977/06/29/le-credit-agricole-souffre-des-restrictions-monetaires_2867936_1819218.html (State: 03.08.2021).

banking group *Midland*. For the bankers of the Eurocheque system, the idea was to start from an existing organisation and inflate it through the European banks, doubling its size and raising it to fourth place in the world with a market share of seven percent. However, the attempts by MasterCard, Eurocheque and Eurocard to regain with this strategy market shares from the *Groupement Carte Bleue* and Visa came to nothing.²²² The uniform Euro Traveller Cheque International (ETCI), which was created by this initiative, was introduced by some major European banks but was eventually unable to assert itself against credit cards.²²³

Consequently, it becomes clear that in France, the issuing Eurocard and Eurocheque banks were not primarily interested in developing certain marketing strategies but in finding allies who were also interested in working with Eurocheque, Eurocard, and MasterCard. The Eurocard was offered in France as a premium card, just as it was the case in Germany and Luxembourg. The chances of spreading Eurocard in France became increasingly limited. On 19 November 1982, the group of the *Banques Populaires* with 2.6 million customers and 1,780 bank branches decided to join the *Groupement Carte Bleue*. In 1982, 3,200,000 payment cards had already been issued and a turnover of 36 billion francs had been generated with *Carte Bleue* national and international cardholders. At that time, *Crédit Agricole* only distributed 300,000 Eurocards. However, the *Crédit Mutuel* joined the Eurocard system in 1982. *Crédit Mutuel* decided not to join the *Groupement Carte Bleue* because it felt that the *Groupement Carte Bleue* was dominated by the nationalised French banks.²²⁴ This assumption resulted from the fact that the French state had already slowly begun to nationalise French banks since the post-war period. The nationalisation that took place in 1982 served to reorganise the French banks. The nationalisation was part of a general reform of the French banking system. The intervention of the state was intended to enable necessary investments, improve credit control, and reduce excessive costs of bank loans by controlling fees. Nationalisation primarily affected commercial banks that managed more than 1 billion francs in deposits. The French state controlled almost the entire banking sector in the early 1980s. As a result, the French state was

²²²RENARD, François, Eurochèque contre American Express, Visa et les autres, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1981/03/12/eurocheque-contre-american-express-visa-et-les-autres_2713821_1819218.html (State: 03.08.2021).

²²³HÖFER, Andreas, Euro Travellers Cheque, in: gabler-banklexikon, URL: <https://www.gabler-banklexikon.de/definition/euro-travellers-cheque-57721> (State: 03.08.2021).

²²⁴Unknown author, Adoptée par les Banques populaires, La Carte Bleue est rejetée par le Crédit Mutuel au profit d'Eurocard, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1982/12/17/adoptee-par-les-banques-populaires-la-carte-bleue-est-rejetee-par-le-credit-mutuel-au-profit-d-eurocard_2906412_1819218.html (State: 03.08.2021).

able to systematically direct investments. The nationalisation of French banks in 1982 resulted in numerous transfers of ownership and led to innovations in the financial business, but the impact on the functioning and structure of the banks was minor. Most financial groups and large banks gradually succeeded in reorganising their structures. The concerns of *Crédit Mutuel* were justified, but only four years after the nationalisation, the banking landscape was restored to its pre-1982 state through the privatisation of banks by the government.²²⁵ As early as 1983, the two largest card networks, that of the *Carte Bleue* with 4 million cardholders and the *Crédit Agricole* with more than 6 million *Carte Verte* holders, entered negotiations to unify their two systems. Jacques Bonnot, General Manager of the *Crédit Agricole* announced the start of the negotiations at a press conference on Monday 6 June 1983 together with Raoul Bellanger, General Manager of the *Carte Bleue*. The main negotiations between the two networks concerned the acceptance of their debit and credit cards at their point of sale and ATMs. The 180 member banks of the *Carte Bleue* network had already been joined years before by the *Caisses d'Épargne*, *Chèques Postaux*, and the *Banques Populaires*. However, the dual nature of the networks became too costly for all the banks in terms of administration as well as increasing permanent cost for two technical infrastructures.²²⁶

As a result, the decisive step towards the introduction of a single payment card in France took place on Friday 27 January 1984. The *Groupement Carte Bleue* and *Crédit Agricole* reached an agreement in principle to merge a single payment card network. They agreed on framework conditions, such as the implementation of the technical infrastructure and promised to respect the identity and the specificities of their networks. Primarily, they wanted to avoid a tariff war that was fuelled at the time by discounts on card-paid purchases from merchants. *Crédit Mutuel* and *Banques Populaires* continued to only issue the Eurocheque and Eurocard.²²⁷ The *Carte Bleue internationale* was issued in collaboration with Visa. Therefore, it was possible to create a mass payment method that kept card providers such as American Express at a distance. The American Express marketed their credit cards under the aspect that the possession of such a card would give the impression of having a high personal income. The holder was supposed to

²²⁵THIVEAUD, Jean-Marie, *Les évolutions du système bancaire français de l'entre-deux-guerres à nos jours: Spécialisation, déspecialisation, concentration, concurrence*, in: *Revue d'économie financière*, 39, 1997, pp. 27-74.

²²⁶RENARD, François, *Au Crédit Agricole vers l'unification des réseaux de cartes de paiement*, in: *Le Monde.fr*, URL:https://www.lemonde.fr/archives/article/1983/06/08/au-credit-agricole-vers-l-unification-des-reseaux-de-cartes-de-paiement_3076824_1819218.html (State: 02.08.2021).

²²⁷RENARD, François, *Le groupement Carte Bleue et le Crédit Agricole ont signé un accord de principe pour l'unification de leurs cartes de paiement*, (State: 02.08.2021).

automatically receive a privileged social status with their card, which was supplemented by additional benefits, such as insurance or an unlimited credit line.²²⁸ It is important to point out that this step was a milestone for the entire French credit industry in the competition for the cashless payment market. It was now possible to create an inter-banking system that combined the largest French card systems. As a result, the new banking association was given the name *Groupement des Cartes Bancaires* and the *Système National de Paiement de Carte* (SNPC) was created. In addition to the *Carte Bleue internationale*, Eurocard and MasterCard from *Crédit Agricole* were also accepted by all participating banks within France. To make the new inter-banking system visible to their bank customers, the *Carte Bleue* and *Carte Nationale* were coloured blue and green. In addition, they published a large-scale poster campaign in which Uncle Sam addressed directly to the customer directly. This time Uncle Sam did not want to recruit soldiers for the US-army but announced instead that all credit cards would be welcomed by the *Groupement des Cartes Bancaires*. The logos of the *Groupement des Cartes Bancaires*, Visa, MasterCard and Eurocard were emblazoned on his suit.²²⁹ In 1990, it became clear that *Groupement Carte Bleue's* early collaboration with Visa was fruitful. Visa was able to expand its market share by two thirds in France. Eurocard and MasterCard shared the other third. At the beginning of the 1990s, 3 million French bank customers owned a Eurocard-MasterCard. In 1990, the CIC group, the banks of the *Banques populaires*, *Sogenal* and *Aisance Banque* started to issue Eurocard-MasterCard. The peculiarity here was that these four banks were already connected to the Visa network. In 1990, duality regarding the issuing of credit cards became possible and had a particular impact on German banks issuing the Eurocard-MasterCard system. Nevertheless, many German banks stuck to issuing either Visa or MasterCard until the end of the 1990s.²³⁰

²²⁸MARTI, Serge, Un marché de 10 à 15 milliards de francs, in: Le Monde.fr, URL:https://www.lemonde.fr/archives/article/1985/06/26/un-marche-de-10-a-15-milliards-de-francs_2755203_1819218.html (State: 02.08.2021).

²²⁹GASTON-BRETON, Tristan & KAPFERER, Patricia (ed.), *Carte Bleue*, Paris, Cherche midi, 2004, pp. 32-45.

²³⁰Unknown author, Quatre banques françaises adherent au reseau Eurocard-MasterCard, in: Le Monde.fr, URL:https://www.lemonde.fr/archives/article/1990/06/01/quatre-banques-francaises-adherent-au-reseau-eurocard-mastercard_3996338_1819218.html (State: 02.08.2021).

Country	Number of inhabitants	Number of Eurocard / MasterCard	Number of national transactions
Luxembourg	400,000	62,039	914,000
Belgium	10,100,000	325,279	3,088,000
Netherlands	15,200,000	1,326,107	16,512,000
Switzerland	7,000,000	908,329	12,742,000
France	57,700,000	5,273,600	422,300,000
Germany	81,100,000	5,054,720	97,583,000
United Kingdom + Northern Ireland	58,000,000	10,308,421	280, 422, 000
Denmark	5,200,000	204,846	3,443,000

Figure 14 – European countries with the highest number of national transactions with Eurocard / MasterCard in 1993.²³¹

With the possibility of duality, French banks could issue Eurocard-MasterCard alongside Visa, but did not help Eurocard and MasterCard to gain significant market shares in France. Eurocard and MasterCard mainly failed in France because their credit card still advertised the image of the European premium card. Nevertheless, the *Groupement des Cartes Bancaires* reacted to the slight upswing of the Eurocard-MasterCard by giving its *Carte Bleue* Visa a new look in 1992. The eight million Visa cardholders received a uniform blue credit card with stars and a new *Carte Bleue* logo. France increasingly shaped itself into a Visa credit card country during the 1990s. In 1992, 283 French banks distributed Visa credit cards. MasterCard and Eurocard were mainly distributed by *Crédit Agricole* and *Crédit Mutuel* at that time. In 1993, *Eurocard France* became *Europay France*. *Crédit Agricole* and *Mutuel* each held 46 percent of the shares in the company and the *Groupes des Banques Populaires* and *CIC* group each 3 percent. *Europay France* thus held the Eurocard and MasterCard licences from 1993 onwards. It was therefore up to them to decide with which banks they wanted to cooperate. The main licences issued were for Eurocard International in collaboration with MasterCard and their premium cards such as the gold card.²³²

²³¹ Archive Banque Générale du Luxembourg BNP Paribas, Cartes Bancaires au Luxembourg et à la BGL, Annexe 1, European Financial Management Association, Enquête annuelle, Faits et Figures, Eurocard, MasterCard, 1993.

²³² Unknown author, Après vingt-cinq ans d'existence la carte bleue change d'aspect, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1992/09/17/apres-vingt-cinq-ans-d-existence-la-carte-bleue-visa-change-d-aspect_3901203_1819218.html (State: 02.08.2021).

	Total of cards (Million)	Visa	Eurocard / Mastercard
1990	19,5	8	3,6
1991	19,8	8,2	4,3
1992	21,1	9,1	5
1993	21,8	9,7	5,3
1994	22,8	10	6,4
1995	24,4	10,7	7,2
1996	27,2	11,6	9,1
1997	30,2	12,9	10,4
1998	33,9	15	12
1999	37,6	17	13

Figure 15 – Number of credit cards in France from 1990 until 1999.²³³

On 31 December 2001, the *Groupement des Cartes Bancaires* announced that it had issued 43.3 million credit cards, whereby Visa credit cards represented the largest amount. With the takeover of Eurocard by MasterCard in 2003, the era of the common European credit card also came to an end in France.²³⁴ Nevertheless, the French banks achieved their common goal, which they had already set during the 1970s and the uprise of Eurocheque, of making the cheques steadily superfluous. In the early 2000s, the number of payment card transactions in France exceeded the number of transactions by cheque for the first time. For example, in 2001, 4.8 billion transactions were made with Visa and Eurocard-MasterCard bank cards, compared to 4.5 billion with cheques.²³⁵

²³³ Archive Société Générale, *Les défis monétiques*, in: SoGéchos, n°114, October 2000, p. 18.

²³⁴ Unknown author, Cartes bancaires: dépassent pour la première fois les chèques, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/2002/04/21/cartes-bancaires-depassent-pour-la-premiere-fois-les-cheques_4238922_1819218.html (State: 02.08.2021).

²³⁵ Unknown author, Cartes bancaires: forte progression du nombre de détenteurs, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/2002/03/24/cartes-bancaires-forte-progression-du-nombre-de-detenteurs_4238584_1819218.html (State: 02.08.2021).

1.2.6. Conclusion

To conclude different national circumstances of the credit card market led to the most varied marketing strategies within the geographical scope studied. Increased competition in the credit card market caused European banks to adapt their marketing strategies. US providers such as Visa, MasterCard, Diners Club or American Express tried to expand their market share in Europe. In the global banking world, an awareness had arisen that the bank that issued the most complete range of cards and had the most cardholders could dominate retail banking in a region, in an entire country and even an entire continent. However, the European credit institutions could not compete with the American providers on the level of acceptance of the individual cards, especially in credit cards. In France, therefore, the *Carte Bleue* had been used since 1967 as a defence mechanism against US credit card providers to protect national cashless payment transactions and, internationally, to cooperate with Visa. In Germany and Luxembourg, on the other hand, Eurocard, and the cooperation with MasterCard were maintained until the mid-1980s. For a long time, however, they considered using the Eurocard as a form of payment for the upper classes. With additional services such as travel insurance and high credit limits, it was possible to increase the acceptance of the Eurocard, especially in Germany. In the case of the Eurocard, the European disunity was a hurdle and could not withstand the increased competition from Visa and MasterCard. Disunity in the case meant that one had competing payment systems side-by-side in Luxembourg, Germany, and France for a long time. For example, the disagreement between the savings banks and private banks in Germany to introduce a uniform credit card as a means of mass payment extended over almost half a decade and brought the marketing of the Eurocard to a standstill. Therefore, Cetrel, *Groupement des Cartes Bancaires* or the *Gesellschaft für Zahlungssysteme* became the last means of control over cashless payment transactions compared to MasterCard or Visa. As a result, Visa was chosen as a cooperation partner in France and Luxembourg and MasterCard in Germany. Visa had already been able to gain a foothold in France since 1974 in cooperation with the *Groupement Carte Bleue*. In the mid-1980s, the Luxembourgish Eurocard banks lost such a large share of the credit card market to Visa that they promptly broke away from Eurocard. MasterCard was only able to establish itself in Germany through its early cooperation with Eurocard and the later final takeover of the European credit card organisation in 2003.

The disputes about a uniform mass payment method, whether as a debit or credit card, however, meant that Eurocard was never able to fully establish itself in France, Germany, and

Luxembourg. The marketing of the Eurocard as an exclusive credit card for travellers and the working population between the end of the 1970s and the beginning of the 1990s had given it the reputation of being the credit card for the European upper class in the geographical context studied. Thus, the attempt to use the Eurocard as a means of mass payment in Germany and Luxembourg since 1986 came years too late to prevent the dominance of Visa and MasterCard within the European market and the respective national markets. In Germany, the spread of credit cards was delayed for a long time using the Eurocheque. In the end, the Eurocard did not help the banks in Luxembourg and France to secure a share of the cashless payments market, as its nature did not respond to market demand. The French and Luxembourgish bankers were aware of this and relied on Visa as a means of retail payment. In Germany, however, financial institutions were always sceptical about Visa and feared the strong influence of the American banks. It is therefore not surprising that until the 1990s not many German banks offered Visa Card and that the German saving banks were among the first banks to use Visa to create a scale effect. The gentleman's agreement reached with MasterCard at the time of the creation of the Eurocard thus lasted until the end of the 1990s. *Deutsche Bank* did not issue its own Visa credit cards alongside Eurocard and MasterCard until 1997.

If one looks back at these developments, it becomes clear that the Eurocard was doomed to failure from the very beginning, as it was not marketed as a means of mass payment. The fact that the Eurocard had the potential to become a European means of mass payment is particularly evident in the development of the technical infrastructure and the overcoming of disagreements through diplomacy. Nevertheless, increased competition, failure to adapt marketing strategies and European disunity led to the European credit card market being split into Visa and MasterCard. In conclusion, and regardless of the perspective from which this story is told, one thing is clear: if the European credit institutions had focused on the common European credit card from the beginning, a world of Visa and MasterCard world could have been prevented. From the end of the 1970s until the mid-1980s, the Eurocard was marketed in cooperation with MasterCard as a credit card for the European upper class. The change of strategy to sell Eurocard as a means of mass payment since 1986 came at least 15 years too late. As a result, the European banks had no choice but to ally themselves with Visa and MasterCard over the years. Inter-banking systems in France, Germany and Luxembourg for debit and credit cards were the remaining marketing strategies to get a slice of the credit card market. However, it was Visa that always expanded its market share because it presented itself

as a means of mass payment from the very beginning. Visa's triumph in Germany came only at the end of the 1990s, because the German credit industry stuck to its gentleman's agreement with MasterCard for such a long time. Regarding the situation of the German cashless payment market, it should be noted that the gentleman's agreement and the lack of duality caused difficulties for the diffusion of credit cards in Germany. In the end, only Visa's marketing strategy was successful in appearing as a mass payment method and thus circumventing problems of any nature in the cashless payment market. The following chapter demonstrates how ATMs and POS networks evolved and were later seen as an essential element in the spread of cashless payment cards.

1.3. The implementation of ATMs and POS networks as a marketing strategy for the spread of payment cards

At the end of the 1960s, banks around the world began to install cash dispensers. These were not the highly specialised financial machines that we are familiar with today. These cash machines were intended for bank customers to simplify the access to their money. However, the first generation of automated teller machines was the basis for the international breakthrough and implementation of high-technology ATM networks all over the world.²³⁶ In the early 1960s, customers could not walk into a bank branch of their choice and withdraw cash from an ATM. Only wealthy customers were able to request money from their current account by making pre-arranged inquiries in distant branches or by telephone. If the customer's bank approved the request, it was only then possible to access cash at the desired counter. As a result, bank customers began to rush to bank branches during their lunch breaks to cash their salary cheques by Thursday or Friday at lunchtime. The staff of retail branches and bank customers had unpleasant experiences. Long waiting times and masses of people in overcrowded waiting rooms were commonplace. In the early 1960s only, few people even knew what it meant when someone spoke about cash machines. Most people had never even seen one of these cash dispensers, let alone a bank card with which you could withdraw money from your current account. Although automated teller machines were simple cash dispensers in the 1960s, they evolved over the years into highly modern ATMs until nowadays. Bernardo Bátiz-Lazo has already shown in his work *Cash & Dash* how these inconspicuous machines influenced our society. This section shows how they have influenced bank marketing and the cashless payments market.²³⁷

1.3.1. The very first cash dispenser in Germany, France, and Luxembourg

On 27 June 1967, the world's first cash dispenser was installed in the small town of Enfield. *Barclays Bank's* Robot Cashier started operating in the north of London. In the spring of 1965, John Shepherd-Barron came up with the idea of developing a cash dispenser, as he wondered why there were already vending machines from which you could get chocolate bars, nylon tights, or noodle soup but not cash. Shepherd-Barron worked at that time as a manager for *De la Rue*, a company that manufactured banknote counting machines, and therefore had the

²³⁶WEHBER, Thorsten, *Happy Birthday, Geldautomat 1968 bis heute. Ein geschichtlicher Rückblick*, in: *Sonderbeilage der Zeitschrift Sparkasse*, Nr.31, ZERRAHN, Signe (ed.), Stuttgart, Deutscher Sparkassen- und Giroverband e.V., 2008, pp. 6-9.

²³⁷BÁTIZ-LAZO, Bernardo, *Cash and Dash*, Oxford, Oxford University Press, 2018, p. 4.

necessary expertise to deal with the construction of a cash dispenser. The Scottish manager also had the unpleasant experience of standing in front of a closed bank branch and not being able to access his bank account.²³⁸ A technical revolution took place in the banking industry that was not widely covered by the media. So, it seems that society's memories of the 1960s are marked by a rebellious hippie youth who experimented with drugs or took over reputable universities. The world was in a state of change. A development took place all over the world, which has shaped society, commerce, and financial institutions to the present time.

In Germany, it was the clients of the *Sparkasse Tübingen* in May 1968 who were the first to benefit from the advantages of a cash dispenser. In Tübingen, a metal box was installed on the outer facade of the bank headquarters. The cash dispenser looked like a bank safe that had been built into the wall and had a sign on it saying *Geldausgabe*. The regional daily newspaper *Schwäbische Tagblatt* reports in a few sentences about the new machine, noting that it was the first of its kind in the Federal Republic of Germany, offering the customer the greatest possible convenience to obtain cash. Despite its novelty, this metal box could not compare to the oftentimes provocative media coverage of the hippie movement and therefore did not receive much attention in Germany. In February 1968, the Aalen-based safe deposit company *Ostertag* presented its cash dispenser, which it had developed in cooperation with the electronics manufacturer *AEG-Telefunken*. The *Tübinger Sparkasse* paid 40,000 marks to get one of these metal cash dispensers. Before the machine was put into operation, the bank had selected 1000 customers who were given access to the service. In the end, only 150 customers used the service and withdrew an average of 2000 marks per day in the first year. The annual report of the *Kreisparkasse* reported almost effusively about the positive acceptance of the cash dispenser. It should be noted that in the following years only a few banks invested in the silent servant in Germany. This was primarily due to the high costs and complicated handling, which is discussed in the following sections. Nevertheless, in Enfield and in Tübingen a milestone in modern payment transactions had been reached through the implementation of a cash dispenser. Finally, people had access to their cash outside bank opening hours.²³⁹ However, it must be mentioned here that ATMs were primarily titled steel cashiers until the 1990s. When

²³⁸MURRAY, Amelia, The story behind the world's first, in: telegraph.co.uk, URL:<https://www.telegraph.co.uk/personal-banking/current-accounts/story-behind-worlds-first-cashpoint/> (State:15.02.2021).

²³⁹F. PÖTZL, Norbert, Deutschlands erster Bankomat, in: spiegel.de, URL:<https://www.spiegel.de/geschichte/1968-in-tuebingen-deutschlands-erster-geldautomat-a-1208937.html> (State:15.02.2021).

the first ATMs were introduced, people met the machines with mixed feelings. Although the machines radiated security and stability with their massive armour, people also perceived them as cold and unfriendly. The interaction with an ATM was the opposite of the interaction with a human bank employee. It was not until the 1990s that this image changed, and ATMs were understood as friendly, silent servants. The change in perception developed over the years due to the rattling noise before the money is dispensed. The auditory experience then as now means that the bank account is covered.²⁴⁰

On 2 July 1968, the first cash dispenser was put into operation at a Paris branch of the *Société Marseillaise* was the first French bank to offer a small clientele access to cash around the clock. The French credit institution, *Banque Nationale de Paris* followed suit within a few weeks and installed three more cash dispensers outside three of its Paris branches.²⁴¹ Reporting on the new machines was relatively modest, particularly in France. One explanation is the social upheaval already mentioned, which kept France's media landscape in suspense. In May 1968, a student movement was formed in France, which primarily demanded an improvement to the conditions of study. The riots were intensified by the evacuation of a faculty occupied by students at the Sorbonne University in Paris. Student movements were taking place worldwide at that time, but the spark of protest only reached the universities in France and Italy. In France, the student movement ended in a general strike. As a result, the desire for better study conditions turned into concrete demands such as fighting unemployment or democratising society.²⁴² In England, France, and Germany the first cash machines had already made their way to the building facades by mid-1968.

In Luxembourg, *Banque Générale du Luxembourg* installed the first metal servant under the name “*Pay-Matic*” in the Luxembourg train station district on the first of October 1968. In naming it, the bank used the English words “*pay*” and “*automatic*” to give the cash machine an innovative name. The Luxembourgish bank produced the cash dispenser in cooperation with the company *Coffres-Forts Seil* from the small village Steinsel in Luxembourg. The purchase

²⁴⁰BOOZ, Sophie, Die Entwicklung der Geldautomaten unter dem Fokus der sinnlichen Interaktion, in: SCHÖNRICH, Hagen, *Tagungsbericht der Veranstaltung: Die Sinnlichkeit der Technik*, in: hsozkult, URL: <http://hsozkult.geschichte.hu-berlin.de/index.asp?id=4917&view=pdf&pn=tagungsberichte&type=tagungsberichte> (State: 15.02.2021).

²⁴¹Unknown author, Les Billets seront distribués automatiquement à la B.N.P, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1968/09/26/les-billets-seront-distribues-automatiquement-a-la-b-n-p_2481126_1819218.html (State:15.02.2021).

²⁴²GILCHER-HOLTEY, Ingrid, *Die 68er Bewegung*, C.H. Beck Verlag, München, 2001, pp. 11-21.

of the first cash dispenser in Luxembourg cost BGL 750,000 Luxembourgish francs.²⁴³ However, only a limited number of people had access to it, so the Board of Directors of *Banque Générale du Luxembourg* wrote the following lines in a circular letter to its employees: “*The customers of the Luxembourg City branch as well as those of the Head Office will benefit, by preference, from the Pay-Matic service. It is only in exceptional cases that a customer of another branch can benefit from it. The request is to be made on forms available from the agencies and the Visa service of the Head Office.*”²⁴⁴ A few days earlier, the bank advertised the cash dispenser in the Luxembourgish press and made an announcement:

*“The first cash dispenser - Pay-Matic in the Grand Duchy of Luxembourg will be put into operation by Banque Générale du Luxembourg from Tuesday 1 October 1968. The machine is installed in the shop window of the Luxembourg-Gare agency of this bank, at Bahnhofplatz in Luxembourg. If you have a current account with Banque Générale du Luxembourg, you can now withdraw money from your account by day or night. Anyone who has a current account with this bank can use this special service free of charge by prior agreement. One can already see the service that such an inventive system can provide to customers outside normal business hours, in particular those professionals who do not have the opportunity to go to the bank at the designated banking hours. The same applies to customers who, for whatever reason, are unable to visit the required cash. If you wish to use this new service, you would like to contact the agencies or the headquarters of Banque Générale du Luxembourg.”*²⁴⁵

Although the method of payment changed fundamentally with the implementation of the Pay-Matic, there was little press coverage. Nevertheless, the newspaper article in the *d’Lëtzebuurger Land* summarises the most important elements of the first cash dispensers in a fitting manner. For the first time, a limited audience had 24/7 access to cash outside bank opening hours. The layout of the newspaper article illustrates that the bank’s main concern was to associate its company name, which was printed in capital letters, with the first cash dispenser in Luxembourg and not with the innovation itself. The innovative aspect was intended to reflect the financial institution. On the day of the opening, Alphonse Weicker, one of the founding fathers of *Banque Générale du Luxembourg*, personally inaugurated the Pay-Matic and said to the other members of the bank’s board: “*Oh, so now we have a machine that spits money!*”²⁴⁶ In summary, at the end of the sixties cash dispensers adorned the individual facades of bank branches in France, Germany and Luxembourg which could invest such a large amount of

²⁴³ Archive Banque Générale du Luxembourg BNP Paribas, Modernisation technique intérieur, signed by Michel Simon, Dossier Pay-Matic, 1968.

²⁴⁴ Archive Banque Générale du Luxembourg BNP Paribas, Pay-Matic notes aux services, 1968.

²⁴⁵ Banque Générale du Luxembourg, Geldausgabe-Automat, in: *d’Lëtzebuurger Land*, 27.09.1968, p. 8.

²⁴⁶ Archive Banque Générale du Luxembourg BNP Paribas, Modernisation technique intérieur, 1968.

money into the future of this automated payment method.



Figure 16 – Archive Banque Générale du Luxembourg photograph of the Pay-Matic in 1968.²⁴⁷

1.3.2. Money 24/7 for a small circle of customers in the 1960s

The first ATMs were primarily cash dispensers, as they only allowed the customer to withdraw money and did not allow other financial services such as transfers, account balance or standing orders. In Enfield, bank customers fed the vending machine with a low radioactive carbon isotope ¹⁴C treated cheque. The cheque stored information through this process and was nevertheless completely harmless to one's health, according to the inventor. The customers identified themselves with a four-digit secret number. The machine verified the cheques, retained them, and cancelled them. In return, the customer received a maximum of ten British pounds per cheque. In Tübingen, the bank's customers were able to open the armoured front door of the ATM with a special key. After opening the armoured door, the user inserted his personalised perforated ID card, measuring 10.4 by 5.7 centimetres, into a slot made for this purpose. Another slot in the ATM was intended for a punched cheque card. This punched card, made of thin cardboard, had the account number and the withdrawal amount of 100 marks stamped in. This principle, based on the punched card system invented by the US engineer Herman Hollerith in 1888, was later used as the common medium for data storage in the first computers.²⁴⁸ After the introduction of the two cards, the silent servant checked whether the self-service customer was the appropriate owner. After verification, the customer pushed the cheque over a light barrier. Thereupon the order was triggered to release an amount of 100 marks and to release it in a cassette. The customers were able to withdraw 400 marks per day.²⁴⁹ In France, bank customers of the *Société Marseillaise de Crédit* and the *Banque Nationale de*

²⁴⁷The photograph was provided from the archive of the BGL BNP Paribas.

²⁴⁸BURDEK, Bernhard E., *Apple Macintosh, Design Classics S.*, Michigan Verlag form, 1997, pp. 4-8.

²⁴⁹F. PÖTZL, Norbert, Deutschlands erster Bankomat, (State:15.02.2021).

Paris were able to withdraw a maximum amount of 1000 francs per day. The customer received a set of four laminated cards, each of which entitled the customer to withdraw 250 francs in small denominations. These cards were provided with a secret personal code number. Once the card had been inserted into one of the dispensers and the code entered, the banknotes fell out.²⁵⁰ The cash dispenser at the train station district in Luxembourg city worked as follows:

- “1. Each customer had a key with which he had to open a small, armoured door to gain access to the interior of the unit.
2. The customer had to insert a coded card into a specially designed slot.
3. The customer had to insert a special cheque into the machine which, on the other hand, gave him 1,000 Luxembourgish francs.”²⁵¹

This makes it clear that the first automated cash dispensers were much more complicated to handle than they are nowadays. It should also be pointed out that at the end of the seventies, all cash dispensers operated in offline mode. In other words, the ATM was not connected to modern accounting centres, but only registered the accounting of the cash withdrawn. In addition to patience and skill, customers needed three things to get cash out of ATMs: a double-bit key, a perforated plastic ID and a punched cheque card.

Thus, the implementation of metal servants fundamentally changed our society by influencing the ways in which we handle and access cash, but this silent revolution remained limited to local level in the 1970s. France, Luxembourg and Germany were in no way lagging Great Britain. It should be noted that although Enfield was the site of the first cash dispenser, this does not mean that Shepherd can be called the inventor of the silent servant in the same breath. He was undoubtedly one of the pioneers of the time, but over a period of two years the first ATMs were produced simultaneously in Luxembourg, Germany, and France with local manufacturers. By working together with the companies *Ostertag*, *De la Rue* or *Seil*, the production of the machines also took place on a local level and therefore did not attract international attention. Furthermore, these findings underline Bernardo Bátiz-Lazo's assertions in his work, *Cash and Dash. How ATMs, and computers changed banking* that the

²⁵⁰Unknown author, *Les billets seront distribués automatiquement à la B.N.P.*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1968/09/26/les-billets-seront-distribues-automatiquement-a-la-b-n-p_2481126_1819218.html (State:15.02.2021).

²⁵¹Archive Banque Générale du Luxembourg BNP Paribas, Modernisation technique intérieur, 1968.

inventor myth can be discredited.²⁵² In other words, the European banking world jointly started a new era of payment, which brought a fundamental change, namely through 24/7 access to cash outside bank opening hours. By strictly limiting the number of customers who could use these new financial services, the banks intentionally reduced public interest in the cash machines. Considering that the first cash dispensers were also difficult to use and required a security key, punch card and ID card to withdraw money, it is easy to understand why French, Luxembourg and German banks did not advertise their silent servants widely. The main intention behind their marketing strategies was for the innovative nature of the machine to rub off on the banks' corporate identity. In summary, a silent technological change was taking place independently of one another at a local level in France, Luxembourg, and Germany. Due to high acquisition costs, complicated handling and a limited number of users, the world fame of this invention failed to achieve world fame. Nevertheless, the French, German and Luxembourgish banks had identified their customers' needs and started an attempt to satisfy the demand for access to cash outside of bank opening hours across the three countries.

1.3.3. ATM and POS networks in France, Germany, and Luxembourg since the 1970s

By illustrating the functioning of typical debit and credit card schemes, the reader can get a clear idea of the main actors involved in the implementation of ATMs and point of sale (POS) networks in the 1970s until today. Debit and credit cards could not be more different, but they share several characteristics. Both types of cards are needed to access financial services at ATMs or points of sale. More importantly, all these payment cards are linked to the cardholder through bank accounts and transaction records.²⁵³ For example, in 2018 the *Deutscher Bankenverband* counted 100 million payment cards in Germany.²⁵⁴ A typical debit or credit card payment system consists of four actors: the customer, the merchant, the acquiring bank and the issuing bank. In detail, this means that a customer can pay a merchant for goods using the credit or debit cards issued by the card-issuing bank. This creates a relationship between the customer and the card-issuing bank. However, it is important that the merchant also has a relationship with an acquirer bank to accept card transactions. Credit card companies such as Visa and MasterCard do not issue cards but support the acquirer and issuer banks in processing

²⁵²BÁTIZ-LAZO, *Cash and Dash*, Oxford, Oxford University Press, 2018.

²⁵³WRIGHT, Julian, *Pricing in debit and credit card schemes*, in: *Economic Letters*, Volume 80, Issue 3, September 2003, pp. 305-309.

²⁵⁴Banken Verband, *Das müssen Sie zu Kredit- und Debitkarten wissen!*, in bankenverband.de, URL: <https://bankenverband.de/blog/kredit-debitkarten-weltweit-im-einsatz/> (State:15.02.2021).

transactions. Credit card companies and banks thus facilitate the technical and contractual relationship between the individual parties involved. This is achieved mainly through powerful computer networks and calculation centres and support from their member banks.²⁵⁵

1.3.4. The implementation of ATMs and POS in France

In 1971, the first “modern” ATMs appeared in the French landscape. Within a short time, the ATMs developed into technically skilled financial service providers. It was enough to have a magnetic card and one’s personal pin, which belonged to the bank that owned the ATMs. The French newspaper *Le Monde* wrote euphorically that a further increase in the use of the ATMs would result in two million more users of payment cards in 1972. Modern in this context means that the payment cards with magnetic strips and the technology behind the machines made the use of the machine much easier. Punch cards and security keys were a matter of the past. However, the French newspaper made an underestimation of the number of payment card users. In 1983, four million bank clients used one of these magnetic cards.²⁵⁶ However, the author of the article was right in saying that the implementation of ATMs would facilitate many time- and paper-intensive transactions. After an initial period in which internal processes were simplified by automation, the silent servants helped to reduce the mountains of paper that resulted from opening the banking world to the public.

By implementing ATMs and the corresponding bank cards, financial institutions found a convenient solution to fight the costly processing of cheques. It is therefore not surprising that already in the early 1970s people spoke of a “cashless and cheque free society”. The first modern ATMs were put into operation in France by *Crédit Lyonnais* in Paris in 1971. Most of these ATMs were built by the *Compagnie industrielle des télécommunications*, a subsidiary of the *Compagnie générale d’électricité* (CIT). The planned development of *public* applications of magnetic data carriers prompted the CIT to create a specialised department, *Automatic Transactions* (TRANSAC), to deal with problems such as magnetic tickets for public transport, magnetic cards for automatic car parks and magnetic labels for department store items. From then on, the TRANSAC department was responsible for the development of magnetic media

²⁵⁵MAYES, KEITH & MARKANTONAKIS, Konstantinos (ed.), *Smart Cards, Tokens, Security and Applications*, Cham, Springer International Publishing, 2018, p. 116.

²⁵⁶GASTON-BRETON, Tristan & KAPFERER, Patricia (ed.), *Carte Bleue*, Paris, Cherche Midi, 2004, p. 42.

for the general public.²⁵⁷ TRANSAC was founded in 1970, first as a division and finally as a subsidiary of CIT in cooperation with the Swedish company *Metior*, which was founded in 1964. Another important step followed in 1972 when TRANSAC signed a licence agreement with the American company Incoterm and produced the first ATMs in Europe with a screen, memory, modem and software download capabilities. This equipment was able to simulate competing terminals, manage a wide range of auxiliary terminals and operate them autonomously. The SPD series, which was produced until 1980, reached 100.000 machines.²⁵⁸ The purchase of such equipment cost the banks an average of 100,000 francs.²⁵⁹

An initial start was made on the implementation of networked ATMs and POS in France, but until 1984, three competing payment systems, the *Carte Bleue*, the *Carte Verte* and *Intercarte* were in direct competition. In France, the *Carte Bleue* appeared in 1967, when the banks joined forces together in a consortium to promote their payment card. This consortium became the *Groupement Carte Bleue* in 1972, which joined the BankAmericard group in 1973 and Visa in 1976. These partnerships were followed by the cooperation between Visa and *Carte Bleue*. Together they designed the *Carte Bleue Visa Internationale* as already discussed.²⁶⁰ In 1983, the *Carte Bleue* had 3.5 million users and 260,000 merchants who used and accepted the new payment method. The *Carte Verte* had 500,000 users and 80,000 merchants. On 6th November 1967, the *Carte Bleue* was officially presented to the public. The French financial institutions *Crédit Lyonnais*, *Société Générale*, *Banque Nationale de Paris*, *Crédit commercial de France*, *Crédit Industriel et Commercial*, as well as *Crédit du Nord et la Bred* launched the *Carte Bleue* together. These French credit institutions thus implemented one of the first card payment systems in France. This cooperation created one of the first forms of inter-banking in the French payment card market. However, the banks did not adopt a common approach to the marketing of the *Carte Bleue*, which takes its name from the blue jerseys worn by the French national

²⁵⁷Unknown author, P.L, Un essai à grande échelle de distribution magnétique des billets, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1971/01/20/un-essai-a-grande-echelle-de-distribution-magnetique-des-billets_2456804_1819218.html (State:15.02.2021).

²⁵⁸MICHAUD, André, Contribution à l'histoire de la Société TRANSAC. 1970-1982, in *7e Colloque sur l'histoire de l'informatique et des télécommunications*, edited by Jacques André and Pierre Mounier-Kuhn, 24-37. Rennes-Cesson, INRIA / Université de Rennes, 2004.

²⁵⁹Unknown author, Les distributeurs automatiques de billets vont se multiplier, in Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1971/11/24/les-distributeurs-automatiques-de-billets-vont-se-multiplier_2449772_1819218.html (State:15.02.2021).

²⁶⁰LACOURSIERE, Marc, *Monnaie électronique, Droit Analyse de la trajectoire historique de la monnaie électronique*, in: *Les cahiers de droit*, Vol.48, no 3, Québec, Services documentaires Multimedia, 2004, pp. 373-448.

rugby team in international competitions.²⁶¹ In parallel to the *Carte Bleue*, there was another payment system in France, the *Carte Verte*. Since the middle of the 1970s, *Crédit Agricole* launched its own green plastic card. In 1983, 500,000 customers and 80,000 merchants used the *Carte Verte* of the green bank to make payments or carry out their banking transactions at ATMs and points of sale in France. Especially in the suburbs of large cities or small towns in the French periphery, the *Crédit Agricole*'s method of payment enjoyed widespread popularity. In 1977, *Crédit Agricole* and *Crédit Mutuel* joined the *Groupement Carte Bleue* and began to offer their own credit cards in collaboration with Eurocard. Nevertheless, as a bank customer, it was now either an internationally recognized credit card from *Crédit Agricole* in addition to the national debit card, or you could choose one of these means of payment at a bank of the *Groupement Carte Bleue*. However, these were not the only means of payment that French bank customers could decide to use. In addition to *Carte Bleue* and *Carte Verte*, another payment method was competing for customers in the French retail market, Intercarte. Intercarte, unlike *Carte Verte* and *Carte Bleue*, was not a debit card. This product was essentially different from the credit cards distributed by the other banks in collaboration with Visa, Eurocard and MasterCard since the mid 1970s. The *Groupe des Banques Populaires*, except for *de la Bred*, distributed the Intercarte, a cheque guarantee card. In addition, it was possible to obtain a credit line from the bank of *Groupe des Banques Populaires*.²⁶²

Therefore, until 1983, the French payment market was highly competitive between three different interest groups. Three independent ATMs and point-of-sale networks as well as debit and credit card systems were established. This situation led to a slow spread of the financial services and products. However, the French banks realised that the circumstances were not conducive to the payment system and inconvenient for the customer if one could not pay with a plastic card at any time and place in France. In 1979, the first attempt was made in France to set up a common ATM network through the *Groupement inter-institutions des distributeurs automatiques de billets* (Gidab). This first attempt to establish inter-banking was implemented by *Banques Populaires*, *Groupement Carte Bleue* and the French Post Office. The networked

²⁶¹RERNARD, François, Le groupement carte bleue et le crédit agricole ont signé un accord de principe pour l'unification de leurs cartes de paiement, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1984/01/31/le-groupement-carte-bleue-et-le-credit-agricole-ont-signe-un-accord-de-principe-pour-l-unification-de-leurs-cartes-de-paiement_3000808_1819218.html (State:15.02.2021).

²⁶²BNP Paribas, Dossiers, La carte Bleue, une success story française, in: bnpparibas.fr, URL: <https://histoire.bnpparibas/dossier/la-carte-bleue-une-success-story-francaise/> (State:15.02.2021).

Points Argent enabled customers of the banks to withdraw cash from 60 ATMs in public places such as airports or railway stations using different payment cards on the same silent servant in 1980. The participating banks believed that it would be an advantage if people in transit always had access to cash independent of their parent bank.²⁶³ However, the harmonisation of ATMs and points of sale on a national level did not take place until 1984 with the fusion of the *Groupement Carte Bleue* and *Carte Verte*. The two largest payment systems signed an agreement to establish the *Système National de Paiement de Carte* and jointly run it under the name *Groupement des Cartes Bancaires*.²⁶⁴ Within the framework of this agreement, the *Groupement Carte Bleue* disappeared to create a common economic interest group in France, within which negotiations were held on the introduction of technical means while preserving the identity and specificity of the networks. This agreement was of crucial importance, as it marked the culmination of difficult negotiations that had begun in the spring of 1983. Jacques Mayoux, President of *Société Générale*, explained to the *European Financial Marketing Association* in Monte Carlo in March 1983, that given the enormous scale of the investment required and the satisfaction of user needs, it was essential to create a single payment card per customer that could be used uniformly in all ATMs and points of sale. It was also necessary to install a single payment terminal at the merchants' premises that *swallows* all the cards.²⁶⁵ The joint decision resulted in the creation of an ATM and point of sale network, which in 1984 amounted to 7,000 metal servants and 300,000 points of sales. The new payment card held the seal "CB", *Carte Bleue*, but it was decided that the colours of the card would be blue and green. Following to the new agreement, the *Carte Bleue* enjoyed a new look and appeared half in blue and half in green during 1984 and 1988.²⁶⁶

In 1989, French merchants already accepted 320 billion francs. This was an increase of 25 percent over the previous year, a pleasing increase in the use of payment cards from the point of view of French banks. However, the management of the French bank group noted that their customers only used their bank's ATMs in every second case. This was mainly due to the high

²⁶³GASTON-BRETON, Tristan & KAPFERER, Patricia (ed.), *Carte Bleue*, Paris, Cherche Midi, 2004, p. 42.

²⁶⁴Unknown author, La concurrence des cartes et des chèques, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1988/02/23/la-concurrence-des-cartes-et-des-cheques_4069456_1819218.html (State:15.02.2021).

²⁶⁵Renard, François, *Le groupement carte bleue et le crédit agricole ont signé un accord de principe pour l'unification de leurs cartes de paiement*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1984/01/31/le-groupement-carte-bleue-et-le-credit-agricole-ont-signe-un-accord-de-principe-pour-l-unification-de-leurs-cartes-de-paiement_3000808_1819218.html (State:15.02.2021).

²⁶⁶GASTON-BRETON, Tristan & KAPFERER, Patricia (ed.), *Carte Bleue*, Paris, Cherche Midi, 2004, p. 44.

cost of using the payment card at third-party ATMs.²⁶⁷ The acceptance and distribution of payment cards in France enjoyed a high level of acceptance. In this respect, the costs to the user and the merchant did not pose a threat to the spread of payment cards from the point of view of the banks. Until 1990 that the majority of the 12,000 ATMs in France were set to work “online”. This meant that the ATMs were connected to a computer in a national authorisation centre or to the computer of the bank issuing the bank card used. Until 1990, many of these ATMs operated autonomously without being connected to a network. From then on, for each withdrawal, the computer checked the user’s request, compared it with withdrawals already made, including at other ATMs, and only granted authorisation if no misuse was detected. Claude Brachet, development director of the *Groupement des Cartes Bancaires*, summarised this process during an interview with the *Le Monde* in 1990.²⁶⁸ A unified system for processing payments made at ATMs and points of sale would make it possible to prevent the spread of counterfeit bank cards by a single stolen or lost copy. In 1988, the *Groupement des Cartes Bancaires* was defrauded of one percent of its annual turnover. A loss of 320 million francs forced the banks to rethink their approach. The biggest problem was that “offline” ATMs could not communicate with one another, as registrations were only recorded by these machines a few days later. By networking the machines, the data could be compared immediately, and fraud could be detected. At that time, offline ATMs could not distinguish between a duplicated card and the original, and despite a card being used already at one ATM, individuals could still happily continue to withdraw cash from other offline ATMs that had no record of previous use that day. Until 31 December 1989, the ATMs were primarily managed by the institutions responsible for their operation. *Société Générale*, *Crédit Mutuel* or *Crédit Agricole* managed their ATMs independently since 1988. This led to the emergence of IT service companies such as *Sligos* or *Cedidicam*, which installed authorisation and clearance centres to make the ATMs fraud-proof. Claude Brachet concluded that not all ATMs functioned in the same way and that there was a significant difference between an ATM on the Champs-Élysées and a suburb. Only a significant change in the verification procedure could

²⁶⁷Unknown author, Billet d’argent plastique, in: *Le Monde.fr*, URL: https://www.lemonde.fr/archives/article/1990/03/22/b-i-l-l-e-t-l-argent-plastique_3959395_1819218.html (State:15.02.2021).

²⁶⁸Unknown author, *Distributeur de billets: un fil contre le vol*, in: *Le Monde.fr*, URL: https://www.lemonde.fr/archives/article/1990/02/21/distributeurs-de-billets-un-fil-contre-le-vol_3957117_1819218.html (State:15.02.2021).

solve this situation. However, this would only be possible if all banks started to “*network*” their ATMs.²⁶⁹

But the development of a completely unified networked ATM and point of sale system in France would not be achieved until 1996. On 30 October 1996, *Axime* and *Sligos* decided to merge into an IT services giant. The second and third largest French IT services companies decided to take over the market leadership in retail banking. For his part, Bernard Bourigeaud, CEO of *Axime*, underlined the strong complementarity of the two entities, stressing that the new group would focus on high value-added businesses and those *recurring* activities alone, such as banking services, facility management and systems integration, would account for some 4 billion francs. “*This fusion will give us greater capacity and credibility, which will enable us to play a very important role in high-growth areas, both with regard to our major international competitors and US processing companies*”, said *Axime*’s CEO.²⁷⁰ As a result, *Axime* and *Sligos* set up their joint company under the name of *Atos* in 1997, while *Sligos* was already established in 1972 and was majority-owned by *Crédit Lyonnais*. *Sligos* was the first French company to receive the order to process card-based banking transactions when the credit card system *Carte Bleue* was introduced in France. The *Axime-Group* was established in 1991 and became a major player in the rapidly consolidating information technology services industry. The *Axime-Group* was created from the merger of *Segin*, a company dedicated to electronic banking and telematics, *SITB*, a company dedicated to the management of banking and financial market transactions, and *Sodinforg*, a company dedicated to electronic banking and personalization of payment support. *Axime*’s corporate department for electronic banking and processing and *Sligos*’ corporate department for payment and electronic banking activities were integrated into *Flow*. *Flow* then took over the name *Atos Services*. In 2000, following the merger with *Origin*, it was renamed *Atos Origin Services*. In December 2003, it was rebranded to *Atos Worldline*, as *Atos Origin*’s various payment and electronic transaction services businesses were merged. *Atos Origin Multimedia* was merged into *Atos Worldline*. *Atos World Line* describes the development of its company during the 2000s, as follows:

²⁶⁹Unknown author, *Axime prend le contrôle de Sligos et devient le << poids lourd >> de l’informatique bancaire*, in: Lesechos.fr, URL: <https://www.lesechos.fr/1996/10/axime-prend-le-contrôle-de-sligos-et-devient-le-poids-lourd-de-linformatique-bancaire-843810> (State:15.02.2021).

²⁷⁰Unknown author, *Axime prend le contrôle de Sligos et devient le << poids lourd >> de l’informatique bancaire*, (State:15.02.2021).

“Worldline also includes the Atos Origin Processing Services business in Germany (renamed Atos Worldline Processing GmbH in April 2004) and Atos Worldline Products Solutions Integration in France, which in 2005 led to the contribution of the payment solutions business previously held by Atos Euronext SBF (with which it merged in 2008). At that time, Atos Worldline was mainly active in France and Germany and became a leading provider of high-tech transaction services, or “HTTS” for short. In 2010, Atos Origin Processing GmbH became a wholly owned subsidiary of Atos Worldline”.²⁷¹

1.3.5. The implementation of ATM and POS networks in Germany

In Germany, the five central associations of the German banking industry joined forces in 1932 and founded the *Zentrale Kredit Ausschuss (ZKA)*. The *Bundesverband der Deutschen Volksbanken und Raiffeisenbanken e.V.*, the *Bundesverband deutscher Banken e.V.*, the *Bundesverband Öffentlicher Banken Deutschlands e.V.*, the *Deutscher Sparkassen- und Giroverband e.V.* and the *Verband deutscher Pfandbriefbanken e.V.* formed a common economic interest group. In August 2011, the ZKA was renamed into the *Deutsche Kreditwirtschaft (DK)*.²⁷² The main tasks of the ZKA, was to standardise cashless payment transactions. The focus was on establishing and developing common rules among credit institutions in Germany. The ZKA had a total of eleven member associations and over 210 private banks. In order to get an overview of the agreements reached, a list of the most important agreements of the German umbrella organisations follows: *DFÜ-agreement, clearing agreement, the Agreement on the Directives concerning the uniform format for payment forms, the Homebanking agreement, the Agreement concerning the transfer of funds, the Cheque agreement, the traveller’s cheque agreement, the direct debit agreement, the exchange agreement, the agreement on the eurocheque system, the agreement on the security of the ec-PIN, the agreement on the German ec cash dispenser system, the agreement on the setting of maximum charges for the use of non-institutional ATMs, the agreement on the electronic cash system, the agreement POZ system and agreement on the inter-institutional “GeldKarte” system.*²⁷³

In Germany, ATMs and point of sale systems spread through the Eurocheque system. The Eurocheques system was founded in 1968 and was the European response to the American

²⁷¹WORLDLINE, *Registration Document & Financial Report 2017*, in: worldline.com, URL: <https://labrador.cld.bz/WORLDLINE-REGISTRATION-DOCUMENT-2017/14/#zoom=z> (State: 15.02.2021).

²⁷²SCHÖNING, Stephan, Zentraler Kreditausschuss, in: wirtschaftslexikon.gabler.de, URL: <https://wirtschaftslexikon.gabler.de/definition/zentraler-kreditausschuss-zka-48170> (State: 15.02.2021).

²⁷³Zentraler Kreditausschuss, Was ist der Zentrale Kreditausschuss, in: zentraler-kreditausschuss, URL: <https://www.zentraler-kreditausschuss.de/was-ist-der-zka/> (State: 15.02.2021).

cashless payment systems that entered the European market. In 1971, German banks associated with the Benelux countries and gave Eurocheque a uniform trademark product. This was expressed in the form of a uniform Eurocheque form at the beginning but with different formats.²⁷⁴ The Eurocheque system was an international payment system based on two instruments, the cheque and the cheque guarantee card. These two payment instruments guaranteed that the bank client could have access to cash at any participating bank at national and international level. The main objective of the Eurocheque system was to make the international payment transactions of its customers as effective and cost-efficient as possible. The Eurocheque system had its scope in Europe and the neighbouring Mediterranean countries, such as Morocco, Turkey and Egypt. Fifteen European countries participated to create a new payment method in 1968. Later, more than 39 countries all over the world accepted Eurocheque.²⁷⁵ Until 1969, German credit institutions issued the new payment method primarily to wealthy customers and set the creditworthiness criteria high. Eurocheque was very well received in major German cities, where social mobility was higher than in rural areas. 50 percent of current account holders in large cities had a Eurocheque guarantee card and used it three to four times a month, especially when travelling or making small purchases. Through the hub function of current accounts, the Eurocheque represented a method of intensifying disposition credit. The Eurocheque card allowed the customer's credit balance to be charged at anytime and anywhere within the agreed limit.²⁷⁶ In 1976, the German banking industry had already issued 9 million Eurocheque guarantee cards to its customers. In France, cooperative banks, which had a market share of eight percent, replaced *Intercarte* by Eurocheque against the will of the French state-owned deposit banks. As a result, 450,000 customers in France owned the Eurocheque in 1976. In Luxembourg, 30,000 holders of the Eurocheque guarantee card were counted in the same period.²⁷⁷

In the 1990s Eurocheque became increasingly less important. It was abolished at the end of 2001. The EC card, which subsequently stood for electronic cash, was upgraded to an electronic

²⁷⁴GLOGOWSKI, Erhard & MUNCH, Manfred (ed.), *Neue Finanzdienstleistungen*, Wiesbaden, Gabler Verlag, 2013, p. 26.

²⁷⁵Archive Banque Générale du Luxembourg BNP Paribas, Accord Internationale Eurocheque, Communauté Luxembourgeoise Eurocheque, Annexe 1 Directives en vigueur du Système Eurocheques 1980, pp. 1-10.

²⁷⁶GLOGOWSKI, Erhard & MUNCH, Manfred (ed.), *Neue Finanzdienstleistungen*, Wiesbaden, Gabler, 2013, p. 29.

²⁷⁷Archive Deutsche Bank, Überblick über die Situation im Zahlungsverkehr europäischer Banken und Überlegungen zu möglichen Kooperationen, Frankfurt 24. September 1976, p. 7.

means of payment. In 2007, the *EC-card* was renamed *Girocard* in Germany.²⁷⁸ In order to understand these developments in Germany, it is necessary to clarify the history of the *Gesellschaft für Zahlungssysteme (GZS)*, based in Frankfurt a.M. in 1982, and its role as a key player in cashless payment transactions in Germany. The founded GmbH served to carry out the service function for the issuers of the Eurocard. The company was founded to ensure card settlement, turnover clearing, maintenance of the acceptance point network and the security management of future payment systems. Thus, it emerged from the merger of *Eurocard GmbH* and the German Eurocheque head office. Since 2006, GZS belonged to *First Data Deutschland GMBH* and its subsidiary *TeleCash GmbH & Co KG*. As a result, GZS was dissolved. Between 1982 and 2006, the German banking industry implemented two POS networks, POZ and POS, in cooperation with GZS. In addition to an ATM network, a point of sales network in Germany, which form the basis for today's payment system and products. The abbreviation POZ stands for Point of sale without payment guarantee. It was a billing system for payment with credit cards and *EC-cards*. Payment was made directly at the point of sale. However, the customer's liquidity was not checked. POZ was not longer used after 2006. The main reasons behind this decision were the high maintenance costs and the uncertainty for the creditor. The POZ were replaced by POS terminals in 2006, as they could check whether the customer had sufficient liquidity on his current account in addition to a blocking query. Furthermore, POS users entered a real promise to pay.²⁷⁹

1.3.6. The implementation of ATMs and POS in Luxembourg

On 11 May 1982, the Luxembourgish post opened one of the first modern ATMs in Ettelbrück. They called the new machines *Postomat*. Four more machines followed in the same year. *D'Post* was harshly criticised because society feared that the modern ATMs would lead to a loss of human contact.²⁸⁰ Nevertheless, the customers of the Luxembourgish post, run by the Luxembourgish state, quickly realised that the new machines enabled them to keep track of their financial situation on their current account around the clock. A year later, several banks in Luxembourg joined forces to offer their customers their own ATM system. The *Groupement Bancomat* thus provided the first functioning ATM network, *Bancomat*, which consisted of

²⁷⁸Deutsche Bank, Der Papst des Eurocheques war Einer von uns, in: db.com, URL: https://www.db.com/newsroom_news/2019/der-papst-des-eurocheques-war-einer-von-uns-de-11479.htm (State:15.02.2021).

²⁷⁹HEERMANN, W. Peter, *Geld und Geldgeschäfte*, Tübingen, J.C.B. Mohr, 2003, p. 297.

²⁸⁰POST, *Ouverture du Postomat à Ettelbruck* 1982, in: 175joerpost.lu, URL: <https://www.175joerpost.lu/collection?lang=fr&search=Postomat> (State:15.02.2021).

more than 4 ATMs. As a result, on Monday 25 April 1983, *BCEE, BGL, Banque Internationale Luxembourg, Krediet bank S.A Luxembourgaise, Caisse Centrale des Associations Agricoles, Luxembourg Banque Nationale de Paris Crédit Industriel d'Alsace et de Lorrain Société Générale Alsacienne de Banque, Banque de Luxembourg, Luxbanque S.A.* made 24 ATMs available to their customers in Luxembourg. Of these, 13 ATMs were in Luxembourg City.²⁸¹ Marc Hemmerling oversaw the creation of Cetrel in 1985. Cetrel took over the clearing of the ATM system and later of POS. The merger of the Luxembourgish banks spared no expense in promoting their innovation. A newspaper campaign, radio spots, television commercials, and a large-scale flyer campaign were launched with the slogan “*Un nouvel horizon votre caissier permanent*”.²⁸² The design of the flyers suggests that the marketing department of the Luxembourgish banking association was inspired by Disney Studios and the 1982 movie *Tron* to attract a young clientele. Nevertheless, Hemmerling described the situation as follows: “*Ok, Post is implementing the Postomat, we have to react.*”²⁸³ Hemmerling added after a little pause: “*You have to understand that the postal cheque in Luxembourg was a very attractive service, it was for free, and a lot of business men and civil servants received their salary by the postal cheque, which was debatable regarding European law, because you are free to choose your banking relations in Europe.*”²⁸⁴ To conclude, Luxembourgish traditional universal banks perceived the Luxembourgish Post as a danger because they could set up their own functioning ATM network and POS systems within a very short time. Furthermore, the Post Office was attracting many customers through its attractive current account, as it was free of charge. The first *Terminaux de points de Vente* (TVP) of the *Bancomat* system went online in 1988. As early as 1987, the so-called *équipe de vente* [sales team] set out to convince merchants of their new point of sale. The teams always consisted of several employees from different banks so that no bank of their association felt disadvantaged or only acquired customers who had their accounts at their parent bank.²⁸⁵

²⁸¹Archive Banque Générale du Luxembourg BNP Paribas, Note N° 17, *Note aux services et aux agences, concerne: réseau Bancomat, Luxembourg, 1983.*

²⁸²Archive Banque Générale du Luxembourg BNP Paribas, Flyer, *un nouvel horizon, votre caissier permanent, 1983.*

²⁸³Interview about the emergence of ATM and POS system in Luxembourg with Marc Hemmerling, Member of the Management Board at ABBL, Luxembourg, 02.08.2019, 00:07:18.

²⁸⁴Interview about the emergence of ATM and POS system in Luxembourg with Marc Hemmerling, Member of the Management Board at ABBL, 00:07:18.

²⁸⁵Archive Banque Générale du Luxembourg BNP Paribas, Note aux services et aux agences, *Concerne: Lancement commercial des terminaux points de vente (TPV), N°3, Terminaux Points de Vente, Luxembourg, 21.01.1988.*



Figure 17 – Archive Luxemburger Wort, Advertisement for the Bancomat in 1983.

The first business owner in Luxembourg who installed a point of sale was Mr Bervard Marc Joseph Nicolas at his shop for car accessories. From the list of commercial operators created by BGL’s marketing department, one can see that the main target group was the wholesale markets of the automobile industry, clothing shops, and the food industry. Banks therefore took the initiative with the dealers. Bank customers were educated through a large-scale campaign. In the early years, bank customers had access to ATMs and TVPs through an *Bancomat card* or Eurocheque with a magnetic strip and a personal pin. The security settings of the payment cards were inspired by the *Deutsche Kreditwirtschaft*, as Mr Hemmerling points out:

“You needed during that time for the use of an ATM a card with a magnetic stripe., The information from the magnetic stripe which was on the magnetic strip could be copied. At the production stage, there was already the problem that not every strip was identical. [...] When you copy a card, the computer or ATM, recognises that it is not valid. The process to recognize that a card is copied is known from the German region. That’s where we got our inspiration from. [...] We thought at that time, as far as I remember right [...] It was Siemens and IBM. We thought that IBM was the world leader. In the past, there were banks in

*Luxembourg, such as Interbank, where I can remember Siemens. Then they went to IBM, because the service for the client was the same, but it was also closely related to technology.*²⁸⁶

The clearing of the ATM system and TVPs was handled by Cetrel since the mid-1980s. In 2005, Cetrel announced that it reached the entire Luxembourgish market. As a result, Cetrel set the goal of expanding internationally. Finally, Cetrel decided to start cooperation talks with *Six Group AG*. The Swiss company, with its know-how of more than a billion processed transactions, was seen by Cetrel's management as a suitable partner to bring in its knowledge without losing its own identity. Thus, in 2008, both sides concluded an *accord de partenariat*, a partnership agreement. Nevertheless, the project dragged on. The exchange of ATMs delayed the conclusion of the agreement. In 2011, the *Bancomat system* was finally abandoned because the European Union had stipulated for the Single Euro Payments Area that national payment systems must be able to be used throughout Europe. It was not until the end of 2012 that it was possible to state that the partnership with *Six* and Cetrel was on an equal basis, after the Swiss company decided to conduct its future activities from Luxembourg. As a result, *SIX Group Ltd* became the sole shareholder of Cetrel. In 2016, the merger between Cetrel S.A., which by then functioned independently of the established banking group, and *SIX Payment Services Europe S.A.* finally took place. In 2018, *SIX Payment Services Europe S.A.* and *Worldline1* decided to enter an *accord de partenariat* to secure and expand their market shares of cashless payment traffic in Europe.²⁸⁷

1.3.7. Conclusion

To conclude, during the 1960s, cash dispensers found their way into society, especially with the goal of enabling people who worked longer hours to gain access to their money even when the bank counters were already closed. In Germany, it was the clients of the *Sparkasse Tübingen* in May 1968. On 2 July 1968, the first cash dispenser was put into operation at a Paris branch of the *Société Marseillaise de Crédit*. In Luxembourg, the *Banque Générale du Luxembourg* installed its first metal servant under the name of Pay-Matic in the Luxembourgish main train station district on the first of October 1968. For the first time, a limited audience of

²⁸⁶Interview about the emergence of ATM and POS system in Luxembourg with Marc Hemmerling, Member of the Management Board at ABBL, 00:14:38.

²⁸⁷Unknown author, Bargeldloses Bezahlen. Aus Cetrel wird Six, in: wort.lu, URL: <https://www.wort.lu/de/business/bargeldloses-bezahlen-aus-cetrel-wird-six-567be4f60da165c55dc500e0> (State:15.02.2021).

bankers and exclusive customers had 24/7 access to cash outside of bank opening hours. It should also be pointed out that at the end of the seventies, most cash dispensers operated in offline mode. In other terms, the cash dispenser was not connected to modern accounting centres, but only registered the accounting of the cash withdrawn. However, traditional universal banks quickly realised that ATMs also reduced waiting times, paperwork, and costs at their bank branches.

From that moment on, ATMs were constantly upgraded. In the 80's, first “modern” ATMs were implemented. Additionally, universal banks realised that ATMs were not enough to market credit cards or debit cards to customers. Consequently, French, German and Luxembourgish universal banks installed POS systems specially to convince especially retailers of their new networks. With the increasing complexity of ATM and POS networks, since the 1980s, banks needed companies, such as Cetrel, to deal exclusively with the clearing of increasing numbers of transactions and to process transaction data. In December 2005, the European Commission launched a proposal to strengthen the legal framework of the Single Euro Payments Area, which required banks to operate national payment systems across national borders in Europe. This decision reinforced the outsourcing of clearing systems to FinTech's such as *Wordline* or *SIX*.²⁸⁸ In much the same way, the implementation of ATMs and point of sales served not only to distribute financial products or services, but also to maintain control over the information on transactions carried out by customers. However, the case study of *Banque Générale du Luxembourg* shows that traditional universal banks, especially with their innovations in the 1980s, wanted to reach young people with ATM's and point of sales. Furthermore, traditional universal banks wanted to sell primarily their innovative services to businesspeople in the automobile sector, as well as wholesalers in urban areas at the beginning of the implementation of their system on the market. To conclude, the implementation of automated teller machines and POS networks in France, Luxembourg, and Germany since the 1980s not only enabled banks to reduce waiting time, costs, and paperwork at bank counters, but also showed the financial world that banking was possible during 24/7 and that retailers were a key factor for the spread of innovative banking services and products,

²⁸⁸Definition of Fintechs by Bundesanstalt für Finanzdienstleistungsaufsicht (Bafin) / translated from German: “A clear definition of the term “fintechs” does not yet exist. As a combination of the words “financial services” and “technology”, fintechs are generally understood to be young companies that offer specialised and particularly customer-oriented financial services with the help of technology-based systems.” Source: Bafin, Unternehmensgründer und Fintechs, in: bafin, URL: https://www.bafin.de/DE/Aufsicht/FinTech/fintech_node.html (State: 19.01.2021).

such as debit and credit cards. Furthermore, a new understanding of the physical distance to the customer was created. By setting up cashless payment networks, bank branches could interact with their bank customers from a distance without direct contact for the first time. In addition, financial institutions were able to control with their systems cashless money flows and data of their customers. Over time, highly specialised ATMs developed as a result, which simultaneously acted as marketing platforms. From bank transfers to the viewing of new offers, there seemed to be no limits, especially when using ATMs. ATMs were primarily needed to draw cash. Furthermore, large scale marketing and direct marketing approaches convinced especially private customers and business owner to take advantage of ATM's and POS in Luxembourg, France, and Germany from 1980 until today. The historical reconstruction of the implementation of networks and infrastructures for payment systems in France, Luxembourg and Germany underlines the fact that beside advertising digital banking services or products also well-functioning infrastructures and networks for payment system were essential for the spread of cashless methods of payment in France, Luxembourg, and Germany.

Conclusion of the chapter

Until the beginning of the 1960s, one cannot really speak of retail banking or cashless payment transactions in Germany, Luxembourg, France, and Europe. There were cashless means of payment such as the *Weltkreditbrief* or the cheque, but not payment cards as we know them today. In the 1960s, European society changed fundamentally. With the advent of tourism, the opinion that leisure time was no luxury, increasing salaries, the standardisation of salaries and pensions, or the possibility for married women to open their own accounts, the banking world started to change. Consequently, retail banking emerged as well as people's need for cashless payment methods in a more globalised. However, in 1965, when European banks were still discussing whether to introduce a European cheque or credit card, the first American credit card providers entered the European market. As a result, Eurocheque was introduced in 1968 and Europe was divided into active and passive countries within the Eurocheque system. In Luxembourg and Germany, cheques were not widespread and were considered as a suitable measure to counter American providers such as American Express, Diners Club or Visa. In France, the common opinion was that only a European credit card would be able to counter the American credit card companies. It was therefore not surprising that although the Eurocheque was accepted, the *Carte Bleue* was heavily promoted by French banks since the 1970s and that they worked with Visa in the credit card business since 1974. To promote the acceptance of cashless means of payment, the Eurocheque made their counters of acceptance visible by the Eurocheque symbol, creating a gigantic network a very short time for the holder of the Eurocheque and the associated guarantee card in Europe, from which cash could be withdrawn when travelling. Furthermore, the Eurocheque association implemented simplified technical and administrative structures to avoid costs for large management teams, marketing departments or calculation centre. In that way the Eurocheque countries were able to compete with the credit card providers until the end of the 1970s.

At the beginning of the 1980s, the Eurocheque became too expensive to process. Furthermore, US credit card providers such as MasterCard and Visa began to extend their influence. As a result, inter-banking was increasingly used as a marketing strategy to increase the use of payment cards from the 1980s onwards, especially by expanding ATM or POS networks. During the 1980s the awareness emerged in Luxembourg, France, and Germany that whoever dominates the European retail banking also dominates the cashless payment market in a region, country, or continent. The European financial institutions realised also that they had the greatest

chance of winning this race. With the increasing competition in the credit card sector, especially from Visa, the pressure increased on the European banks to issue their own European credit card, the Eurocard. However, the European banks made the mistake of issuing Eurocard as a cashless method of payment for the European upper class from the end of the 1970s to the end of the 1980s. Visa, on the other hand, together with its European partner banks issued its credit card as a mass payment method from the very beginning. Eurocard and MasterCard built up a supremacy in Germany, as the German banks decided against Visa in 1982. The German bankers were afraid of the influence of American banks. Eurocard and MasterCard had been offered as a mass payment method since the mid-80s. This decision came at least 20 years too late. In the meantime, France and Luxembourg split into Visa and Germany into MasterCard countries. With the *Carte Bleue* and *Carte Bleue international*, the French banks were far ahead of the Luxembourgish and German banks. Although the Eurocard was already available at the end of the 1970s, the German banking industry debated until 1987 whether they should really market Eurocard as a joint credit card. Consequently, due to the increasing dominance of Visa and demand for Visa cards, the expansion of ATMs and POS networks, especially since the 1980s, became extremely important as a marketing strategy for payment cards of any kind for the French, German, and Luxembourgish banks, especially to make their own debit cards more attractive. Not only did ATMs and POS communicate an innovative image on the banks, but they also created technical infrastructures that the banks themselves could control. In particular, the strategy of accepting debit and credit cards of all kinds at ATMs and POS was implemented by German, French and Luxembourgish banks.

With the growing dominance of the two American providers at the beginning of the 1990s, the banks had no choice but to buy the national licences of Visa and MasterCard and finally issue them themselves to the banks of the respective national market. Altogether, it becomes clear that the Luxembourgish, French and German banks, regardless of whether they issued Visa or MasterCard licences, wanted to give their debit or credit cards an international touch. However, the fact that MasterCard swallowed Eurocard in 2003 underlines the increasing dominance of credit card companies in the geographical scope studied. Thus, a picture of a highly complex and fragmented European payment market emerges. It becomes clear that European banks could have saved themselves a lot of time and money if they had decided at an early stage to market a common European credit card or debit card as a mass payment method. However, it is important to be fair and underline that Luxembourgish, French and German banks have only

been active in retail banking since the mid-1960s. Consequently, all marketing strategies regarding the distribution of payment cards, especially credit cards, between 1960 and 1980 were based on trial and error, as can be seen from the example of the Luxembourgish banks, which first issued Eurocard-MasterCard and finally switched to Visa. Nevertheless, it was not until the mid-80s and 90s that an understanding of how to increase the acceptance of credit cards finally set in. As a result, from the mid-1990s it became possible for individual banks to issue not only Visa cards but also Eurocard-Master Cards and vice versa to their customers. Finally, the banks' marketing strategies regarding payment cards can be categorised into the following steps: introduction of debit cards and making them visible to customers through advertisement of their logos on their own infrastructures, building up inter-banking systems, opening acceptance points as much as possible, implementing ATM and POS systems, expanding the product range with credit cards and increasing international acceptance through cooperation with MasterCard and Visa. Amidst these developments, however, the French banking world was always ten years ahead of Luxembourg and Germany. As early as the 1960s, the French banks had already gained experience in cashless payments via cheques. This experience led to the decision to introduce a common national and international cashless payment card to get rid of the paper flood produced by cheques. It is therefore not surprising that payment cards were established earlier in France than in Germany or Luxembourg. Although the same marketing strategies were used in Luxembourg and Germany at the latest from the 1980s, they were no longer able to catch up with France to the same extent until the end of the 2000s. In the following part, the debates about credit cards and their influence on the internal marketing strategies of banks and European regulations of the cashless payment market are discussed. In other terms, the response of banks to these debates is reconstructed. Here, the research focus lays on the main actors within these financial institutions such as engineers to highlight from the outset their influence on cashless payment methods and related internal marketing strategies worldwide at latest with the beginning of the 1980s.

**Part 2 - Debates, and fears about credit cards as influencers since their
implementation in Europe**

2. Debates, and fears about credit cards as influencers since their implementation in Europe

Debates around credit cards are as old as the credit card itself. However, most of these debates did not have an impact on sales figures, bank marketing strategies, credit card organisations, or national as well as European competition law. Most of them were artificially inflated by the press, as in the example of *Der Spiegel*. Attempts were made to convince people that credit cards were even more dangerous than drugs, as they could quickly lead to debt. A latent anti-Americanism could be detected between the lines, which showed that especially the German press did not support the “*imported American financial system of lending and borrowing.*”²⁸⁹ However, this chapter analyses the debates about credit cards that had a significant impact on credit card acceptance, marketing strategies, and regulations that influenced the card payment market in Europe. Consequently, it is demonstrated how these factors influenced banks, and credit card organisations’ marketing strategies. In this way, it is shown that the concerns of consumers and merchants were perceived, but that competition in the payment card market between 1980 and 2015 posed greater concerns. In the current literature, there are indications that credit cards were controversial, but a precise reconstruction of how the debates around credit cards influenced the entire payment market and the marketing strategies of the banks is lacking. One advantage of analysing the debates is that the purely institutional perspective can be abandoned and the views on credit cards of all participants in the payment market can be considered. The final part of this chapter demonstrates how banks reacted to these debates and how actors such as engineers influenced internal communication strategies of financial institutions as well as how product optimisation became an essential component of bank marketing regarding credit cards. In addition, the perspective of the Press as well as the actions of supranational institutions in Europe are included. This does not mean, that multilateral interchange fees or the security of credit cards and the resulting regulations are not considered in recent research. For example, Bernardo Bátiz-Lazo’s work, *Cash and Dash. How ATMs, and computers changed banking* work focuses on interchange fees in relation to ATMs and shows that they are an important part of the banking business.²⁹⁰ Work from Evans and Schmalensee, *Paying with Plastic* also focuses on interchange fees, but primarily on the US

²⁸⁹Unknown author, Kreditkarten, Schlimmer als Drogen, in: [spiegel.de](https://www.spiegel.de/politik/schlimmer-als-drogen-a-215aa9cb-0002-0001-0000-000040348589), URL: <https://www.spiegel.de/politik/schlimmer-als-drogen-a-215aa9cb-0002-0001-0000-000040348589> (State: 23.09.2021).

²⁹⁰BÁTIZ-LAZO, *Cash and Dash*, Oxford, Oxford University Press, 2018.

market.²⁹¹ However, the detailed reconstruction of the debates around credit cards regarding interchange fees or security issues in Europe is largely missing, especially concerning the European market. Consequently, this part of the dissertation demonstrates that the implementation of European directives should have counteracted these fears but at the same time represented strategies to unify a strongly fragmented European payment market and that new competitors in the digital age raised greater concerns. Furthermore, these directives served to maintain market shares of the European cashless payment market against emerging actors in the digital age.

2.1. Multilateral interchange fees: how service providers and merchants influenced the use of digital payment methods

Interchange fees for payment cards were first introduced by BankAmericard, later Visa, in the 1960s in the United States of America. Interchange fees were initially used by banks to solve problems, and not to maximise profits. In its original form, they were intended to cover the risk for merchants, banks, and issuers if cardholders could not pay their bills. However, since the introduction of interchange fees, there had been distrust especially between banks and merchants, as until then there had not been any uniform interchange fees charged by the individual acquiring banks and credit card organisations. It was not until 1971 that Visa introduced a uniform interchange fee for their credit cards. Subsequently other credit card companies also adopted interchange fees for their cards. As a result of the global expansion of American credit card organisations in the 1970s and 1980s, not only credit cards came to Europe but also interchange fees. To understand the core of the debate on interchange fees, it is necessary to recapitulate the origins and nature of the card payment business.²⁹²

As already demonstrated in the previous chapter, debit and credit cards enjoyed great popularity in Europe from the mid-1980s onwards. Before 1984, it was non-convertible cash, cheques and bank transfers that were used as the preferred method of payment in Europe. However, these forms of payment were limited from their very nature, as they were not universally applicable. This becomes most evident in the case of cheques. Cheques were rarely accepted outside their respective territories, or even rejected by the issuing bank, since it only became profitable to clear cheques when the amount to be paid out to a bank customer was

²⁹¹EVANS & SCHMALENSEE, *Paying with Plastic*, Cambridge MA, The MIT Press, 2004.

²⁹²EVANS & SCHMALENSEE, *Paying with Plastic*, Cambridge MA, The MIT Press, 2004, p. 154.

high enough to cover the related processing costs. With the advent of payment cards and calculation centres of banks processing could be drastically reduced by banks and credit card organisations. Therefore, payment cards could establish themselves because they reached a certain economic efficiency. In addition, the spread of debit- and credit cards was strengthened by cooperation between banks and credit card organisations. Cooperation between credit card organisations and banks allowed them to construct cost-effective communication platforms. By creating a credit or debit card platform, individual actors became able to communicate indirectly and directly with each other.²⁹³ However, before reconstructing the debate about interchange fees, it is important to understand the nature of interchange fees and how credit card schemes work. The European Union defines interchange fees in 2014 as follows:

“Interchange fees (which are also referred to as inter-bank fees) are charged by a cardholder’s bank (the ‘issuing bank’) to a merchant’s bank (the ‘acquiring bank’) for each sales transaction made at a merchant outlet with a payment card. Interchange fees are either agreed bilaterally, between one issuing and one acquiring bank, or multilaterally, by several issuing/acquiring banks or by means of a decision binding all banks participating in a payment card scheme. The industry refers to these multilateral interchange fees as “MIFs”. A MIF can be a percentage, a flat fee or a combined fee (percentage and flat fee). When a customer uses a payment card to buy from a merchant, the merchant receives from his bank (the acquiring bank) the sales price less a ‘merchant service charge’, the fee a merchant must pay to his bank for accepting the card as means of payment for that transaction. A large part of the merchant service charge is determined by the interchange fee. The customer’s bank (the issuing bank), in turn, pays the acquiring bank the sales price minus the MIF and the sales price is deducted from the customer’s bank account. The MIF is therefore a cost that is finally charged to the merchant (through the reduction of the purchase price) who passes the costs on to consumers in the price level of the good or service.”²⁹⁴

2.1.1. Deepening the European Union’s definition of multilateral interchange fees

The European Union’s definition makes it clear that an interchange fee represents primarily a cost borne by the merchant and passed on to the end consumer. However, this definition is not sufficiently extensive to understand the complexity of the platforms created by credit card companies and banks. Furthermore, it does not provide an answer about its necessity. In this subchapter, four corner schemes and their actors (issuer, acquirer, merchant, cardholder) are

²⁹³GARELLO, PIERRE, *Understanding Multilateral Interchange Fees (MIF), and why it would be a mistake to regulate them*, in: research gate, URL: https://www.researchgate.net/publication/272301683_Understanding_Multilateral_Interchange_Fees_MIF_and_Why_it_Would_Be_a_Mistake_to_Regulate_Them (State: 23.09.2021).

²⁹⁴EUROPEAN COMMISSION, *Antitrust: Commission makes Visa Europe’s commitments binding*, in: ec.europa, URL: https://ec.europa.eu/commission/presscorner/detail/en/MEMO_14_138 (State: 23.09.2021).

discussed. It should be noted that an interchange fee theoretically can be applied in any type of platform architecture. The current literature underlines that in a two-sided payment card market, the issuing side has the predominant market power, and the acquiring side operates in a state of absolute competition. Therefore, monetary advantages primarily belong to issuers because only they can exclusively fix interchange fees. As a result, the peculiarity of a two-sided payment card market lies in the existence of interchange fees. In theory, interchange fees are intended to compensate the issuer for monetary disadvantages resulting from the provision of payment cards that cannot be passed on directly or indirectly to the cardholder. However, the issuer has the option of passing on incurred costs through an interchange fee to the merchant. However, interchange fees originally represented a financial instrument designed to create a balance within a two-sided market. The interchange fee is in general agreed bilaterally or multilaterally between the issuer and acquirer. In the case of a multilateral agreement, a central authority is set up between intermediaries such as credit card companies. Here, credit card companies hold the superior role and determine the amount of the interchange fee as already discussed. In the current literature *bilateral interchange fees* (BIFs) or *multilateral interchange fees* (MIFs) are the mostly encountered terms for interchange fees.²⁹⁵

The multilateral interchange fee is a charge paid by acquirers to issuers which is applied for cross-border transactions. A domestic interchange fee is applied for national transactions.²⁹⁶ In the event that no information exists as to whether agreements between credit card organisations, banks, and merchants are bilateral or multilateral, the literature simply refers to them as an *interchange fee*. The high complexity of bilateral interchange fees and the high requirements of the European Union regarding BIFs led to the development that most payment platforms in Europe operate with domestic interchange fees and MIFs for cross-border transactions nowadays. The interchange fees are primarily used for charge cards, debit- and credit card transactions. Due to their role as compensation payment, they do not differ from one another and are applied in the same way. The only differences exist in the way a merchant is charged and the amount of the fee. During a debit card transaction, the merchant pays the exact amount of the interchange fee directly to the issuer via the acquirer and pays the fee for payment processing separately. If one takes charge and credit card transactions, on the other

²⁹⁵HUCH, Stefan, *Die Transformation des europäischen Kartengeschäfts, Auswirkungen der Liberalisierung und Harmonisierung des EU-Zahlungsverkehrs*, Berlin, Springer Gabler, 2013, pp. 13-18.

²⁹⁶EWALD, Judt & WALDOCK, Jeffrey, *Plastic Money Terminology*, Frankfurt, Fritz Knapp Verlag, 1998, p. 145.

hand, the merchant pays a discount of the nominal value, which consists of the interchange fee and additional fees, to the acquirer. The acquirer splits the interchange fee according to the specifications of the respective credit card organisation and passes it on to the issuer plus a share of the turnover. In the literature, this process is also referred to as a *disagio* or *merchant service charge* (MSC).²⁹⁷

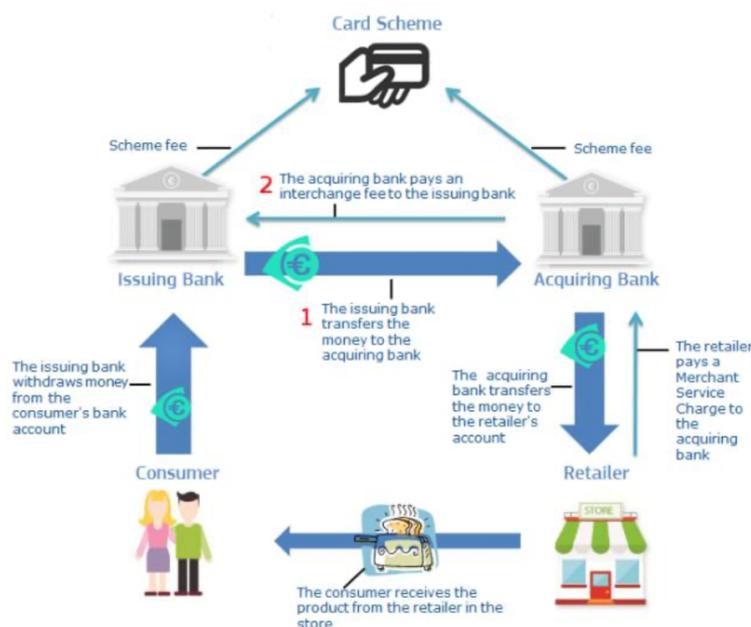


Figure 18 –Flow of the interchange fee in a four corner schemes.²⁹⁸

More precisely, a part of the commission is passed on by the acquirer to the issuer in the form of the interchange fee. The acquirer uses the remaining part of the commission primarily to cover its licensing costs and transaction processing.²⁹⁹ However, the amount of interchange fees depends entirely on the credit card organisation and varies from country to country. In most countries, debit card transactions are generally cheaper than credit card transactions.

²⁹⁷HUCH, Stefan, *Die Transformation des europäischen Kartengeschäfts*, Berlin, Springer Gabler, 2013, pp. 13-18.

²⁹⁸EUROPEAN COMMISSION, Antitrust: Regulation on interchange fees, in: ec.europa, URL: https://ec.europa.eu/commission/presscorner/detail/de/MEMO_16_2162 (State: 24.09.2021).

Explanation of the European commission: "The Arrow 1 show how the purchase price is transferred from the consumer's to the retailer's bank account. Arrow 2 shows the interchange fee paid from the acquiring bank to the issuing bank. Most four-party schemes require the acquirer to pay an interchange fee to the issuer every time a transaction is made."

²⁹⁹SWISS PAYMENT ASSOCIATION, Händlerkommission, in: Swiss-payment-association, URL: <https://www.swiss-payment-association.ch/kreditkarten/kreditkartensystem/finanzierung-haendlerkommission/> (State: 24.09.2021).

International operating credit card organisations allow themselves to charge a higher discount, legitimised with a higher possibility of default risk.³⁰⁰ Nevertheless, the revenue which the merchants receive from the bank for a transaction is usually less than the price of the goods or service the consumer buys. As a result, interchange fees signify a loss for a merchant. Merchants usually compensate their loss by surcharging their own customers. Here, a merchant unconventionally increases the price a good or service to compensate its loss. As a result, the so-called surcharging by merchants leads to higher prices for all consumers regardless of whether they pay by card or in cash.³⁰¹ Therefore, it is not surprising that the European Union prohibited surcharging to protect consumers in 2015.³⁰²

In the end, only banks and credit card companies profit from interchange fees, although the public bears the costs of their platforms. Therefore, are credit card companies able to distort competition in the payment card market. As a result, credit card companies use interchange fees to increase their market share. For example, some credit card companies offer consumer banks higher MIFs than their competitors. A consumer bank that chooses a credit card organisation with higher MIFs generates more revenue. Consequently, the credit card organisations could attract more banks to promote their cards. For example, if a bank switches from Visa to MasterCard, it passively forces its customers to do the same. In addition, consumer banks want to maintain their high interchange fee related revenues for a simple reason. As gatekeepers to their customers' accounts, banks can prevent new card companies from operating an interchange fee-free or lower interchange fee business model. Consequently, it becomes difficult for alternative payment service providers to offer cheaper payment cards or cashless payment solutions to bank account holders. Another anti-competitive element of interchange fees is used by credit card companies by obliging their partners to apply MIFs of the country in which the card transaction takes place. This contractual obligation prevents merchants from considering better offers or alternative service providers from non-European banks with lower MIFs.³⁰³ It is thus clear that banks and credit card organisations are particularly targeting the credit and debit card business to secure and expand market shares.

³⁰⁰HUCH, Stefan, *Die Transformation des europäischen Kartengeschäfts*, Berlin, Springer Gabler, 2013, pp. 15-23.

³⁰¹BUREAU EUROPEEN DES UNIONS DE CONSOMMATEUR, Multilateral interchange fees, in: beuc, URL: https://www.beuc.eu/publications/beuc-x-2013-025_multilateral_interchange_fees_factsheet.pdf (24.09.2021).

³⁰²YOUR EUROPE, Pricing and payments, in: Europa, URL: https://europa.eu/youreurope/citizens/consumers/shopping/pricing-payments/index_en.htm (24.09.2021).

³⁰³BUREAU EUROPEEN DES UNIONS DE CONSOMMATEUR, Multi-lateral interchange fees, (24.09.2021).

Thus, interchange fees and MSCs can be used as a sales policy instrument within the framework of bank marketing.³⁰⁴

Stylised overview of components of merchant service charges

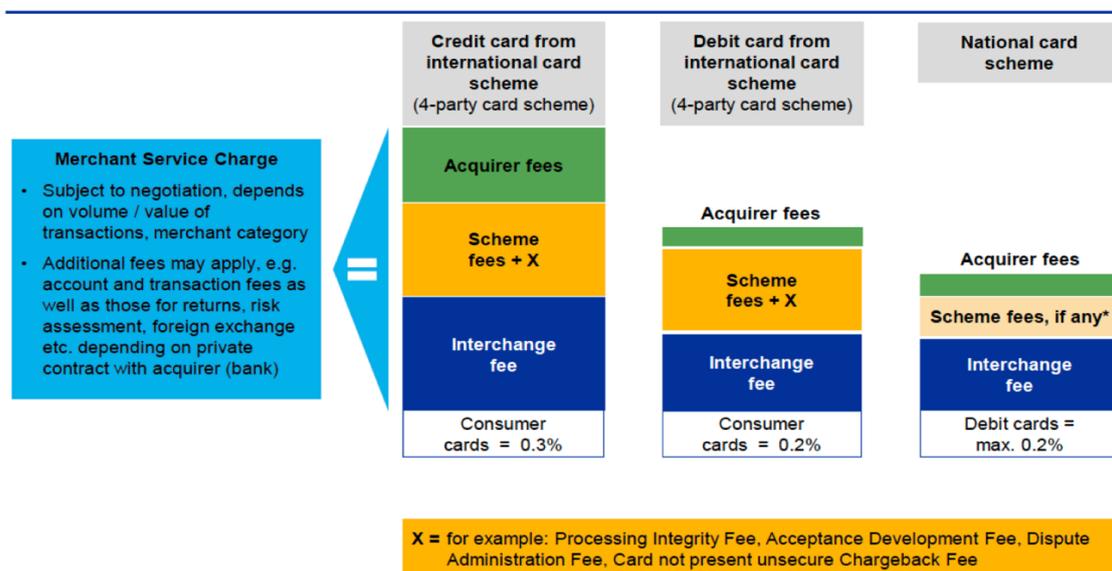


Figure 19 – Stylised overview of the components of merchant service charges.³⁰⁵

2.1.2. Multilateral Interchange Fees: A problem which is well-known by the European Union since the 1990s

The issue of MIFs has been known to the European Union since at least the 1990s. On 30 March 1992, the European Union received a complaint against Europay International S.A. for the first time. The *British Retail Consortium* (BRC) complained that Europay and Visa were restricting competition by agreements on cross-border interchange fees. The cross-border interchange fees, also called “*intra-EEA interchange fees*”, are discussed in detail in the following sections. The European Commission then launched a market investigation into the impact of MIFs in general. The European Commission’s investigation caused a stir at Visa. In May 1993, the American credit card company sent a letter to all banking associations and banks that issued Visa credit cards in Europe, warning their European business partners, and trying to reassure them. Rumours circulated in the European banking industry that the business model

³⁰⁴HASENTEUFEL, Jessica, Preis- und Konditionenpolitik, in: gabler-banklexikon, URL: <https://www.gabler-banklexikon.de/definition/preis-und-konditionenpolitik-60620> (24.09.2021).

³⁰⁵EUROPEAN CENTRAL BANK, Executive summary, Integration of the European retail payments markets, in: https://www.ecb.europa.eu/pub/pubbydate/2019/html/ecb.cardpaymentsineu_currentlandscapeandfutureprospect_s201904~30d4de2fc4.en.html (24.09.2021).

based on multilateral interchange fees was about to be fundamentally restructured because of the European Commission's investigations. Visa assured its European business partners that there would be no fundamental change in the composition of its pricing policy in the coming years, but that it was prepared to hold talks with the European Union, as it was aware that this was more than a simple investigation of Visa's business model on the part of the EU.³⁰⁶

On 23 May 1997, the European Commission received another complaint from *EuroCommerce* with the same contents as the one from BRC. *EuroCommerce* is an international association active in the wholesale and retail trade. *EuroCommerce* focused its complaint against Europay and Visa on agreements in the field of MIFs. The BRC then withdrew its own complaint as the content was too similar to that of *Eurocommerce*'s. On 6 May 1999, the European Commission sent Europay a letter listing the individual points of the complaint. In 2001, the European Union took its first measures against Visa in the so-called Visa I decision. It was not until the Visa II decision in 2002, however, that the first regulations on Visa MIFs were adopted. The European Commission determined that the MIF had to be linked to a certain cost and should not exceed it. In the eyes of the European Union, an MIF was not a necessity for operating a platform, although Visa invoked it.³⁰⁷ However, the credit card company got off lightly with the Visa II decision. The European Commission agreed with Visa to reduce its cross-border interchange fees. The European Union attached the condition that this had to happen within a period of five years. In December 2007, the European Commission decided that MasterCard was acting illegally with its MIFs. MasterCard appealed the European Union decision in 2008. As a result, both parties agreed in 2009 that cross-border transactions should not exceed 0.3 percent for credit cards and 0.2 percent for debit cards. Simultaneously, Visa was notified by the European Union that its MIFs violated European antitrust rules. As a result, Visa Europe proposed in April 2010 to cap direct debit card transactions by consumers at 0.2 percent. At the end of the year, the European Commission stopped its investigation against Visa Europe. As a result, Visa Europe proposed in April 2010 to cap direct debit card transactions by consumers at 0.2 percent. At the end of the year, the European Commission stopped its investigation against

³⁰⁶Archive BNP Paribas, Visa international service association, EC code of conduct on relations between merchants and acquirers, Activity alert, 21.05.1993, pp. 1-15.

³⁰⁷EUROPÄISCHE KOMMISSION, Von MasterCard geltend gemachte Geschäftsgeheimnisse, Erläuterungen zu den Änderungen (Nichtvertrauliche Fassung), in: ec.europa, URL: https://ec.europa.eu/competition/antitrust/cases/dec_docs/34579/34579_1888_2.pdf (24.09.2021).

Visa Europe.³⁰⁸ In 2012, the general court of the European Union in Luxembourg made the following decision:

*“By decision of 19 December 2007 the European Commission declared the multilateral interchange fees (MIFs) applied under the MasterCard card payment system to be contrary to competition law. The MIF corresponds to a proportion of the price of a payment card transaction that is retained by the card-issuing bank. The cost of the MIF is charged to merchants in the more general context of the costs which they are charged for the use of payment cards by the financial institution which handles their transactions. The only MIFs affected by the Commission’s decision were those applicable within the European Economic Area or the euro area, which apply in the absence of interchange fees agreed bilaterally between financial institutions or set collectively at national level. The Commission found that the MIF had the effect of setting a floor under the costs charged to merchants and thus constituted a restriction of price competition that was to their detriment. The Commission also took the view that it had not been demonstrated that the MIF could generate efficiencies capable of justifying its restrictive effect on competition”.*³⁰⁹

The European Court of Justice thus confirmed the ruling of the European Commission from 2007. Visa Europe was also informed that its MIFs restricted competition within Europe and that consumers would pay bills with excessive prices implemented by merchants. In 2013, the European Commission opened a formal investigation against MasterCard. The aim was to determine whether MasterCard had continued to violate EU antitrust rules. In 2014, the European Union reached an agreement with Visa Europe to reduce its MIF. Visa had meanwhile agreed to negotiate with the European Commission to avoid litigation. Nevertheless, the European Union continued its investigation into the distortion of competition by MIFs against Visa although the European Commission approved a cap on MIFs in 2015.³¹⁰ MasterCard was sentenced in January 2019. The European Commission imposed fines of 570 million Euro on MasterCard. The European Commission found that MasterCard’s MIFs would breach EU antitrust rules.³¹¹ The following paragraphs deal with the debate on interchange fees in France, Luxembourg, and Germany. In this way, the purely institutional perspective is left

³⁰⁸HAYASHI, Fumiko & MANIFF, Jesse Leigh, Public Authority Involvement in payment Card Markets, in: kansascityfed, URL: https://www.kansascityfed.org/documents/6660/PublicAuthorityInvolvementPaymentCardMarkets_VariousCountries_August2020Update.pdf (24.09.2021).

³⁰⁹GENERAL COURT OF THE EUROPEAN UNION, Press Release No 69/12, in: curia.europa, URL: <https://curia.europa.eu/jcms/upload/docs/application/pdf/2012-05/cp120069en.pdf> (24.09.2021).

³¹⁰EUROPEAN COMMISSION, Antitrust, Commission prohibits MasterCard’s intra-EEA Multilateral Interchange Fees, in: ec.europa.eu, URL: https://ec.europa.eu/commission/presscorner/detail/en/IP_07_1959 (24.09.2021).

³¹¹EUROPEAN COMMISSION, Antitrust: Commission fines MasterCard 570 million Euro for obstructing merchants’ access to cross-border card payment services, in: ec.europa, URL: https://ec.europa.eu/commission/presscorner/detail/en/IP_19_582 (24.09.2021).

behind and the perspective of merchants is intertwined. The analysis of the debate on interchange fees makes the topic more tangible and demonstrates how service providers and merchants influenced the spread of digital payment methods, banks and credit organisations' pricing policies as well as national and international competition laws.

2.1.3. The debate on multilateral interchange fees in France

In 1975, the first resentment towards interchange fees and merchant service fees arose in France. Especially in the gastronomic sector, voices were raised that interchange fees were being imposed arbitrarily. At that time, the term interchange fee was not used but merchants as well as the media landscape generally spoke of excessive service costs for accepting credit card payments. From a retrospective view, this debate was probably primarily about domestic interchange fees and merchant service charges. However, restaurant owners were certain that their customers would be happy with credit cards because it represented a comfortable payment method, but they would rarely think about the fact that paying by credit card would signify costs for the merchant. Retailers and merchants complained that credit card organisations would take different charges from every merchant. Indeed, business owners paid different rates to the banks for a credit card payment. As a result, merchants even started to refuse credit card payments, but not all of them. However, in the 1970s, French service providers began to believe that credit cards were in fact only a business for banks and credit card companies. Restaurant owner and cook, Jacques Manière expressed his displeasure as follows: *“For customers, it's like paying with a cheque. That is an advantage. So, they must pay and not me! But how much do restaurant owners pay? Far too much, everyone agrees, though to varying degrees.”*³¹² In late 1975, the president of the *syndicat national des restaurateurs*, Julien François, explained: *“We would certainly have encouraged the spread of the cards if the rates had been lower; they often exceed the profit of the restaurateurs, and it is the customer who pays with cash who bear the additional burden. We were told that the reduction in rates was not possible because of the cost of centralisation and the obligations of some cards to pay a fee to their central agency.”*³¹³ Therefore, it was not possible to pay by credit card at every shop or restaurant during the 1970s in France. In addition, the French population continued to hold on to their cheque books. French

³¹² COURTINE, Robert, Point de Vue: Pour les restaurateurs la carte de crédit manque de fraîcheur, in: Le Monde.fr, URL:https://www.lemonde.fr/archives/article/1975/11/01/point-de-vue-pour-les-restaurateurs-la-carte-de-credit-manque-de-fraicheur_3101464_1819218.html (24.09.2021).

³¹³COURTINE, Robert, Le restaurateur n'est pas un banquier, in: Le Monde.fr, URL:https://www.lemonde.fr/archives/article/1975/11/29/le-restaurateur-n-est-pas-un-banquier_2583742_1819218.html (24.09.2021).

banks justified the loyalty to the cheques by explaining that without a cheque book, one would be tempted to excessively spend money. Furthermore, banks argued that the French population would be reluctant to use debit and credit cards because they did not want to change their habits. As already demonstrated in the previous chapter, many bank customers continued using cheques as they had been promoted by the state for years and thus became a method of mass payment in France. However, it was not a resistance by merchants or restaurant owners against the credit card itself but against the pricing policy of banks regarding credit card transactions. In 1975, the *Conseil national du commerce* (CNC) took a stand but rather against the high costs for credit card transactions. Pierre Halphen, president of the *Syndicale parisienne de l'habillement* and member of the CNC, led the crusade against the high cost of credit cards for French merchants. He complained about the high operating costs of the platforms. Pierre Halphen explained that the costs would be too high for companies with low profit margins. He underlined that Eurocheque would be free of charge for merchants and that *Carte Bleue* and *Carte Bleue Visa* would overcharge merchants for their services. He claimed that banks and credit card organisations could have increased merchants' acceptance of credit cards early on by charging less.³¹⁴

At the beginning of the 1980s, the debate on domestic interchange fees and merchant service fees gained momentum in France. In 1984, the French merchants' associations acted against bank fees for credit card transactions. The merger of the *Carte Bleue* and *Carte Verte* resulted in the first inter-banking agreement in France as already discussed, but there were still disputes about how to finance the *Système National de Paiement de Carte* (SNPC). The participating banks of the SNPC did not want to develop a payment system with a sectoral deficit from the outset, as it had been the case with cheques. To strengthen their position, French banks believed it was essential to establish a single national tariff for card payments, variable according to the form of trade. French retailers, with their spokesman Jacques Dermagne, president of the CNC, claimed that banks would create cartels with their fees and threatened to boycott credit cards. The main demand of the merchants was a modulation of the tariffs according to the services provided, distinguishing between the payment and transaction function and the protection against insolvency risks of the payers. Merchants refused to pay in the first place for the technical rationalisation of the banks' systems to process payment card transactions. As a

³¹⁴Unknown author, Un dialogue difficile entre commerçants et banquiers, in: Le Monde.fr, URL:https://www.lemonde.fr/archives/article/1976/05/18/un-dialogue-difficile-entre-commerçants-et-banquiers_2944294_1819218.html (24.09.2021).

result, merchants started a boycott of credit cards by small retailers in eight departments of the Midi-Pyrénées in July 1985. The representatives of the *Syndicat national d'associations des commerçants* underlined that they were not against the implementation of cashless payment methods but called for competition between banks so that charges of any kind would not be prohibitive. Even the French secretary of state for commerce, craft and tourism, Jean-Marie Bockel, underlined those merchants defended the right opinion and declared that extensive fees charged by banks would be illegal. Nevertheless, French merchants were aware that the use of credit and debit cards by their customers had steadily increased. Furthermore, they knew by refusing credit cards they could lose customers.³¹⁵ However, at the end of 1985, merchants and banks agreed on a truce. The *Groupement des Cartes Bancaires* announced that they would introduce a new pricing system based on the principle of free negotiation between the merchant and his bank and on the financial conditions between the cardholder's bank and the merchant's bank. As a result, a new pricing system was introduced that applied uniformly to different categories of merchants and divided the fees between the banks. This agreement was necessary for all parties involved, as consumer use of credit and debit cards increased, and banks had invested billions in setting up point of sales and ATM networks in France. In the meanwhile, the term interchange fee and merchant service charge had become a common expression in finance and economics.³¹⁶ In 1988, the *Groupement des Cartes Bancaires*, which by then dominated most of the national payments market, was asked by the *Autorité de la concurrence* to comment on its interchange fees and to react merchants' complaints. However, the economic interest grouping did not respond to their request. As a result, the *Groupement des Cartes Bancaires* was fined 6 million francs in 1990. In addition, new tariffs were set based on the processing costs, the collective security of their system and the level of fraud detected.³¹⁷

At the beginning of the 1990s, French petrol station owners allied against banks and credit card organisations. The complaints of the petrol station owners resulted in a meeting which was held on 3 January 1991 between representatives of the petrol station owners, banks, and the relevant

³¹⁵RENARD, François, Compromis à l'automne, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1985/07/29/compromis-a-l-automne_2737947_1819218.html (24.09.2021).

³¹⁶RENARD, François, Armistice dans la guerre des cartes de crédit, les commerçants obtiennent des banques la liberté des tarifs, in Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1985/10/01/armistice-dans-la-guerre-des-cartes-de-credit-les-commerçants-obtiennent-des-banques-la-liberte-des-tarifs_3046240_1819218.html (24.09.2021).

³¹⁷Unknown author, Le conseil de la concurrence valide les tarifs de la carte bancaire, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1990/11/04/le-conseil-de-la-concurrence-valide-les-tarifs-de-la-carte-bancaire_3986589_1819218.html (24.09.2021).

government authorities. The purpose of this meeting was to settle the conflict over cashless payment modalities between petrol station owners, credit card organisations, and banks. The French petrol station owners had announced that they would no longer accept any cheques over 100 francs, which were not guaranteed. Furthermore, they wanted to boycott any payment of petrol with payment cards. The petrol station owners believed banks and credit card organisations were deliberately increasing interchange fees and merchant service charges to maximise their own profits. The meeting was initialised by the minister of trade and handicrafts, representatives of the ministry of justice, the technical department of the *Groupement des Cartes Bancaires*, the minister of finance, the national trade council and petrol station owners. However, the petrol station owners already started one day before their meeting with the authorities to boycott credit cards and cheques. Jean-Luc Dubrana, president of the national union of fuel distributors made his position clear: “*There must be a compromise to put an end to the abusive and unjustified increases in commission rates by the banks*”.³¹⁸ Three months of negotiations failed to reach a consensus between bankers, credit card organisations, and petrol station owners. As a result, the petrol station attendants agreed to continue to refuse non-cash means of payment on a regular basis.³¹⁹

In 2009, the conflict and debate over domestic and multilateral interchange fees and merchant service charges increased to such an extent that the *Fédération du Commerce et de la Distribution* filed a lawsuit against the *Groupement des Cartes Bancaires*, Visa and MasterCard. One insisted that the *Groupement des Cartes Bancaires*, MasterCard and Visa should drastically reduce their interchange fees.³²⁰ Meanwhile, the conflict simmered for 20 years in France between credit card organisations, merchants, consumers, and banks. The *Fédération du Commerce et de la Distribution* demanded a significant cut in the commissions paid by merchants’ banks to retailer’s banks because they argued that these fees were passed on to customers. In the meantime, banks as well as credit card organisations could no longer hide behind the argument that interchange fees served to amortise the technical side of their

³¹⁸Unknown author, *Pompistes et banquiers recherchent un accord sur le règlement des factures de carburant*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1991/01/03/pompistes-et-banquiers-recherchent-un-accord-sur-le-reglement-des-factures-de-carburant_4017440_1819218.html (24.09.2021).

³¹⁹EPINAY, Bénédicte, *Chèques en bois: pas d’accord entre pompistes et banquiers*, in: lesechos, URL: <https://www.lesechos.fr/1991/04/cheques-en-bois-pas-daccord-entre-pompistes-et-banquiers-945231> (24.09.2021).

³²⁰AUTORITE DE LA CONCURRENCE, *L’Autorité de la concurrence obtient du Groupement des Cartes Bancaires une baisse substantielle des deux principales commissions liées aux paiements et aux retraits*, in: autoritedelaconurrence, URL: <https://www.autoritedelaconurrence.fr/fr/communiqués-de-presse/cartes-bancaires> (24.09.2021).

platforms or networks. The French banks only agreed to reduce their commission from 0.47 percent to an average of 0.37 percent of the transaction amount. This reduction was considered insufficient by merchants. However, the French competition authority decided to reduce the interchange fee to 0.30 percent in 2011. After authorities took initial measures against the *Groupement des Cartes Bancaires* and significantly reduced their interchange fees, they addressed MasterCard and Visa to reduce their interchange fees too.³²¹ As a result, the *Autorité de la concurrence* was able to obtain a significant reduction in MasterCard's and Visa's fees for domestic card transactions in France. On 20 September 2013, the *Autorité de la concurrence* reached an agreement with Visa and MasterCard to reduce interchange fees for domestic payments and ATM withdrawals. However, it is important to note that Visa and MasterCard insisted that the reduction was only valid for cards issued exclusively by themselves and not for cards issued jointly with *Groupement des Cartes Bancaires*. MasterCard and Visa reduced their domestic interchange fees for card payments to 0.28 percent of the amount paid, which consisted in a reduction from their fees of 49 percent for MasterCard and 44 percent for Visa. They also agreed to reduce their fees for withdrawals to 0.55 Euro per withdrawal. In 2013, the *Autorité de la concurrence* ended its market investigation regarding interchange fees of banks and credit card organisations on cheques, credit- and debit cards.³²²

2.1.4. The debate on multilateral interchange fees in Germany

In Germany, reporting on excessively high interchange fees began during the mid-1980s. The reason behind the increased reporting on high fees was that the Eurocheque represented the most widespread payment method in Germany and was free of charge. Credit cards, on the other hand, were not free of charge for merchants, retailers or hoteliers in Germany. Nevertheless, credit and debit cards enjoyed steady popularity in Germany. In 1985, one of the first reports in the German press about excessively high interchange fees dealt with the issue in Sweden. *Der Spiegel* reported that 500 hoteliers, merchants and restaurant owners in Sweden had already started to demand reductions in interchange fees and merchant service charges from American credit card organisations.³²³

³²¹DRIF, ANNE, Cartes bancaires : l'Autorité de la Concurrence exige des banques de baisser leurs frais, in: lesechos, URL: <https://www.lesechos.fr/2011/07/cartes-bancaires-lautorite-de-la-concurrence-exige-des-banques-de-baisser-leurs-frais-410801> (24.09.2021).

³²²EUROPEAN COMMISSION, The Autorité de la concurrence obtains significant Reduction of main multilateral interchange fees charged by MasterCard and Visa on Domestic Card Transactions, in ec.europa, URL: https://ec.europa.eu/competition/ecn/brief/05_2013/card_fr.pdf (24.09.2021).

³²³Unknown author, Harter Streit um Karten-Provisionen, in: spiegel.de, URL: <http://www.spiegel.de/spiegel/print/d-13512075.html> (24.09.2021).

However, it was not long before the debate about excessive costs for credit card transactions also gained momentum in Germany. In 1987, 1.3 million Germans used a credit card, and mostly for larger purchases. At that time, German retailers stated that only one percent of total sales were generated by credit cards from American Express, Diners Club, Eurocard, or Visa. In comparison, 20 percent of sales were settled with Eurocheque. However, German merchants noticed that credit cards were mostly used by customers from urban agglomerations at that period during shopping or restaurant visits. Hoteliers, restaurant owners and merchants were aware that they could not avoid accepting credit cards even when they did not endorse them due to the high fees. Service providers resented the fact that three to eight percent of their card sales had to be ceded to the financial institutions as commission. As a result, the German trade associations demanded that banks and credit card organisations should lower their disagio rates already by the mid-1980s. Boycott threats, as already discussed by the example of French traders or petrol station owners were out of the question for German merchants. German retailers had secretly speculated that the pressure on credit card companies and banks throughout Europe would rise to such an extent that they would be forced to lower their interchange fees. However, as credit organisations and banks did not lower their interchange fees, German merchants opted for another form of boycott. As already demonstrated in the previous chapter, companies such as *Quelle*, *Ikea* or *Kaufhof* started to issue their own credit cards in cooperation with the credit organisations to increase customer loyalty through shopping advantages or higher credit limits. The idea of increasing customer loyalty was felt to be on fertile ground throughout the retail sector because they knew by issuing an own credit card, they could determine the costs for credit card transactions by themselves. As a result, the German trade associations began to think about developing their own credit card. The German businessman Ernst Gloede and the former Diners Club manager Helmut Frei from Frankfurt played a key role in concretising the plans for the *Deutsche Kreditkarte*. Helmut Frei had the necessary know-how from his time at Diners Club. Their main idea was that all contractual partners could participate in a cooperative and that the Munich private bank *Merck, Finck & Co* would manage their finances. The *Handelsverband Deutschland* (HDE) and the German Hotel and Restaurant Association were sure that their new credit card, the so-called *Deutsche Kreditkarte* would become a great success. Negotiations were already underway with various credit card organisations, which had agreed to take over the national and international billing process. This form of boycott angered German banks because the German merchant

associations had agreed several years ago with the financial sector to set up a common cash register and settlement system in Germany. Banks justified high interchange fees with the argument that they had to bear the future investments. In the end, German retailer's plans never became a reality as the banks threatened to introduce a commission on the settlement of Eurocheques in return.³²⁴

In 1989, petrol station owners in Germany got involved in the debate about interchange fees and merchant service charges. However, credit cards were enjoying growing popularity in Germany. At that time, an estimated four million credit cards were in circulation in Germany. The anger of the petrol station owners was directed against Eurocard, Visa, American Express and Diners Club and German banks. The MIFs set by banks and credit card organisations allowed petrol station owners only to generate two to three pfennig per litre. This meant that one third of the possible profit margin on a credit card payment was lost for the petrol station attendant. Therefore, countless petrol station owners decided to accept only credit card payments between 80 pfennig and one deutsche mark. However, most petrol station owners did not call for a boycott of credit cards because they did not want to annoy their customers. The German petrol station owners primarily relied on educating their customers. They distributed leaflets which explained to their customers that credit card payments would significate a loss for merchants and to every customer due to high interchange fees and merchant service charges. Furthermore, the association of petrol stations, service stations and garages and other associations complained at the federal cartel office that credit card organisations and mineral oil companies would infringe European competition law with their commissions. The accused credit card organisations felt different and replied that petrol station owners should not complain because the acceptance of credit cards would bring new customers and would allow them to sell more petrol.³²⁵

The conflict between merchants, hoteliers and petrol station owners dragged on for years and it was not until 2006 that the *Bundeskartellamt* (BKartA) began to act against interchange fees of Visa and MasterCard. The federal cartel office had received a complaint from the trade and hotel associations against interchange fees of Visa and MasterCard. The BKartA then asked

³²⁴Unknown author, *Schöner Traum*, in: spiegel.de, URL: <http://www.spiegel.de/spiegel/print/d-13524643.html> (24.09.2021).

³²⁵Unknown author, *Tankstellen, Alles im Minus*, in: spiegel.de, URL: <http://www.spiegel.de/spiegel/print/d-13498073.html> (24.09.2021).

the accused companies to comment on the allegations. The *Hauptverband des Deutschen Einzelhandels* (HDE), *Hotelverband Deutschland* (IHA), *Bundesverband des Deutschen Textileinzelhandels* (BTE) and *Bundesarbeitsgemeinschaft der Mittel- und Großbetriebe des Einzelhandels* (BAG) argued that the interchange fees represented price fixing by the two US companies in Germany. The credit card organisations reacted calmly to the accusations of the trade because they had officially registered their operations at the relevant authorities.³²⁶ On 19 January 2006, the HDE issued the following statement:

“The fee policy of the credit card organisations has prevented greater credit card acceptance in the German retail sector to this day. Only about five percent of all payments in retail are made by credit card. In other sectors, however, the credit card share of payments is about four times as high. The credit card organisations’ fee policy is to blame for the low acceptance of credit cards in the German retail business. For each payment transaction with a credit card, retailers must pay a turnover commission, the main component of which is the interchange fee. However, it is not negotiable between retailers and banks, but is fixed on the bank side by way of price agreement. It averages about 1.5 per cent of turnover.

Therefore, the German retail sector has asked the Federal Cartel Office to object to the lack of transparency of the Mastercard and Visa rules as a violation of the ban on cartels and to put an end to the current practice of the interchange fee. At the end of this procedure, according to the retailers, the interchange fees should be significantly lowered, and more transparency should be created for all market participants as well as the competition, which has been largely eliminated so far, should be stimulated.

With this initiative, the German retailers are in good company, as the rigid and excessive credit card fees are the subject of antitrust disputes in many European countries. A first decision of the British Cartel Office is available. In Spain, to avoid a decision by the antitrust authority there, the card organisations have agreed on a gradual reduction of the interchange fees until 2008 to a level between 0.54 and 1.10 percent depending on the card turnover and an independent review of the system costs. The HDE is supported in its approach by the Federal Association of German Textile Retailers (BTE), by the Federal Working Group of Medium-sized and Large Retailers (BAG) as well as by the German Hotel Association (IHA).”³²⁷

It becomes clear that the German retail sector not only complained because of high interchange fees but that their fees would be responsible for the stagnation of the acceptance of credit cards

³²⁶Unknown author, Einzelhandel macht Druck bei Kreditkarten, in: handelsblatt, URL: <https://www.handelsblatt.com/unternehmen/handel-konsumgueter/einzelhandel-kritisiert-zu-hohe-gebuehren-kartellamt-macht-druck-bei-kreditkartengebuehren/2602670-all.html> (24.09.2021).

³²⁷HANDELSVERBAND DEUTSCHLAND, Beschwerde gegen Visa und MasterCard beim Kartellamt, in: einzelhandel, URL: <https://einzelhandel.de/themeninhalte/zahlungssysteme/528-themen/zahlungssystemeundkartenzahlung/9138-beschwerdegegenvisaundmastercardbeikartellamt> (24.09.2021).

in Germany. The complaint was directed against the domestic interchange fees that must be paid by the merchant's bank to the cardholder's bank when processing payment transactions with MasterCard and Visa credit cards in Germany.³²⁸ German retailers wanted to reduce interchange fees to rebalance the merchant service charge, as the interchange fee is an essential part of the MSC as already discussed. In Germany, the interchange fees represented between 85 percent and 90 percent of the merchant service charge regarding credit card transactions. As already demonstrated by the French service providers, this was also not negotiable for the German merchants.³²⁹ After the BKartA received the complaints against MasterCard and Visa, authorities immediately began their investigations against MasterCard and Visa. During this period, they also conducted investigations against interchange fees of German banks especially regarding their debit cards. One year before the BKartA announced its results of their investigations against MasterCard and Visa, it concluded that there was no justification for interchange fees set uniformly by German banks regarding their debit cards. The BKartA stated that interchange fees for debit cards must be drastically reduced for merchants. To achieve this goal, it was decided that retailers could now directly negotiate about interchange fees for debit transactions with their bank.³³⁰ The German federal cartel office discontinued its investigations regarding the interchange fees of MasterCard and Visa credit card transactions in 2015. The BKartA announced that it had sufficiently examined the extent to which the joint setting of the interchange fee by the card-issuing banks and credit card organisations violated European and national cartel law. Based on the European Union regulation No. 2015/751, which entered into force on 8 June 2015, the BKartA decided that credit card organisations and banks had to accept a limitation of the interchange fee for credit cards to a maximum of 0.3 percent of the respective card amount. In addition, the BKartA underlined that it would adopt European regulations in the future early on to improve competition at the German card payment market. Finally, the BKartA announced to the merchants that the termination of the administrative proceedings

³²⁸HANDELSVERBAND Deutschland, Zusammenfassung der beim Bundeeskartellamt eingereichten Beschwerde gegen Interbankenentgelte bei nationalen Kreditkartentransaktionen, in: einzelhandel, URL: <https://einzelhandel.de/images/importedImages/44826/Zusammenfassung-Interbankenentgelt.pdf> (24.09.2021).

³²⁹HANDELSVERBAND DEUTSCHLAND, Interbankenentgelte der Kartenorganisationen, <https://einzelhandel.de/images/importedImages/44826/Hintergrundinformationen-Interbankenentgelt.pdf> (24.09.2021).

³³⁰Unknown author, Einheitsgebühr fällt, in: manager-magazin, URL: <https://www.manager-magazin.de/finanzen/artikel/a-963314.html> (24.09.2021).

should not prevent affected merchants from taking civil action against interchange fees, also as regards the past.³³¹

2.1.5. The debate on multilateral interchange fees in Luxembourg

In Luxembourg, the debate on multilateral interchange fees did not arise to the same extent as France or Germany. The debate took place in Luxembourg between the early 1990s and the mid-2000s. In 1992, there was a boycott of credit card payments in Luxembourg. The background to this was the *death of petrol stations*, as according to the *Fédération des Exploitants de Stations-Service*. Over a period of five years, the number of petrol stations had shrunk from 447 to 359. The association of Luxembourgish petrol stations blamed this development on the low profit margins on petrol sales. Albert Lahyr, the president of the *Fédération des Exploitants de Stations-Service*, claimed that profit margins had not been increased since 13 June 1988 by the government, banks and credit card organisations, despite increased operating and living costs. It must be mentioned here that the gross profit margin of petrol station operators per litre of petrol had been steadily increasing over the past 10 years. In 1973, a petrol station owner earned around 0.63 Luxembourg francs per litre of petrol. In 1988, the profit was 1.17 Luxembourg francs. Albert Lahyr nevertheless took the view that it was only 0.60 Luxembourg francs per litre of petrol, because one had to consider that after deducting the rent or the costs incurred for credit card payments, a petrol station owner only had 0.60 Luxembourg francs left. The association then expressed dissatisfaction to the ministry of economic affairs. The complaints of the petrol station owners were ignored, however, as they were aware that despite these accusations, the profit margins per litre of petrol sold had actively increased. According to the state authorities, the enormous turnover of petrol made up for the loss of the stagnating profit margins. However, the petrol station owners were not satisfied with the government's response, as it was pointed out that this only applied to the border petrol stations but not to the inland petrol stations. From the point of view of petrol station owners, only the state, banks, credit card organisations and the mineral oil companies profited from the increased sale of petrol. Moreover, as already demonstrated in the previous chapters, credit cards were very popular in Luxembourg and were used to pay at the pump. Thus, the boycott of credit card payments was the only direct means by which Luxembourg petrol station owners could fight back, as the cost of credit card payments was also significantly

³³¹BUNDESKARTELLAMT, Tätigkeitsbericht des Bundeskartellamtes 2015/2016, in: bundeskartellamt, URL:http://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Taetigkeitsberichte/Bundeskartellamt%20-%20T%C3%A4tigkeitsbericht%202015_2016_Dokumentenband.pdf?__blob=publicationFile&v=4 (State: 24.09.2021).

affecting their profits. The *Fédération des Exploitants de Stations-Service* then recommended that its members only allow credit card payments for sums over 1,000 Luxembourgish francs. The federation justified its decision by saying that the operator of a petrol station would lose a quarter of his net profit margin through credit card payments. Banks as well as credit card organisations saw this as a clear breach of contract.³³² The conflict over the excessively high interchange fees and merchant service charges reached a highpoint in 1995. The Luxembourgish trade association intervened. An increasing number of customers in Luxembourg paid their purchases by card, which led to the development that merchants surcharged their customers on the advice of the trade association. In this way, the trade association made surcharging acceptable to counter the increase in credit and debit card commissions by Cetrel. Cetrel argued that the rising costs for domestic credit card transactions resulted from the need to upgrade its application software, hardware, and the entire infrastructure of its payment networks to the latest technology. However, Cetrel reacted calmly to the accusations, as it was aware that most merchants included the card fees in the displayed sales price anyway.³³³ In 2004, it finally came to a satisfactory agreement between the *Confédération luxembourgeoise du Commerce, Fédération des artisans et Horesca* and Visa Luxembourg as well as Europay on the reduction of credit card fees for service providers. The reduction of the fee was justified by Cetrel that they had noticed a huge increase in credit card payments between 2003 and 2004. Therefore, the disputes between merchants, banks and credit card organisations were settled, but surcharging was quietly accepted.³³⁴

It is therefore not surprising that after 2005, Luxembourg's media coverage of interchange fees and merchant service charges focused on what was happening in other European countries or on the decisions of the European Union regarding the multilateral interchange fees from MasterCard and Visa. However, these were mostly reproductions of articles of the German national press agency. For example, on 24 November 2004, one could read the following article could be read from the *Deutsche Presse Agentur* in the Luxembourgish press:

“Berlin. German retailers and the hotel industry have filed a complaint with the Federal Cartel Office against what they consider to be excessively high credit card fees charged by MasterCard and Visa. The

³³²Unknown author, *Zank an der Zapfsäule*, in: d'Lëtzebuenger Land, Nr. 45, 06.11.1992, p. 7.

³³³Unknown author, *Main-basse sur le client*, in: d'Lëtzebuenger Land, Nr. 30, 28.07.1995, p. 7.

³³⁴Archive Luxemburger Wort, Sammelmappe Elias 7, Luxemburger Wort, Visa et MasterCard, Ressort: Varia /Lokales, 24.11.2004.

Hotelverband Deutschland (IHA) and the Hauptverband des Deutschen Einzelhandels (HDE) are demanding a significant reduction in the fees paid to the banks and more transparency by Visa and MasterCard. This was announced by the associations in Berlin on Thursday.

*While in retail only about five per cent of all payments are made by credit cards, in the German hotel industry it is estimated to be about 40 to 50 per cent. "The fee policy of the credit card organisations has prevented greater acceptance in the retail sector to date," said Stefan Schneider of the HDE. For each payment by Visa or MasterCard credit card, hotels, restaurants and shops must pay a turnover commission. As Markus Luthé, General Manager of the hotel association IHA, explained, the main part is the interchange fee, which is not negotiable. It is rather "determined on the bank side by way of price agreement" and is on average 1.5 percent of turnover."*³³⁵

In the following years to come, the press coverage regarding domestic and multilateral interchange fees in foreign countries was mostly uncommented and not critically examined as demonstrated in this case. The reporting could mostly be found, as demonstrated here by the example of the *Luxemburger Wort*, in the short news or the economic and financial section of the daily newspaper. Thus, the reporting was primarily aimed at a small group of people interested in finance. However, the coverage of the HDE's accusation against the banks as well as MasterCard and Visa continued, but in 2005 the focus of the reporting changed. As a result, the European Union's investigations against Visa and MasterCard, as well as the regulation of the cashless payment market regarding debit and credit cards, became the main subject. Here, primarily the European Union's view of the developments in payment traffic and multilateral interchange fees was reproduced. As a result, the views of leading European Union representatives were regularly featured, such as those of the European competition commissioner Neelie Kroes in 2006, who, while refraining from pillorying credit card companies and banks, pointed out that credit card payments needed to become cheaper across Europe. As early as 2006, she spoke clearly in favour of making prices more transparent for businesspeople, service providers, and consumers. If this were not the case, banks and credit card organisations would have to reckon with legal measures being taken by the European Union. She also presented the results of the European Union's investigations, which showed that banks and credit card organisations had created unfair barriers for new providers with their MSC and MIFs, thus making it almost impossible for new players to enter the market. This

³³⁵Archive Luxemburger Wort, Sammelmappe Elias 7, Luxemburger Wort, Deutscher Einzelhandel, Kartellbeschwerde gegen Visa und MasterCard, Ressort: Wirtschaft und Finanzen - Économie et Finance 20.01.2006.

distortion of competition would drive up the cost of credit and debit cards. The problem would be exacerbated if financial institutions positioned themselves as joint ventures against retailers. According to the European Union, MasterCard, and Visa fees were alarmingly high and varied from country to country.³³⁶ Hence, the attentive reader was able to follow the developments on the European payment market in detail from the Luxembourgish press. However, it was noticeable that the European Union was increasingly taking the side of merchants and consumers at least in its external communication. Neelie Kroes proudly announced that costs would go down for everyone, especially traders. Furthermore, she underlined that credit card organisations and banks would have to face significant changes in European legislation regarding the cashless payment market in the coming years. Just as a reminder a year ago she had not wanted to judge banks and credit card organisations for their business model regarding MIFs. However, the analysis of the media coverage between 2005 and 2015 in Luxembourg demonstrates that the European Union, started to mobilise merchants across Europe and tried to respond to their needs from the 2000s. The main reason behind this was because the European Union wanted to push its own agenda, namely, to combat the fragmentation of the European payment market, to create innovation and to protect the consumer due to more transparency of price structure in the debit- and credit card market. This development becomes clear by the analysis of the Luxembourgish press landscape. In 2009, *The Luxemburger Wort* reported that MasterCard had to reduce fees for merchants and banks for cross-border credit card payments as of 1 July 2009 under pressure from the EU competition authority. The European competition commission wanted consumers and retailers to benefit from more transparent and efficient interchange fees. As a result, MIFs were reduced to a maximum of 0.3 percent for credit cards and a maximum of 0.2 percent for debit cards. In 2007, these fees ranged from 0.8 to 1.9 per cent for Mastercard transactions and from 0.4 to 0.75 percent for Maestro transactions. However, MasterCard remained firmly of the opinion that the now established fees were too low to stimulate competition in the card market to create new innovations. Furthermore, these regulations could eventually also discourage new actors from entering the card payment market. According to MasterCard and Visa, low fees might be beneficial for merchants and consumers, but they would not create financial incentives for new competitors. However, the reporting on MIFs and MSCs continued to ripple along without

³³⁶Archive Luxemburger Wort, Sammelmappe Elias 7, Luxemburger Wort, Deutsche Presse-Agentur Brüssel kippt MasterCard-Gebühren Preise im Handel sollen sinken / Auswirkungen auf Visa erwartet, Ressort: Wirtschaft und Finanzen, 20.12.2007.

going into more detail.³³⁷ Consequently, the reports focused on the regulation of multilateral interchange fees by the European Union in 2015. The regulation included a cap on multilateral interchange fees for cards issued and used in Europe. The multilateral interchange fee regulation was intended to create an equal competitive environment for all players in the credit card business especially for intra-EEA card payments.³³⁸ This makes it clear why the European Union was no longer satisfied with MasterCard's reductions and commitments. MasterCard had to pay 570 million euros in fines because they had violated EU antitrust regulations with their multilateral interchange fees in 2019. However, as already demonstrated, the multilateral interchange fees were harmonised across Europe at the end of 2015. Until then, they differed significantly from country to country. As a result, merchants in European countries with high fees were therefore forced to charge higher costs. The European commission concluded that this approach had led to an artificial restriction of the European internal market and a limitation of cross-border competition. MasterCard was aware of the infringements. However, since MasterCard had always cooperated with the European Union since 2007, their fine was reduced by ten percent. In conclusion, it can be said that there was no debate in Luxembourg on interchange fees to the same extent as it took place in France and Germany because customer surcharging was quite accepted. However, the reporting of the Luxembourgish press allowed deep insights of what was happening behind-the-scenes the European card market.³³⁹

2.1.6. Conclusion

The debate about interchange fees between banks, credit card organisations, and merchants, hoteliers as well as restaurant owners began already in the 1970s in France. Here, as in Luxembourg and Germany, it was primarily a matter of domestic interchange fees and merchant service charges, which in the opinion of the service providers were completely arbitrary and non-transparent. Banks and credit card organisations within the entire geographic area argued that their pricing and conditions policies regarding payment card transactions were necessary to amortise their payment platforms. If we take the example of the *Groupements des*

³³⁷Archive Luxemburger Wort, Sammelmappe Elias 7, TRUTTMANN, Marianne, EU verzichtet auf Verfahren gegen MasterCard Kreditkartenkonzern sagt Gebührensenkung ab 1. Juli dieses Jahres zu, in Luxemburger Wort, Ressort, Économie et Finance 02.04.2009.

³³⁸EUROPÄISCHE KOMMISSION, Kommission akzeptiert Verpflichtungen von MasterCard und Visa zur Senkung der Interbankenentgelt, in: ec.europa, URL: https://ec.europa.eu/germany/news/20190429-mastercard-und-visa_de (24.09.2021).

³³⁹Archive Luxemburger Wort, Sammelmappe Elias 7, Luxemburger Wort, MasterCard muss büßen, EU-Wettbewerbshüter verhängen empfindliche Strafe gegen den US-Kreditkartenanbieter, Ressort, Wirtschaft und Finanzen, 28.01.2020.

Cartes Bancaires from 1984 and its SNCP system, which incurred high costs to set up a nationwide ATM, POS and clearing system in France, such an argument is legitimate. However, by the beginning of the 1990s at the latest, these systems had been paid off and there was still no complete transparency in the cost composition that arose for the service providers. It is therefore not surprising that in the 1990s petrol station owners joined the debate in Germany, Luxembourg, and France. In the meantime, the debate had not only become the focus of the press but had also been brought to the attention of the national competition commissions and the European Union by the retailers, which sparked investigations into interchange fees at both the national and European level. As a result, banks and credit card organisations came under so much pressure that they had to lower their pricing strategy. However, the analysis of the debate on interchange fees demonstrates that this type of pricing policy led to credit cards being less accepted by the population. Service providers played a significant role in this development, as they began to boycott credit card payments out of frustration due to high interchange fees. Furthermore, the case of the *Handelsverband Deutschland* (HDE), which filed a lawsuit against MasterCard and Visa in 2006 in Germany, showed that high interchange fees had considerably slowed down the acceptance of credit cards. From the analysis of the debate on interchange fees in France, Luxembourg, and Germany, it becomes clear that card payment systems of all kinds are network goods. If one player does not play along, the whole system can falter, and the spread of payment cards is slowed down. In Luxembourg, however, this did not become a problem, as banks, credit card organisations and merchants began early on to pass on the costs of a credit card transaction to their customers in the form of surcharging. Surcharging was only banned in 2015 as part of PSD II. However, especially since the 2000s with the Visa I and II judgements, the multilateral interchange fees of MasterCard and Visa came into the focus of the European Union due to the pressure that had arisen. The European Union then began to address the concerns of service providers with the interchange fee regulation of 2015. However, the European Union also realised that the regulation of multilateral interchange fees was an excellent compromised marketing tool to increase the acceptance of debit and credit cards. In an increasingly interconnected European digital and single market, this was necessary to create a single accepted means of payment across Europe. This explains, among other things, the ambivalent attitude of the European Union towards MIFs. However, the debate on MIFs also shows that internal marketing strategies, especially when it comes to pricing the cost of the credit card transactions for merchants, and non-existent regulations on MIFs can lead to a significant slowdown in the acceptance of credit cards.

Merchants are primarily opposed to the domestic interchange fees and merchant service charges imposed by banking associations and credit card organisations. In this case, it was primarily merchants, restaurants, and petrol station owners who protested the excessively high costs and passed them on to their customers in the form of surcharging. Thus, the debate on interchange fees had a considerable influence on the pricing and condition policy of banks and credit card organisations, as domestic and multilateral interchange fees were strongly regulated by the European Union and national competition authorities to create a uniform European payment market.

2.2. Reporting of credit card and ATM fraud

Payment card fraud in general increased throughout Europe from the late 1970s. Before the rise of credit card and ATM fraud, however, bank robberies and counterfeit cheques caused banks the most troubles. However, with the implementation of ATMs on bank facades, robberies shifted from within the bank to its exterior. With the rising number of bank robberies in Europe during that period, banks had to deal with an image loss that their branches were not safe for their customers and employees. As a result, European banks began to reconsider their security measures of their branches. For example, between 1976 and 1977, the number of bank robberies in Germany increased by 34 percent in one year. This dramatic increase put the German banking industry and politicians on alert. Consequently, the federal Minister of the Interior, Werner Maihofer, developed a plan with the entire German banking industry in 1977 to increase security measures in bank branches. The implemented security regulations included the reduction of cash at bank counters, the installation of cameras for the surveillance of counter halls as well as security training for bank employees. The regulation to reduce the amount of cash, however, only applied to the cashier's counter but not to ATMs. In a sense, ATMs were transformed into cash safes. In this way, security within the banks increased, but crime shifted to the outside.³⁴⁰

Therefore, it is not surprising that payment card and ATM fraud increased in the preceding decades. ATM and payment card fraud was advantageous for criminals, who no longer had to enter banks heavily armed in order to obtain cash. Until now, the two most common fraud

³⁴⁰Archive Banque Générale du Luxembourg BNP Paribas, *Reduzierung des griffbereiten Bargeldbestandes an den Kassenschaltern*, 1977.

variants at ATMs include lost and stolen payment cards as well as counterfeit cards.³⁴¹ However, by entering one's personal identification number and the credit card into an ATM, a bank customer gains access to his or her personal current account. Over the years, criminals developed various ways to intercept the cardholders' data entered during the authorisation process. For example, criminals set up fake ATMs that looked and functioned like real ones. Instead of receiving money, the customers' data was intercepted. The intercepted data could then be used to cause financial losses to the cardholder but also to steal their identity. With the advent of the internet, credit card fraud due to the interception of customers' sensitive data drastically increased since the late 1990s.³⁴² At present, by using cardholders stolen data, criminals primarily commit card-not-present fraud via the Internet, e-mail, or telephone.³⁴³

2.2.1. Increasing trust through security

Considering increasing fraud and the lagging acceptance of digital payment methods as a result, trust became an essential factor in the long-term relationship between financial institutions and their customers. This made it essential for banks to cultivate and maintain trust of their own customers in a financial services or products. Recent research defines trust in a business relationship as the conviction that contractual partners will always act in the best interest of each other.³⁴⁴ However, the crux of trust is that it cannot be contractually specified. As a result, both business partners rely on the integrity of the other. A customer expects that a company will always act in their best interest and in a problem-solving way. Customers define problem-solving as the company's motivation to recognise and satisfy the customer's needs. Therefore, reliability, integrity, credibility, goodwill, and the ability of the company to solve a problem play a decisive role for the customer when entering a business relationship with a company. It should be noted that trust is a cognitive evaluation of a company's activity. Therefore, the customer's decision to enter a business relationship with a company is based on how the potential partner has performed in the past. Trust represents the highest motivation of a customer to enter a business relationship with a company. In the case of retail banking services,

³⁴¹EUROPEAN CENTRAL BANK, *Sixth report on card fraud*, in: ecb.europa, URL: <https://www.ecb.europa.eu/pub/cardfraud/html/ecb.cardfraudreport202008~521edb602b.en.html#toc3> (State:14.10.21).

³⁴²DENNIS, Michael Aaron, *Cybercrime*, in: britannia, URL: <https://www.britannica.com/topic/cybercrime/ATM-fraud> (State:14.10.21).

³⁴³EUROKARTENSYSTEME & DEUTSCHE KREDITWIRTSCHAFT, *Card-not-present-Fraud*, in: kartensicherheit, URL: <https://www.kartensicherheit.de/oeffentlich/newsletter/alle-artikel/artikel-2018/kartensicherheit-de-erklaert-card-not-present-fraud.html> (State:14.10.21).

³⁴⁴MARINKOVIC, Veljko & OBRADOVIC, Vladimir, *Customers' emotional reactions in the banking industry*, in: *International Journal of bank Marketing*, Vol. 33, No 3, 2015, pp. 243-260.

a trust relationship between customer and the bank develops through the interaction with bank employees or the customers perception of a bank's management strategies. Therefore, banks and credit card organisations realised early on that their customers' trust in cashless payment transactions represented the decisive growth factor in an economy of scale. However, the security of non-cash means of payment was a risk factor, as parties involved in a transaction are not in the same place. Especially with transactions on the Internet, the possibility of direct exchange with bank employees is not given. However, this social bond is crucial for the customer when deciding to use a financial service.³⁴⁵ Thus, it is not surprising that the *European Central Bank* (ECB) concluded in its working paper, *how do speed and security influence consumers' payment behaviour*, by Scott Schuh and Joanna Stavins that speed and security significantly increase the acceptance of credit cards. Therefore, the ECB wants to increase European banks' awareness that the customer's usage rate of non-cash means of payment depends on their perception. A customer who perceives a credit card as secure will regularly use it. The ECB suggests that banks should specifically work with all non-cash payment stakeholders to develop and implement security standards for non-cash payment methods, as this will inevitably lead to an acceleration of credit and debit card acceptance.³⁴⁶

Credit card organisations were aware of their customers trust issues due to credit card security breaches. Therefore, they tried to regain and strengthen customers trust by developing and introducing new security standards with the rise of the Internet. Moreover, with the advent of the internet, credit card organisations wanted to establish credit cards as the primary online payment method. With the EMV'96 standard, MasterCard, Visa and Europay introduced a security standard for their payment cards in 1996. This standard enabled a correct operation and interoperability for credit and debit cards at all ATMs and POS worldwide. The EMV standard is a specification for payment cards equipped with a processor chip. The abbreviation EMV stands for the credit card organisations Europay, MasterCard and Visa.³⁴⁷ The migration to the EMV standard for ATMs and POS terminals was almost complete in the European Union by the end of 2011. European banks as well as companies had already started upgrading their payment cards with the EMV standard in the late '90s. The EMV standard significantly

³⁴⁵MARINKOVIC, Veljko & OBRADOVIC, Vladimir, *Customers' emotional reactions in the banking industry*, in: *The international journal of bank marketing*, 2015, pp. 243-260.

³⁴⁶SCHUH, Scott & STAVINS, Joanna, *How do speed and security influence consumers' payment behavior*, Working Paper for the European Central Bank, No 1871, December 2015.

³⁴⁷HANSMANN, Uwe & NICKLOUS, Martin & SCHÄCK, Thomas, & SCHNEIDER, Achim & SELIGER, Frank, *Smart Card Application Development Using Java*, Berlin, Heidelberg, Springer-Verlag, 2002, pp. 76-79.

increased the use of credit and debit cards at ATMs and POS, as it drastically reduced fraud.³⁴⁸ However, credit card companies also began to think about how credit cards could become a safe online payment method to increase their acceptance in the digital because credit card fraud on the Internet had become a considerable problem on an international scale during that period. These considerations led to a cooperation of Visa and MasterCard as well as other credit card organisations such as American Express in 1996. The result of this cooperation was the secure electronic transaction protocol (SET) which allowed them to introduce a common standard for credit card transactions on the Internet. The SET protocol made it possible to create digital certificates that certified trustworthiness of each participant in a credit card transaction online. Within this context, the cardholder's certificate was the equivalent of the credit card, while the merchant's certificate corresponded to the Visa sign hanging up in his/her shop window. The advantage of the SET protocol was that no alternative means of payment was created, but the processing of ordinary payment transactions was transferred to the Internet.³⁴⁹

In 1996, Visa and Mastercard already stated in their description of the SET protocol that their security standard would promote greater acceptance of payment cards on the Internet. They promised a level of security that would encourage consumers and businesses to use credit cards in online commerce. Their payment information would be secure through SET and could only be viewed by intended recipients. Furthermore, the introduction of the SET protocol was necessary according to Visa and MasterCard because the relatively unsecured transmission of account information had already generated a lot of negative press worldwide.³⁵⁰ It is therefore not surprising that Visa developed the security standard 3D-Secure under the name Verified by Visa in 2000. MasterCard used the same protocol to secure credit card payments on the Internet, but under the name MasterCard secure code. Visa, in cooperation with the company *WorldPay*, tried to implement the security standard in Europe beginning in the 2000s within the framework of its *Secure Commerce Programme*. However, since there was no 3D secure infrastructure in Europe at that time, European banks slowly began offering this security standard only at the end of the research period.³⁵¹ By analysing the reporting of ATMs and credit card fraud, this

³⁴⁸EUROPEAN CENTRAL BANK, Second report on card fraud, in: ecb.europa, URL: <https://www.ecb.europa.eu/pub/pdf/cardfraud/cardfraudreport201307en.pdf> (State:14.10.21).

³⁴⁹Webpage Universität Mannheim, uni-mannheim.de, archived on 09.02.1999 by Internet Archive, URL: <https://web.archive.org/web/20160305083848/http://trumpf-3.rz.uni-mannheim.de/www/sem96s/webrum.uni-mannheim.de/bwl/zenner/seminar/set.htm> (State:14.10.2021).

³⁵⁰MASTERCARD & VISA, SET Secure electronic transaction specification, Book 1: Business Description, Version 1.0, May 31, 1997, p. 2.

³⁵¹BÖHMER, Thomas, *Der Einsatz von Kreditkarten zur Abrechnung von Leistungen aus dem Internet*, e-book, Diplomica Verlag, 2004, pp. 62-71.

chapter demonstrates how the spread of credit cards decelerated due to the reporting of credit card as well as ATM fraud, and which countermeasures banks took to increase and ensure people's trust in debit and credit cards as well as ATMs. In addition, it can be demonstrated how consumers' and cardholders' fears about the use of credit cards were stirred up by the press over decades. It should be noted that credit card fraud figures from individual countries vary considerably when compared with the figures of the ECB, as most countries use different data collection methodologies as the ECB. For example, the methodology of the ECB's credit card fraud data collection is very different from the *Banque de France*'s data collection. These differences are mostly due to the inconsistency of reporting of credit card fraud by individual countries to European institutions. The third part of this dissertation deals with the aspect of how this trend of more credit card transactions through security and speed came about.³⁵²



Figure 20 – MasterCard SecureCode & Verified by Visa Logo.³⁵³

2.2.2. ATM and credit card fraud in France from the 1970s until the 2010s

In France, bank robberies increased between 1975 and 1985. In particular, the robberies of Jaques Mesrines, Albert Spagaria or the *Gang des Postiches* were heavily mediated by the French press during this period. The French banks had to combat against the reputation that their bank branches were no longer safe. As a result, French banks saw ATMs as a solution to reduce the amount of cash in their branches.³⁵⁴ Taking this step was inevitable for banks, as the entire banking system in France was in a state of transformation. From the end of the 1960s to the mid-1980s, the so-called *course aux guichets* took place in France, which was stimulated

³⁵²EUROPEAN CENTRAL BANK, Sixth report on card fraud, (State:14.10.2021).

³⁵³Archive Banque Générale du Luxembourg BNP Paribas, Information sheet about MasterCard Secure Code and Verified by Visa, no date.

³⁵⁴RENAUD, Ninon, Le DAB, ancêtre de la banque mobile, in: lesechos, URL: <https://www.lesechos.fr/2016/08/le-dab-ancetre-de-la-banque-mobile-1112334> (State:14.10.2021).

by the evolution of banks towards universal banks. As a result, French banks opened countless new branches and a gigantic branch network emerged. The French banks wanted to reduce overhead costs through economies of scale. In addition, the liberalisation of branch opening highly encouraged the development. By 1973, there were at least 10,000 bank branches in France. In 1968, there were just under 3250.³⁵⁵ Universal banks focus simultaneously on different customer groups in payment transactions, placement, financing as well as money and investment business.³⁵⁶ Also in France, after the security in the bank branches was improved, crime shifted to banks' exterior. On 3 April 1986, the *Le monde* reported for the first time of credit card fraud in connection with the *Carte Bleue internationale*, Eurocard, and MasterCard. Fraudsters used counterfeit credit cards to obtain cash from the ATMs of the *Groupement des Cartes Bancaires*. The highest fraud rates occurred in Paris during that period. This is not surprising as in Paris there were more than 2,000 ATMs out of 85,000 all over France. According to the banks, credit card fraud in this case had been possible because not all ATMs were connected to their central data centres and thus did not operate in real time. A spokesperson of the *Groupement des Cartes Bancaires* commented on what happened as follows:

*“Several banking networks were affected using false cards over the weekend. As soon as they noticed the fraud, some networks automatically blocked all their ATMs, and we detected several dozen abnormal transactions on Tuesday morning. However, other machines continued to dispense their banknotes, and we need to fully count these last transactions so that we can determine the extent of the fraud. Only then will it make sense to separate the well-intentioned cardholders whose cards were probably copied from those who made fraudulent withdrawals using a code number known not only to them.”*³⁵⁷

Copying a payment card was relatively easy at the time because it worked with magnetic strips. Over the years, reports of credit card fraud in France intensified. Criminals did not limit their practices to urban areas with a high number of ATMs, but also extended their criminal activities to rural areas. On 19 October 1989, the gendarmes of the Grenoble research department arrested Mr Jean-Claude Nave. Jean-Claude Nave was the head of a gang that specialised in stealing debit and credit cards. The thieves stole more than 300 cards and caused a financial

³⁵⁵THIVEAUD, Jean-Marie, *Les évolutions du système bancaire français de l'entre-deux-guerres à nos jours*, in: *Revue d'économie financière*, 1997, pp. 27-74.

³⁵⁶SCHÖNING, Stephan, Universalbanken, in: wirtschaftslexikon.gabler, URL: <https://wirtschaftslexikon.gabler.de/definition/universalbanken-50307> (State:14.10.2021).

³⁵⁷MARTI, Serge, *Fraudes pascales sur les distributeurs de billets*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1986/04/03/fraudes-pascales-sut-les-distributeurs-de-billets_2918866_1819218.html (State:14.10.2021).

loss of 10 million francs with the stolen bank cards. The criminals primarily took advantage of cardholder negligence. The police announced that many cardholders who were robbed had left their pin on the card or on accompanying documents.³⁵⁸ The banks made countermeasures against fraud and to allay customers' fears of financial loss. Since the 1990s, almost all ATMs were connected to data centres and operated online. This meant that the computer centres of the banks and the authorisation centres of the *Groupement des Cartes Bancaires* were connected to one another. This had not been the case until then. As a result, each time a withdrawal was made, the authorisation centre could compare the transaction with the previous one and, if no irregularities were detected, give its approval. This procedure had become necessary because credit and debit card fraud not only slowed down the acceptance of the means of payment within the population, but also caused the *Groupement des Cartes Bancaires* a financial loss of 1 percent of the annually turnover at the end of the 1980s.³⁵⁹

2.2.2.1. The large-scale introduction of the *carte à puce* [chip card] against fraud in the 1990s in France

From the mid-90s onwards, banks slowly began to install video cameras above ATMs to offer more security to bank customers. The video cameras were programmed so that the withdrawal process was linked to the video camera tape. This made it possible to identify the perpetrator of the withdrawal or, in the case of an assault on a person who was forced to withdraw money under threat of physical violence, to provide evidence.³⁶⁰ To counter rising debit and credit card fraud, the *Groupement des Cartes Bancaires* decided on 6 January 1993 to prohibit cards with only magnetic stripes. It should be noted that the French retail sector was not very happy about this decision. The ban on payment cards without a chip meant that French retailers had to invest heavily in new POS capable of reading a *carte à puce*. Even before the final decision in January 1993, banks had already started to equip the *Carte Bleue*, Visa, Eurocards and MasterCard with chips. The French banks justified their decision with the considerable financial losses that had been incurred in the meantime through debit and credit card fraud. In

³⁵⁸Unknown author, *A Grenoble un réseau de voleurs de cartes bancaires démantelé*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1989/10/24/a-grenoble-un-reseau-de-voleurs-de-cartes-bancaires-demantele_4126845_1819218.html (State:14.10.2021).

³⁵⁹Unknown author, *Un week-end noir devant les distributeurs de billets*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1993/06/29/un-week-end-noir-devant-les-distributeur-de-billets-la-grande-panne-du-reseau-des-cartes-bancaires_3954943_1819218.html (State:14.10.2021).

³⁶⁰Unknown author, *Les distributeurs de billets sous surveillance vidéo*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1994/07/27/les-distributeur-de-billets-sous-surveillance-video_3820358_1819218.html (State:14.10.2021).

1991, French banks lost 700 million francs to payment card fraud.³⁶¹ The background to this decision was primarily the banks' desire to create more security in cashless payment transactions. Moreover, the magnetic stripe system and the memory card system competed since the beginning of the 1970s. The *Groupement des Cartes Bancaires* began using the chip card system already in 1984. By using the chip, they succeeded in reducing fraud by 9 percent as early as 1988. It is therefore not surprising that French banks began to intensively promote the *carte à puce* at the beginning of the 1990s.³⁶²



Figure 21 – Archive BNP Paribas, Advertisement Carte Bleue, *Vous partiriez à l'improviste sans Carte Bleue*, 1992.

Nevertheless, credit and debit card fraud and computer crime became a significant problem for banks and the French government during this period. Therefore, in 1994, the French government created the *Service d'enquête sur les fraudes aux technologies de l'information* (Sefti) [Bureau of Investigation into Technical Fraud] and the *Brigade centrale de répression de la criminalité informatique* (BCRCI) [Central Brigade for suppression of Computer Crime]. Both departments were under the authority of the Ministry of the Interior. However, Sefti's scope of activity was limited to Paris. The BCRI investigated computer crime throughout the

³⁶¹Unknown author, *Disparition du „fer à repasser“*“La carte à puce obligatoire chez les commerçants”, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1993/01/08/disparition-du-fer-a-repasser-la-carte-a-puce-obligatoire-chez-les-commerçants_3927312_1819218.html(State:14.10.2021).

³⁶²BNP PARIBAS, *La carte à puce, l'invention qui a révolutionné les paiements*, in: *histoire.bnpparibas*, URL: <https://histoire.bnpparibas/dossier/la-carte-a-puce-linvention-francaise-qui-a-revolutionne-les-paiements-12/>(State: 14.10.2021).

country. This included tracking down criminals who gained access to ATMs through vulnerabilities in the software of the machines.³⁶³ It is not surprising that such institutions were founded in France already in 1994, since the Minitel, a widespread communication network, had already been connecting the French population for 10 years. French society had been ordering train tickets, doing their banking, remotely long before the Internet was established in Europe.³⁶⁴ Nevertheless, credit card fraud increased significantly, especially with the spread of the internet. A flood of reporting on credit card fraud on the internet broke over France. However, the main criticism of companies and cardholders in France was that the security of credit cards had to be improved before they could be used as a means of mass payment on the internet. There was a growing number of people calling for 40-bit encryption technology to significantly reduce the risk of credit card numbers being intercepted. Retailers were increasingly plagued by criminals gaining unauthorised access to their customers' data or manipulating their transactions.³⁶⁵

2.2.2.2. How criminals slowed down the acceptance of the credit card as online mass payment method with the emergence of the Internet in France

As a result, the debate around the security of credit card payments on the Internet intensified in France in the late 1990s. In 1998, the Internet monitoring service of the *Union des fabricants*, which tracked down counterfeits on the Internet on behalf of manufacturers, discovered a website on which 26,670 credit card numbers were stored. Of those, 339 numbers belonged to customers who had bought their credit cards from a French bank. Although the credit card numbers found did not cause any financial damage, it became clear that the criminals had found new ways to intercept sensitive data. Until then, criminals specialised in developing software that only generated unassigned credit card numbers. However, an increasing number of credit card fraud cases emerged where real cardholders were charged. The French banking association seemed overwhelmed by the new form of fraud and blamed the *Groupement des Cartes Bancaires*. The French economic interest group was aware of the new form of fraud in which real credit card numbers were used. They subsequently contacted the *Service central de sécurité des systèmes d'information* (SCSSI) to tackle the issue. The problem of credit card

³⁶³Unknown author, *Pirates*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1995/10/31/pirates_3888058_1819218.html (State: 14.10.2021).

³⁶⁴ SCHAFFER, Valérie & THIERRY, G. Benjamin, *Le Minitel, L'Enfance numérique de la France*, Nuvis, 2012, pp. 85-89.

³⁶⁵Unknown author, *La protection par le cryptage*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1997/08/30/la-protection-par-le-cryptage_3773861_1819218.html (State: 14.10.2021).

fraud on the Internet posed major problems for French banks, the government and the *Groupement des Cartes Bancaires*. Hervé Delacotte, Communications Director of the *Groupement des Cartes Bancaires*, concluded: “*In the meantime, consumers have no choice but to type in their card number, with the risks of piracy associated with payments on the internet.*”³⁶⁶

The problem of debit and credit card fraud became a considerable issue in the early 2000s. This becomes evident in the regular meetings of the Secretary of State for consumer affairs, retailers, banks, and consumer associations. These meetings focused primarily on discussing the security of bank cards. On 4 April 2000, however, the state secretary, Marylise Lebranchu, tried to play down the situation after such a meeting and emphasised that fraud related to recharging phone credit posed the biggest problem. She pointed out that fraud with debit and credit cards was less than with stolen cheques or counterfeit money. She was right in her statements, but online commerce began to flourish in France and increased the number of complaints related to credit card fraud. Between January and April 2000, the Ministry of the Interior received 7,000 complaints related to credit card fraud on the Internet. However, Marylise Lebranchu was confident that they found a tool to fight credit card fraud on the Internet because French banks developed the Cyber-Comm keypad, a chip card reader integrated in the keypad which could be connected to the home computer and secure credit card transactions on the Internet. However, the cyber-com keypad was only moderately successful and could not change the high level of credit card fraud on the Internet. Nevertheless, the French government and the *Groupement des Cartes Bancaires* recommended that merchants and Internet users should use chip card readers connected to the computer in the future.³⁶⁷ By introducing the chip card and replacing outdated ATMs and POS, French banks managed to greatly reduce credit and debit card fraud rates. In 1999, 14 percent of French Internet users agreed to pay by credit card online. However, credit card fraud on the Internet dramatically reduced the number of people willing to pay by credit card. In the year 2000, only 7 percent of French Internet users wanted to purchase goods with their credit card online.³⁶⁸ Credit card fraud became a significant

³⁶⁶LABBEE, Christophe & RECASENS, Olivia, *Cartes de crédit, les risques du Net*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1998/10/25/cartes-de-credit-les-risques-du-net_3691516_1819218.html (State: 14.10.2021).

³⁶⁷SANTI, Pascale, *Marylise Lebranchu minimise les fraudes aux cartes bancaires*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/2000/04/06/marylise-lebranchu-minimise-les-fraudes-aux-cartes-bancaires_3620822_1819218.html (State: 14.10.2021).

³⁶⁸DAMLAMIAN; Jean-Jaques & DE MAUBLANC, Henri, MORENO, Roland, *Paiements en ligne: la sécurité en toute simplicité*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/2001/02/10/paiements-en-ligne-la-securite-en-toute-simplicité_4152534_1819218.html (State: 14.10.2021).

concern for French credit institutions. They started to take their customers' fear of using their credit cards for e-commerce seriously. French banks realised that the fear of credit card fraud on the Internet had held back the development of online commerce in France. *Crédit Mutuel de Bretagne* was the first French bank which introduced a credit card exclusively designated for online shopping. The @cces Mastercard could be purchased from *Crédit Mutuel* for an annual fee of 41 euros. Other French banks decided to offer their customers the option of using a single-use card number instead of their credit card number. For example, the CIC group and *Crédit Mutuel Nord Europe*, introduced their PaywebCard service for 0.50 EUR for a one-time use and 6 EUR for an annual subscription. The *BRED Banque Populaire, Société Générale*, and the *Poste* introduced the *e-Carte Bleue*.³⁶⁹

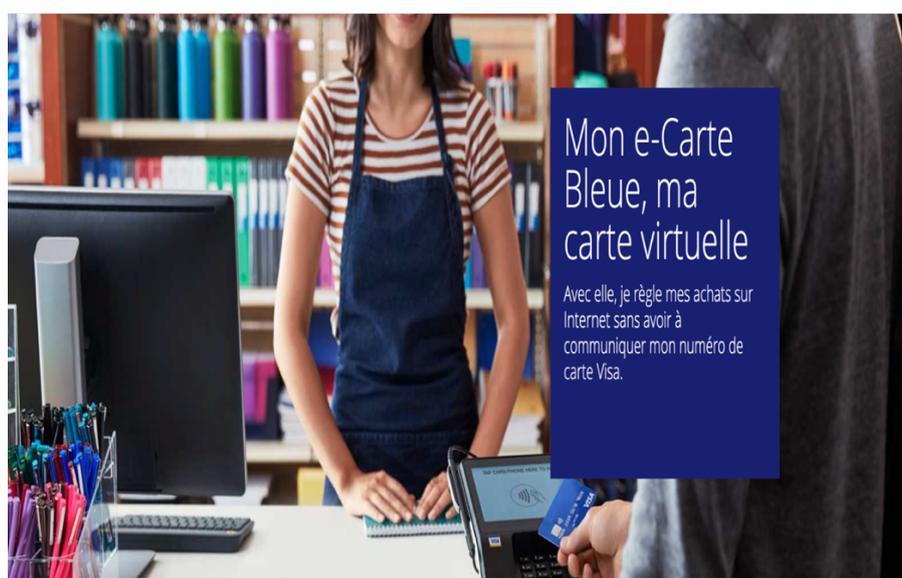


Figure 22 – Advertisement for e-Carte Bleue by Visa.³⁷⁰

It was necessary to introduce payment methods such as the *e-Carte Bleue* because many French people doubted the security of transactions on the Internet. Between 2003 and 2004, the use of the *e-Carte Bleue* climbed from 18.2 percent to 22.7 percent. The increase shows that French consumers' confidence in the security of online payment methods increased with the implementation of digital credit cards.³⁷¹ Between 2010 and 2015, credit card fraud in France continued to rise. Reports of stolen credit card numbers and personal pin numbers made the

³⁶⁹J. MO., *La peur de la fraude leur donne des idées*, in: Le Monde.fr, URL: https://www.lemonde.fr/economie/article/2005/06/11/la-peur-de-la-fraude-leur-donne-des-idees_661137_3234.html (State: 14.10.2021).

³⁷⁰VISA, *Mon e-Carte Bleue, ma carte virtuelle, Avec elle, je règle mes achats sur Internet sans avoir à communiquer mon numéro de carte Visa*, <https://www.visa.fr/pay-with-visa/ma-carte-visa/e-carte-bleue.html> (State: 14.10.2021).

³⁷¹GASTON-BRETON, Tristan & KAPFERER, Patricia, *Carte Bleue*, Paris, Cherche midi, 2004, p. 105.

headlines.³⁷² Meanwhile, France was among the countries in Europe with the highest credit card fraud rates.³⁷³ In 2020, the *Banque de France* even felt compelled to alert the public to the latest credit and debit card scams:

“Victims receive a phone call from an individual claiming to be from the “fraud department” of the Banque de France. The number of the Bank's switchboard appears on their phone. The fraudster tells them that several fraudulent purchases have just been made with their bank card and that, for him to stop them, they must give him the security code from the text message received on their mobile phone. By giving him this number, instead of stopping the fraud, the victims allow the fraudster to validate the purchases he is making on the Internet with their hacked credit card data. It seems that several purchases can be made even though only one message has been validated. This of course implies that the fraudster has their mobile phone number, and all their credit card details.”³⁷⁴

Increased security measures regarding the hardware and software of credit cards have made it more difficult for fraudsters on the Internet to exploit technical breaches to their benefit. As a result, as shown by the *Banque de France* Press release, the biggest security vulnerabilities were and remain the cardholders themselves, according to the banks. The *Banque de France*'s Non-Cash Payment Security Department indicated in 2021 that they had seen a slight decrease in credit card fraud on the internet over the last 7 years, but an increase in online payment fraud for domestic-only payments since 2020. The decrease in fraud during this period is mainly due to the double authentication systems introduced by the banks for online transactions. Double authentication is needed to validate an Internet transaction and requires the cardholder to provide two forms of identification. Here, the cardholder provides his/her card number, expiry date and security code. The cardholder is then asked to provide two forms of proof that the credit card belongs to him. Here, the cardholder who wants to carry out his transaction can choose between three options. For example, they can choose whether to provide an item that only they recognise or own. Knowledge elements are usually passwords. In the case of possession elements, these are usually smartphones. With the latest authentication elements used by banks, the cardholder can use biometric elements such as fingerprint or facial recognition. However, most French banks offered their customers double authentication via

³⁷²Unknown author, *Démantèlement du forum illégal In Fraud à suite d'une vaste opération mondiale*, in: Le Monde.fr, URL:https://www.lemonde.fr/pixels/article/2018/02/07/demantelement-du-forum-illegal-infraud-treize-arrestations-dont-une-en-france_5253424_4408996.html (State: 14.10.2021).

³⁷³EUROPEAN CENTRAL BANK, *Sixth report on card fraud*, (State: 14.10.2021).

³⁷⁴BANQUE DE FRANCE, *Fraude à la carte bancaire, par usurpation de l'identité*, in: banque-france, URL:<https://www.banque-france.fr/fraude-la-carte-bancaire-par-usurpation-de-lidentite-banque-de-france> (State:14.10.2021).

smartphone. Here, the bank customer downloads the required app from his/her bank and then validates their transaction. As a result, a double authorisation is created through an element of knowledge and possession. In 2020, only one-third of French banks offered this procedure to their customers. However, banks such as *Crédit Mutuel Arkéa* and its subsidiary *Fortuneo* offered virtual card services where a temporary virtual bank card number is created to secure credit card payments.³⁷⁵ It is clear that French banks were confronted with one of the highest level of credit card fraud in Europe since the advent of the Internet, forcing them to take countermeasures to ensure that the acceptance of credit cards as a means of payment on the Internet was not negatively affected any further.

2.2.3. ATM and credit card fraud in Germany from the 80s until the 2010s

In the early 1980s, the first reports of ATM robberies and payment card fraud appeared in Germany, where bank customers were forced to withdraw cash with their bank cards and hand it over to the criminals. The Cologne branch of the *Hamburger Verbraucherbank* was one of the first crime scenes regarding payment card fraud.³⁷⁶ During this period, however, another topic dominated the media in Germany, making German society generally sceptical about digital cashless payment methods and fuelling a certain mistrust of financial transactions in the digital space. In 1980, the first test runs for *Bildschirmtext* (BTX) began in Germany. In Berlin and Düsseldorf/Neuss, 6000 participants benefited from BTX and provided initial feedback on the new system. However, these first trial runs made only slow progress, as only every tenth BTX test subscriber was able to use the new service. One of the main reasons was that the companies commissioned by the German Post to produce the required devices such as modems could not be delivered on time. In addition, the Post stuck to the launch of BTX in July 1980. After a three-year test run, BTX was officially launched at the *Internationalen Funkausstellung* (IFA) in Frankfurt am Main.³⁷⁷ In 1984, the *Zentraler Kredit Ausschuss* (ZKA) of the German banking industry adopted the inter-institutional agreement on BTX. This agreement demonstrates the early interest of German banks in BTX as an early form of home banking.

³⁷⁵BLONDEL, Aurélie, *Paiements en ligne, les fraudes vont-elles vraiment baisser avec la double authentification*, in: Le Monde.fr, URL: https://www.lemonde.fr/argent/article/2021/07/20/paiements-en-ligne-les-fraudes-vont-elles-vraiment-baisser-avec-la-double-authentification_6088837_1657007.html, (State:14.10.2021).

³⁷⁶Unknown author, *Fast blank*, in: spiegel.de, URL: <https://www.spiegel.de/politik/fast-blank-a-6a2b494f-0002-0001-0000-000014352545> (State:14.10.2021).

³⁷⁷Unknown author, *Müder Start für Bildschirmtext*, in: spiegel.de, URL: <https://www.spiegel.de/wirtschaft/mueder-start-fuer-bildschirmtext-a-c5184452-0002-0001-0000-000014323985> (State:14.10.2021).

The agreement included uniform security standards and special conditions for the use of BTX. The ZKA specified that the bank customer would receive direct access to their account if they had a personal identification number and a transaction number list. The first thing a bank customer had to do when making a BTX transfer was to dial the bank's BTX page and enter an account number and pin. As a result, the transfer mask stored in the bank system was displayed. This process enabled the user to enter the transaction data and confirm the transaction with a TAN number from the transaction number list. Every transaction number could only be used once for security reasons. However, the user had a transaction number list of 50 to 100 of these TANs. The use of the TANs was necessary for those BTX banking services that went beyond a simple procurement of information, such as transfers or the change of the BTX -pin.³⁷⁸ Nevertheless, the *Hamburger Sparkasse* was relieved of 134.694, 70 deutsche mark by two hackers in 1984. The hack meant that data protectionists and the *Chaos Computer Club* (CCC), who were constantly questioning security during the mid-1980s. The CCC did a lot of educational work on the topic of data protection and data loss. Thus, the German population met the digital space with a critical eye as early as the mid-1980s.³⁷⁹

2.2.3.1. Eurocheque and Eurocard fraud as a key element to update ATMs in Germany

However, reports of ATM robberies and payment card fraud increased steadily from 1985 onwards. Particularly in major German cities such as Hamburg, Berlin or Munich the police registered 20 cases per month in 1985. In Germany, it was primarily cases of fraud that were carried out with stolen Eurocheque cards. This fact is not surprising as already demonstrated in the previous chapter, the Eurocheque was the most popular method of payment in Germany during that period. A criminal who was in possession of a stolen Eurocheque card could, in combination with the personal identification number, withdraw up to 2000 deutsche mark. Rainer Herrmann, Eurocheque advisor at *the Deutscher Sparkassen- und Giroverband e.V.* in Bonn, explained that with the advent of ATMs, a new field of criminals had emerged who specialised in stealing cheque cards and the corresponding personal identification numbers. He pointed out that criminals obtain payment cards during burglaries in cars or flats. Rainer Herrmann underlined that it was more difficult to obtain the personal identification number because it was given to the customer in a sealed printout. However, many customers forgot to

³⁷⁸KONERT, Bertram, *Sozio-ökonomische Aspekte und Perspektiven des Electronic Banking in der Bundesrepublik Deutschland, Technische, ökonomische und soziale Determinanten und Wirkungen*, Deutsche Hochschulschriften, 1993, pp. 238-245.

³⁷⁹GÜL ERDOGAN, Julia, *Avantgarde der Computernutzung: Hackerkulturen der Bundesrepublik und DDR*, Wallstein Verlag, Göttingen, 2021, pp. 203-251.

destroy the printout. It would be therefore no coincidence that criminals would get their hands on bank cards and personal identification numbers at the same time.³⁸⁰

Nevertheless, the number of cases of fraud with Eurocheque cards at ATMs in Germany continued to increase. Fraudsters came up with even more innovative ways to get access to the personal identification numbers of cardholders. For example, they installed a magnetic stripe reader in front of the slot of an ATM to steal the sensitive data of the customers. As a result, the number of cases of fraud with Eurocheque cards at ATMs in Germany continued to increase. Afterwards, they transferred the data to blank cards. This enabled them to duplicate the Eurocheque card and withdraw cash from ATMs. The increased incidence of fraud put German banks on alert and forced them to act. As a result, German banks began connecting ATMs through direct data transmission lines. By networking the systems, the ATMs, which were remotely controlled by central computers, could automatically refuse withdrawals if false bank cards were inserted into the machines. Until 1987, ATMs were only connected regionally to the corresponding credit institution. The banks were forced into action because fraud rates had risen considerably, discouraging bank customers from using their payment cards at ATMs.³⁸¹ Since 1990, credit card fraud rates have been rising steadily. In the meantime, credit cards had also established themselves as a cashless means of payment in Germany. The four dominant credit card providers, Eurocard, American Express, Visa and Diners Club, therefore suffered annual losses of 30 million deutsche mark through fraud with German credit cards. Despite the financial losses, German banks and credit card organisations reacted calmly to the rising numbers of credit card fraud at the beginning of the 1990s. For example, the representatives of Eurocard pointed out that financial losses due to credit card fraud would increase but were not significant regarding an international turnover of billions of US dollars.³⁸² However, the composure of the banks and credit card organisations did not last long. With the establishment of the Internet in Germany, a further stagnation in the acceptance of the credit card within the German population could be considered. The managing director of *Euro Kartensysteme*, Manfred Krüger, announced in 2000 that ten percent of all credit card transactions on the Internet had a fraudulent background. Nevertheless, those responsible at

³⁸⁰Unknown author, *Bitte entnehmen*, in: spiegel.de, URL: <https://www.spiegel.de/politik/bitte-entnehmen-a-a05a803c-0002-0001-0000-000013516233> (State:14.10.2021).

³⁸¹Unknown author, *Hacken statt knacken – Bankraub à la carte*, in: spiegel.de, URL: <https://www.spiegel.de/politik/hacken-statt-knacken-bankraub-a-la-carte-a-7dccb46-0002-0001-0000-000013520651> (State:14.10.2021).

³⁸²Unknown author, *Plus 88, Gelb 520, Rot 16*, in: spiegel.de, URL: <https://www.spiegel.de/politik/plus-88-gelb-520-rot-16-a-64b5dbdf-0002-0001-0000-000013497224> (State:14.10.2021).

Eurocard had decided to establish themselves as the market-leading online credit card in Germany. To allay the fears of credit card holders of paying by credit card on the Internet, he recommended consumers to pay on the Internet only with credit cards from companies that were known to be very reputable. However, there was still a residual risk that the data would be transmitted unsecured. In 2000, only one third of Eurocard holders used their credit card for purchases on the Internet. To prevent misuse, *Euro Kartensysteme*, in cooperation with German banks, relied on the standard for secure transactions on the Internet developed by MasterCard and Visa.³⁸³ Nevertheless, credit card fraud became a significant problem in Germany. In 2001, the federal Minister of the Interior, Otto Schilly, expressed his concerns about the increase in white-collar crime in Germany and emphasised that credit card fraud in Germany and with German credit cards abroad was particularly high. During his presentation of the German police crime statistics for the year 2000, he came to the following conclusion: “*The law enforcement authorities must therefore increasingly adjust to the risk potentials of the new technologies.*”³⁸⁴

2.2.3.2. Daily credit card scandals in Germany since the 2000s

Since the mid-2000s, not only banks, cardholders and credit card organisations were concerned about the security of their cashless means of payment, but also politicians. Although banks and politicians addressed the issue, the fear of credit card fraud on the Internet and the potential loss of personal data remained high in Germany. Reports about how one could easily hack a bank account on the Internet and obtain all the necessary login data circulated. The fear of the German population was not unjustified. In 2007, German Internet users were relieved of about 16.8 million euros by simply withdrawing money from their accounts. Throughout Germany in 2007, more than 72,000 cases of credit card and EC card fraud via the Internet and ATMs were reported across Germany in 2007. Here, the official authorities said that the real number must be much higher, since many people would not notice the loss or would not report it.³⁸⁵ The scandals resulting from data breaches in the online banking systems of banks and regarding credit card fraud peaked in Germany at the end of the 2000s. In 2008, customers of various

³⁸³Unknown author, *Eurocard, Kreditkartenbetrug ist Alltag im Netz*, <https://www.spiegel.de/netzwelt/tech/eurocard-kreditkartenbetrug-ist-alltag-im-netz-a-83868.html> (State:14.10.2021).

³⁸⁴Unknown author, *Kreditkartenbetrug hat stark zugenommen*, in: [spiegel.de, https://www.spiegel.de/wirtschaft/kriminalitaet-kreditkartenbetrug-hat-stark-zugenommen-a-135319.html](https://www.spiegel.de/wirtschaft/kriminalitaet-kreditkartenbetrug-hat-stark-zugenommen-a-135319.html) (State:14.10.2021).

³⁸⁵PATALONG, Frank, *So tickt der Schwarzmarkt*, in: [spiegel.de, https://www.spiegel.de/netzwelt/web/datendiebstahl-so-tickt-der-schwarzmarkt-a-595101.html](https://www.spiegel.de/netzwelt/web/datendiebstahl-so-tickt-der-schwarzmarkt-a-595101.html) (State:14.10.2021).

banks advised by the financial services provider Atos Worldline were victims of illegal direct debits. The *Berliner Landesbank* (LBB) was particularly affected. Unauthorised individuals used credit card receipts to obtain the access data of countless customers and emptied their accounts, as well as making extensive purchases on the Internet.³⁸⁶ One year later, the *Karstadt Quelle* Bank hit the headlines. In a letter, the bank advised its customers to have their credit cards blocked as soon as possible. The bank claimed that no customer data had been lost, but that its internal warning system had indicated that unauthorised persons might have gained knowledge of their credit card number.³⁸⁷ Due to this data scandal, German banks began to think about the use of chip cards for the first time. In addition, the banking industry developed common security standards and a common blocking system for EC cards called *Kuno*, which was intended to decrease fraud in the case of stolen or lost cards.³⁸⁸ The confidence of Germans in credit cards as a cashless means of payment was not generally fostered by the banks. In 2009, the German savings banks exchanged 190,000 credit cards as a precautionary measure to prevent credit card fraud. The precautionary exchange of credit cards was common practice in Germany during this period. However, this approach strengthened the assumption of the German population that credit cards were not safe.³⁸⁹

In 2010, the series of scandals from the 2000s surrounding credit and debit cards came to a peak. The so-called “2010 bug” once again showed German citizens that debit and credit cards were not yet fully developed as a cashless means of payment. The 2010 bug was a software error on the memory chip of several million German credit and debit card holders. The software problem was that many ATMs and POS could not process the year 2010. Only machines that could still read the magnetic stripe still accepted the affected cards. At the savings banks and *Landesbanken* alone, 20 million EC cards and 3.5 million credit cards were affected. The French chip card company *Gemalto*, which supplied banks throughout Europe with chip cards,

³⁸⁶Unknown author, *Datenskandal bei der LBB*, in: spiegel.de, URL: <https://www.spiegel.de/wirtschaft/datenskandal-bei-der-lbb-betraege-bis-zu-5000-euro-illegal-abgebucht-a-596393.html> (State: 14.10.2021).

³⁸⁷Unknown author, *Karstadt Quelle-Bank warnt Kunden vor Datenklau*, in: spiegel.de, URL: <https://www.spiegel.de/wirtschaft/unternehmen/kreditkarten-betrug-karstadtquelle-bank-warnt-kunden-vor-datenklau-a-656097.html>(State: 14.10.2021).

³⁸⁸SEITH, Anne, Nepper, Schlepper, Datenfänger, in: spiegel.de, URL: <https://www.spiegel.de/wirtschaft/service/kreditkartenbetrug-nepper-schlepper-datenfaenger-a-657804.html> (State: 14.10.2021).

³⁸⁹OTT, Frederike & REIBMANN, Ole, *Sparkassen starten gigantische Tausch-Offensive*, in: spiegel.de, URL: <https://www.spiegel.de/wirtschaft/unternehmen/kreditkartenbetrug-sparkassen-starten-gigantische-tausch-offensive-a-662075.html> (State: 14.10.2021).

was responsible for the software error.³⁹⁰ Many German banks also failed to provide security for credit card payments in the digital sphere. It was not until 2019 that double authentication was introduced across Germany. Until then, it was still common to only enter the card number and security code when paying by credit card on the Internet.³⁹¹ Digital credit cards were also not the norm in Germany at that time. For a long time, German banks had failed to take care of the security of their means of payment in the real world and in the digital space or to offer their bank customers alternative cashless means of payment. A few financial service providers, such as *Entropay*, *Vexcard*, *Neteller* and *Netbank* offered virtual Visa or MasterCard credit cards at the end of the 2000s.³⁹² In addition to excessively high MIFs, years of marketing the Eurocard for the upper 10,000, and a constant debate and reporting on the security of credit cards had finally led to a drastic reduction in their acceptance among the population in Germany. If we look at the most popular payment methods of Germans in e-commerce and commerce, the most popular are payments by debit card, *Lastschrift*, direct debit and *PayPal*. The turnover generated in German e-commerce by credit card represented only 10.7 percent, whereby the purchase by *Lastschrift* represented the most popular payment method with 27.9 percent in 2018.³⁹³

2.2.4. ATM and credit card fraud in Luxembourg from the 80s until the 2010s

In Luxembourg cases of fraud in relation to cashless payment transactions increased during the 1980s, especially with the introduction of ATMs and cashless means of payment. Here, however, it was primarily the cases of fraud in connection with the Eurocheque that dominated. In the event of loss or theft of the Eurocheque or *Bancomat card*, cardholders could call a service hotline around the clock and on public holidays to block their cards. At that time, around 150,000 people still had a Eurocheque card in Luxembourg.³⁹⁴ At that time, Cetrel had connected most of the ATMs of the Luxembourg banks participating in the ATM system to its central computer and could thus remotely block all ATMs or POS in Luxembourg that were

³⁹⁰SEITH, Anne & KRÖGER, *Millionen Pannen-Kreditkarten*, in: spiegel.de, URL: <https://www.spiegel.de/wirtschaft/soziales/millionen-pannen-kreditkarten-klebefilm-trick-hebelt-2010-fehler-aus-a-670433.html> (State:14.10.2021).

³⁹¹SCHALK, Marion, *Lost in Tan*, in: zeit, URL: <https://www.zeit.de/wirtschaft/2019-08/psd2-online-banking-eu-regeln-sicherheit> (State:14.10.2021).

³⁹²WIESNER, Leonie, *Das sollten Sie über virtuelle Kreditkarten wissen*, in: focus, URL: https://www.focus.de/finanzen/banken/kreditkarten/virtuelle-kreditkarte-so-funktioniert-die-online-kreditkarte_id_8740597.html (State:14.10.2021).

³⁹³EHI RETAIL INSTITUTE, *Online Payment 2019, Zahlungsarten im E-Commerce, Strategien, Herausforderungen und Perspektiven*, in: ehi-shop, URL: https://www.ehi-shop.de/image/data/PDF_Leseproben/EHI-Studie_OnlinePayment_2019_Leseprobe.pdf (State:14.10.2021).

³⁹⁴Unknown author, *Neuer Service*, in: d'Lëtzebuenger Land, 22.12.1989, p. 23.

connected to Cetrel's central computers for the cards concerned.³⁹⁵ As credit cards became widespread in Luxembourg, especially from the mid-1990s, as already demonstrated in the previous chapter, Luxembourgish banks were primarily confronted with credit card fraud on the Internet during this period. However, this does not mean that Luxembourgish banks did have to deal with robbery at ATMs or the unauthorised use of their bank customers' payment cards.³⁹⁶ In addition, there were repeated cases in Luxembourg of fraudsters trying to copy the magnetic stripes of debit and credit cards at ATMs to subsequently use the data illegally on the Internet. To counteract these frauds, chip cards were introduced in the mid-2000s. From the summer 2004, Cetrel equipped its cards with chips and the EMV standard. As a result, one could read the following lines in the *Luxemburger Wort* on 21.04.2004:

“According to Cetrel, which handles all electronic cash card transactions for Luxembourg banks, the new system offers not only improved security but also additional convenience for credit card holders. In addition to the immediate verification of the secret code, the chip card will offer additional services. The issuing of the new chip cards will start in June and should be completed by July 2005. The new cards will be issued automatically by the banks when the old credit card expires. According to Cetrel, an earlier issuance of the new plastic money is not possible, as with more than 290,000 Luxembourg credit cards, a short-term changeover is difficult. The devices used to read credit cards will also have to be replaced. Around 7 800 such card terminals and 387 ATMs currently exist in Luxembourg, according to Cetrel.”³⁹⁷

Furthermore, Luxembourgish banks introduced a so-called *Zittersystem* at their ATMs in 2006. Jean-Paul Bettendorf, member of the board of Cetrel, explained the system shortly after its introduction:

“The copying of data takes place when the card is inserted into the slot. If an artificial slot is inserted by fraudsters before the actual one, then this upstream slot serves as a copier of the card data. But if the actual slot causes the card to shake, then the data can no longer be copied because the shaking during input and output distorts it. In addition, a magnetic field surrounds the keyboard.”³⁹⁸

³⁹⁵Archive Banque Générale du Luxembourg BNP Paribas, *Note aux service et agences*. Concerne Blocage cartes eurocheques, cartes bancomat, Luxembourg le 20.12.1989.

³⁹⁶Archive Luxemburger Wort, Sammelmappe Elias 7, Luxemburger Wort, *Frau an Geldautomaten überfallen*, Landeschronik, 10.11.2001.

³⁹⁷Archive Luxemburger Wort, Sammelmappe Elias 7, Thiel Michel, „Ab jetzt unterschreiben Sie mit ihrem Finger“ Landes Chronik, Letzebuerg - Stad a Land, 21.04.2004.

³⁹⁸Archive Luxemburger Wort, Sammelmappe Elias 7, Langner, Anne, *Kampf der Banken gegen Betrüger Im Automaten zittert die Karte 400 luxemburgische Automaten*, Wirtschaft und Finanzen - économie et finance, dossier - banques et technologies de l'information, 05.05.2006.

Digital security in general posed a significant problem for Luxembourgish banks as well as the state. For example, Cetrel introduced Pay@cetrel in 2001. Pay@cetrel gave to their customers a technical standard to secure credit card transactions on the Internet.³⁹⁹ However, Luxembourgish banks and the state primarily worked on a Public Key Infrastructure (PKI) from the 2000s. The main aim was to create a digital signature, which was needed for the implementation of an electronic identity card. In 2000, the company *EuroSignCard S.A.* had been commissioned to work on a public key infrastructure. It was to build cryptography-based installations for third parties and market them in Luxembourg, since from the point of view of the banks and the state, cryptographic keys and electronic certificates are the central elements for secure signing on the Internet. In this context, a trust centre would be set up which guaranteed the correct assignment of the key owner and key by issuing an electronic certificate. Furthermore, the company would advise individual banks and offer a complete technical solution in matters of security. Furthermore, *EuroSignCard S.A.* had developed a so-called signature card. These were to ensure that the crypto keys necessary for encrypting the information sent via the Internet and the electronic certificate were protected against unauthorised access. The card was equipped with a crypto processor. In particular, the Luxembourg credit industry expected the card to be used as legitimation for all business transactions on the Internet.⁴⁰⁰ Eventually, the Public Key Infrastructure was set up by the companies *U-trust* and *LuxTrust* in 2006. The *U-trust* consortium consisted of the companies Cetrel, *Clearstream*, *Hitec* and *eBRC*. *LuxTrust's* shareholders included the Luxembourgish State, the *Société Nationale de Crédit et d'Investissement* (SNCI), the *Banque et Caisse d'Épargne de l'État*, *Banque Raiffeisen*, *Dexia BIL*, *Fortis*, *HVB Luxembourg* and *Nomura*, as well as *P&T Luxembourg*, the chamber of crafts, the chamber of commerce, the Luxembourgish stock exchange, and the auditing companies *Société nationale de certification et d'homologation* and *Société nationale de contrôle technique*. The company *Luxtrust* started in 2006 to work on in-house security solutions to guarantee the security of digital means of payment for Luxembourgish bank customers.⁴⁰¹ As a result, *LuxTrust* implemented a virtual smart card solution to promote security in cashless payments in the digital space. Its security

³⁹⁹Archive Luxemburger Wort, Sammelmappe Elias 7, Waldbillig, Serge, *Le Cetrel veut rendre le minicash plus attrayant*, Commerce & Gastronomie, 26.05.2001.

⁴⁰⁰Archive Luxemburger Wort, Sammelmappe Elias 7, Luxemburger Wort, EuroSignCard S.A. möchte Schwerpunkte in der Sicherheitstechnologie setzen, Online Sicherheitstechnologie made in Luxembourg EuroSignCard S.A. tritt in die operative Phase, Wirtschaft und Finanzen - Economie et Finance, 08.07.2000.

⁴⁰¹Archive Luxemburger Wort, Sammelmappe Elias 7, Leyers, Pierre, *Sicherheit bei elektronischen Transaktionen*, Es wird Ernst mit der PKI, Konsortium u-trust, dass aus Cetrel, Clearstream, Hitec und eBRC besteht, gewann Ausschreibung, Wirtschaft und Finanzen - Économie et Finance, 21.07.2006.

was increased by a so-called token, which generated a six-digit code, to obtain a double authentication. Luxembourg banks were thus among the first financial institutions in the world to offer their customers double authentication due to their *LuxTrust* token for credit card transactions online.⁴⁰² It is therefore not surprising that the Luxembourgish banks started to secure online credit card payments with 3D Secure in combination with the *LuxTrust* token for their customers. Creating this form of security solution had become imperative for Luxembourgish banks, as 70 percent of credit card fraud cases in Luxembourg took place on the Internet in 2014. Between 2008 and 2013, Statec reported that 12.7 percent of Luxembourgish households had already been victims of bank card fraud. Here, the unauthorised use of lost or stolen bank cards represented 20 percent, the use of cards after card counterfeiting 30 percent and the fraudulent execution of online transactions 50 percent of bank card frauds.⁴⁰³

As a result, it is not surprising that Luxembourg, along with the UK and France, had one of the highest rates of credit card fraud at that period in Europe. Although the introduction of the EMV standard had significantly reduced domestic payment card fraud rates at ATMs and POS, the number of financial losses due to fraud remained enormous. The directors of Visa Luxembourg, Europay and Cetrel kept a low profile and simply pointed out that holders of Luxembourgish bank cards had nothing to fear in the event of fraud, as the banks would reimburse their customers in the event of financial loss. Furthermore, they pointed out that 39 percent of transactions with Luxembourgish credit cards take place abroad and Luxembourgish bank customers usually hold more than one credit card. Credit card fraud rates would increase because foreign merchants and online retailers would not operate with the latest security standards.⁴⁰⁴ This shows once again why Luxembourgish banks were early adopters of 3D-Secure. In a world that was becoming more digital day by day, Luxembourgish banks were constantly confronted with data theft and credit card fraud. For example, Visa International informed Cetrel that an Irish online merchant had stolen data from 500 Luxembourgish credit cards in 2013. Cetrel reacted with a so-called *plan rouge*. To prevent massive credit card fraud, Cetrel contacted all affected cardholders and informed them that it had blocked the cards for

⁴⁰²Archive Luxemburger Wort, Sammelmappe Elias 7, Lagner, Anne, *Luxtrust-Plattform bietet sicheren Datenverkehr*, PKI-Projekt nimmt Fahrt auf, Kombination für private und öffentliche Dienste scheint erfolgreich, Anfragen aus dem Ausland, Wirtschaft und Finanzen - Économie et Finance, 23.09.2006.

⁴⁰³Archive Luxemburger Wort, Sammelmappe Elias 7, Adam, Andreas, *Reaktionen auf den Bericht der Europäischen Zentralbank zum Kartenbetrug*, Wirtschaft und Finanzen - Économie et Finance, 19.07.2013.

⁴⁰⁴Archive Luxemburger Wort, Sammelmappe Elias 7, Adam, Andreas, *Avant de partir dans un pays à risque en termes de fraude, Pas de carte de crédit à activer*, 04.10.2014.

all online transactions. Later, *Visa Luxembourg* director Gérald Briclot admitted that it would be still difficult for clients to protect themselves from such incidents in a digital world.⁴⁰⁵



Figure 23 – Archive Luxemburger Wort, Advertisement for Luxtrust in 2014.

2.2.5. Conclusion

In the 1970s, the number of bank robberies increased considerably in Europe. As a result, European banks began to revise their security concepts for their branches. ATMs provided a convenient place to reduce cash inside the branches and move it to the outside. However, this decision had the side effect of shifting crime to the outside. Thus, it is not surprising that between the 1980s and the mid-1990s, debit and credit card fraud at ATMs dominated. The constant reporting of debit and credit card fraud at ATMs and POS meant that bank customers have always been confronted with the issue of the security of their cashless means of payment. Furthermore, the Luxembourgish, French and German press primarily painted a negative picture of the security of debit and credit cards. To counteract the high fraud rates at ATMs and POS, banks started working on the interoperability of ATMs, POS, debit, and credit cards at an early stage. However, with the mandatory introduction of the *carte à puce* for merchants, it was the French banks that were the first in the world to introduce their own smart card with national security standards in 1993. By banning payment cards that only carried a magnetic stripe, French banks were able to drastically reduce fraud rates at ATMs and POS within a very short time. By the end of the 1990s, banks had networked their ATMs in Luxembourg, France

⁴⁰⁵Archive Luxemburger Wort, Sammelmappe Elias 7, Wolff, Ronny, 500 Luxemburger Kreditkarten teilweise gesperrt, Cetrel reagiert auf Kreditkarten-Datenklau bei Onlinehändler, Landes Chronik, Letzebuerg - Stad a Land, 10.01.2013.

and Germany with computer centres that allowed them to block the cards concerned in the event of unauthorised credit or debit card use. Furthermore, hotlines were set up where bank customers could call to have their cards blocked in the event of loss or theft. In addition, banks often used internal fraud detection systems in their data centres to detect irregular movements or transactions. Furthermore, banks continuously worked on the security of ATMs, installing surveillance cameras, or introducing the EMV standard from the mid-2000s onwards. With the advent of online commerce in Europe, however, credit card fraud shifted to the digital space in the mid-1990s. Since then, reports of credit card data theft and credit card fraud on the Internet increased dramatically. This posed a challenge to the credit card organisations Visa and MasterCard in particular, as they wanted to establish credit cards as the number one cashless payment method for e-commerce worldwide. They were aware that the acceptance of credit cards as a means of payment in the digital space was endangered by the constant reporting on vulnerabilities of credit cards and possible data loss. In France, only 7 percent of French Internet users wanted to buy goods online via credit card due to high fraud risks in 2000. As crime and credit card fraud continued to shift into the digital space, credit card organisations began to work intensively on new security standards to rebuild their customers' trust in credit cards. Taking this step was crucial for credit card organisations, as not all parties are in one place when a transaction occurs on the Internet. It is therefore not surprising that credit card companies are so focused on the security of their credit cards, as this helps to maintain the cardholder's trust in their credit card as a means of payment on the Internet. It becomes particularly evident in the recommendations of the European Central Bank, which has been specifically directing banks since the 2000s to work with all players in cashless payments to develop and implement security standards for cashless payment methods, as this inevitably leads to an acceleration in the acceptance of credit and debit cards. The development of the SET and 3D Secure security standards by MasterCard, Visa and Europay was thus, among other things, a response to credit card holders' fears of financial losses and data losses. Without the trust of bank customers and merchants in credit cards as a primary digital means of payment, the use of online commerce as a new business model for credit card organisations would have been condemned to failure from the outset. However, the banks were also aware of this, as they were always in close contact with credit card organisations and, in the end, their own customers were also heavily affected by credit card fraud on the internet. By developing their own security concepts and products, French, Luxembourgish, and German banks offered their customers secure credit card transactions. In particular, the establishment of the PKI and

the *LuxTrust* token by the Luxembourg state and banks in Luxembourg stand out. As early as 2000, the first investigations began into how the digital space could be made more secure for the state and retail banking.

From the 2010s onwards, France, Luxembourg and Germany also began to offer virtual credit cards to their customers. Here it was the French banks who were ahead with their *e-Carte Bleue*. For a long time, German banks failed to offer their customers their own products or services for the securitisation of credit cards in the digital world. They relied primarily on the security concepts of the credit card organisations. However, as debit cards were the preferred means of payment in Germany, it was not surprising that the focus of banks was on continuing to reduce fraud rates at ATMs. Finally, one notes that long-term reporting on the security of non-cash means of payment existed throughout France, Germany, and Luxembourg. With the advent of the internet and the parallel flood of reports on credit card fraud in the digital space, as shown by the 2010 bug, the acceptance of the credit card as a universal means of payment was strongly slowed down, whereupon credit card organisations as well as banks had to find solutions to regain the customers' trust in credit cards. In the following part, the banks response to these debates as well as the main actors within financial institutions influencing banks internal communication strategies regarding cashless payments methods. Furthermore, advertising of credit cards in and for the digital space is discussed. In addition, the next chapter look at the sales pitches and advertising campaigns used by credit card organisations, tech giants and banks to promote credit cards, especially in the digital age since the advent of the internet. They also discuss how the product optimisation driven by engineers of credit card companies and bank associations had a significant impact on the marketing strategies of banks, thus demonstrating how engineers influenced and shaped the internal marketing policies of banks regarding credit and debit cards.

2.3. Debating with new stakeholders: how engineers influenced banks communication policies regarding credit cards and cashless payments

This section analyses how security standards were used as an effective marketing strategy to increase sales within the payments market and to combat fraud. The introduction of security standards helped to increase customers' confidence in debit and credit cards. Furthermore, the introduction of the *carte à puce* enabled the French banking community to gain important shares in the payments market. This chapter gives a deeper insight into how this was achieved. Thus, along with tourism, the topic of security became a popular marketing element that was repeatedly taken up by French, German and Luxembourgish banks as well as credit card organisations to promote cashless payment methods, especially credit cards. Furthermore, security concepts became an efficient instrument of achieving economies of scale within the cashless payment market. Before this chapter addresses the technical security of credit cards and non-cash means of payment, it should be mentioned that financial security was also a fundamental part of the promotion of credit cards. Financial security is an additional service offered by credit card organisations and banks to make credit cards more attractive to consumers as well as to increase their use. In this context financial security is provided to the cardholder due to insurance coverage. Credit cards primarily include travel insurance because, as demonstrated in the first part of this chapter, credit cards were primarily advertised as travel money during the 20th century. Nevertheless, nowadays there are almost no limits to what kind of insurance a credit card holder can take out. From sports insurance to accident insurance, the credit card holder can take out all kinds of insurance. The prerequisite for coverage in the case of accident insurance is that the payment to a service provider is made via the credit card. However, the purchase of a credit card does not oblige the credit card holder to take out separate insurance cover.⁴⁰⁶ The advertising of the *Sparkasse Essen* serves a good example to illustrate this point. To make its credit cards attractive to potential customers, it promotes its credit cards with a *Reise-Rundum-Schutz*, which includes health insurance for foreign travel, a car insurance policy for European countries, travel cancellation insurance and travel curtailment insurance. Consequently, it is not surprising that Sparkasse Essen addresses its customers as follows when it comes to their credit cards: “*We know how precious your holiday is, which is why the Gold Credit Cards from Visa and MasterCard Credit Cards from Sparkasse Essen*

⁴⁰⁶KOCH, Peter, *Versicherungswörterbuch*, Gabler, Wiesbaden, 2013, pp. 499-501.

also offer complete travel protection for you and your family, right from the moment you order your card.”⁴⁰⁷



Figure 24 – Archive Crédit Agricole, Gold MasterCard advertisement in 1997.

Promoting a financial product’s technical safety is primarily the result of product optimisation. Product optimisation has the side effect of increasing sales figures. Here, product optimisation refers to the improvement of a products hardware, software or design. The development of security standards is part of product optimisation since most innovations are further developments or improvements to existing products and services. Promoting technical safety of a financial product is primarily the result of product optimisation. Product optimisation ensures that no product obsolescence occurs. A positive side effect of product optimisation is that, with the right communication policy, media coverage about a product is more extensive and customers are more encouraged to buy a product. Thus, the next sections will demonstrate how banks started to use product optimisation as an advertising element, especially regarding their security standards.⁴⁰⁸

⁴⁰⁷Archive Deutscher Sparkassen und Giroverband e.V., *Advertisement for their credit cards, Bezahlen ist einfach*, 2016.

⁴⁰⁸BORCHARDT, Hans-Jürgen, *Dezentrales Marketing und Crowdsourcing*, Warum und wie sich das Marketing neu erfinden muss, Publicis, Erlangen, 2012, pp. 197-182.

2.3.1. A French engineer claiming for more security in 1974

Helmut Gröttrup developed a kind of early preliminary form of the chip card in 1967. However, his invention was not taken up by the German banking industry as was Roland Moreno's chip card by the CB in France during the 1980s. Between 1953 and his death in 1981, Gröttrup worked on innovations for banking informatics. In 1954, he began working for the *Lorenz* electrical company in *Pforzheim*. Gröttrup was head of department there until 1965. Gröttrup was already a well-known German engineer at this time, having worked on the development of the A4 rocket. He had studied Physics in Berlin from 1935 to 1939 and graduated from the *Technische Hochschule Berlin* and specialised in rocket research. Between 1965 and 1966, Gröttrup set up his own business with the German engineer Jürgen Dethloff. Together they opened the company *Datege*. Their company had its headquarters in Munich. In 1968, Gröttrup filed a patent that was rejected by the patent office, but this is where the references to the predecessor of the later chip card can be found. Gröttrup submitted a drawing of the so-called identifier. Fifty years ago, Helmut Gröttrup and Jürgen Dethloff applied for a patent for their system in Austria. The patent was granted in 1971. However, the patent that Gröttrup wanted to apply is testimony to the fact that the German engineer did not think for a moment when inventing his security key that it would be used in banking. His preliminary form of the chip card represented a miniaturisation of the chip that was intended to make systems forgery-proof. His business partner at the time, Jürgen Dethloff, filed his chip card patent in 1977. However, Roland Moreno's chip card, which he patented in 1974, was implemented with minor issues particularly as a bank card in France. However, Roland Moreno said from the beginning that his chip card would be well suited as a credit card in retail banking.⁴⁰⁹ This French engineer was the managing director of the company *Innovatron* through which he filed all his patents for smart cards. In December 1974, he submitted his smart card and received the patent.⁴¹⁰ He described in his patent that the *bande magnétique* alone would be very copyable, but if one were to introduce the smart card, one could store the personal identification key on the chip and encrypt it. The patent shows that he realised early on that the smart card was particularly useful for credit cards or the *Carte Bleue*, as he mentions here.⁴¹¹ This shows that engineers

⁴⁰⁹Unknown author, *Helmut Gröttrup: Raketen und Halbleiter*, in: blog.hnf, URL: <https://blog.hnf.de/helmut-groettrup-raketen-und-halbleiter/> (State: 13.12.2021).

⁴¹⁰Unknown author, *Mort de Roland Moreno, inventeur de la carte à puce*, in: Le Monde.fr, URL: https://www.lemonde.fr/disparitions/article/2012/04/29/mort-de-roland-moreno-inventeur-de-la-carte-a-puce_1692889_3382.html (State: 13.12.2021).

⁴¹¹ROLAND, Moreno, *Demande de brevet d'invention N°74 10191 Procédé et dispositif de commande électronique*, in: worldwide.espacenet, URL:

were already working on security keys and the security of cashless payment cards on their own initiative at the end of the 1960s. However, it was only Roland Moreno who spoke publicly of using chip cards as a secure cashless means of payment as early as 1974. The next sections provide a historical reconstruction of how the *carte à puce* first became established in France and later in the rest of Europe. Here it becomes clear that engineers were significantly involved in the product optimisation of credit cards and that security concepts were specifically used as a marketing strategy to increase sales. This makes it clear how the topic of security was already used in France in the 1980s to secure and increase the sales of credit cards, also becoming an advertising element in the digital age.



Figure 25 – Archive Le Monde, Photo of Roland Moreno holding a chipcard in 1992.

2.3.1.1. 15 years of persuasion: How an engineer convinced French banks of his chip card

The *carte à puce* was registered by R. Moreno in 1974, but it took almost 15 years before his invention was used as a bank card as already seen in the previous chapters and contributed significantly to the reduction of fraud rates in France. It was not until 1985 that the *Groupement des Cartes Bancaires* decided to order 2.5 to 3 million smart cards. By the end of 1988, 10 to 12 million people of the French population would be equipped with a *carte à puce*. The smart card was to replace bank cards with magnetic stripes. A detailed explanation of why it had taken almost 15 years until the chip card was used as a bank card and what advantages it brought with it could be read in detail in *Le Monde* on 21 September 1985:

“Its first advantage is that it is tamper-proof. As easy as it is for any electronics tinkerer to read or write on the magnetic strip of a stolen card (especially the PIN), it becomes impossible when the information is

<https://worldwide.espacenet.com/patent/search/family/009136779/publication/FR2266222A1?q=FR%202266222>
2 (State: 13.12.2021).

engraved in the silicon of an integrated circuit. This greatly increases the security of customers, merchants and the banks themselves and drastically reduces fraud cases where millions of francs are at stake. The second advantage is that banks can computerise the processing of transactions. An automation that should increase their productivity.

The third reason is its universality. The smart card can be much more than a means of payment if information outside banking is to be stored on it. There is no shortage of ideas on how to use it as a portable health card (national insurance number, health record entered in a reserved and coded field on the chip, accessible only to doctors), as a communication card (pay phone, shopping at home, access to reserved networks, etc.) or even as a military card. But even if "everything is possible", one should probably not "mix everything". The card will not completely rid French people's wallets of its extensive paper content.

Gains through productivity. Incidentally, the fact that they could not choose between all these potential applications is the reason why it took their advocates ten years to convince the institutions concerned, and first and foremost the banks. Many concrete problems such as standardisation, the definition of the chip and the terminals, and even the rivalries between the banks could only be solved in the last two years thanks to the persistence of a small number of people from the PTT, some banks such as Société Générale and the Ministry of Finance. A first decisive step had been taken last July when all financial institutions agreed to use the same card."⁴¹²

Thus, the *carte à puce* was only established after 15 years from its invention, as the banks had to react to high fraud rates. However, it was primarily the engineers and inventors of the smartcard who convinced French banks that the chip card was a secure means of payment. In 1987, *BNP Paribas* entered *Innovatron* and secured shares in Moreno's company. BNP secured 14 percent of *Innovatron*'s shares through its subsidiary *Banexi*. Roland Moreno only held 25 percent of his company's shares at this point, having sold the other shares to *Bull*, *Bank Edmond de Rothschild* and individual private individuals who had helped him set up his company. In 1987, Moreno had already found 23 licensees for his patent from all over the world and from the most diverse economic sectors. These included, for example, the Japanese car manufacturer *Mitsubishi*. However, the final international breakthrough of his invention at the end of the 1980s was possible due to *IBM*, probably the world's largest computer manufacturer at the time, which bought parts of *Innovatron*. Nevertheless, since 1983, Roland Moreno had produced 55 million cards.⁴¹³

⁴¹²Unknown author, *La carte à mémoire française à l'assaut du Japon*, in: *Le Monde.fr*, URL: https://www.lemonde.fr/archives/article/1985/09/21/la-carte-a-memoire-francaise-a-l-assaut-du-japon_2740879_1819218.html (State: 13.12.2021) (our translation).

⁴¹³Unknown author, *IBM acquiert la licence de la carte à puce française*, in: *Le Monde.fr*, URL:

CARTES A PUCE : UNE SECURITE MAXIMALE

— AUJOURD'HUI —

Elles sont compatibles avec votre matériel
Vous êtes un commerçant affilié au Crédit Agricole, quel que soit votre équipement, vous pouvez accepter les cartes à puce, aussi sûrement que les autres cartes. Toutes les cartes bancaires à puce (appelées aussi cartes à mémoire) sont « mixtes ».

- ▶ Outre leur microprocesseur, ordinateur miniaturisé, elles possèdent comme leurs aînées :
- ▶ Des caractères embossés pour être utilisées avec un « fer à repasser »
- ▶ Des pistes magnétiques lues par le terminal de paiement électronique.

Conçues par les banques pour apporter encore plus de sécurité, les cartes à mémoire nécessiteront dans un proche avenir, pour remplir toutes leurs fonctions, l'adaptation de votre matériel. Cependant, vous pouvez d'ores et déjà les accepter en toute confiance.

Vous bénéficiez des mêmes garanties qu'avec les cartes précédentes

Partie intégrante du système national de paiement par carte bancaire CB, les nouvelles cartes à puce sont utilisables sur vos matériels traditionnels sans changement de procédures :

- ▶ Mêmes garanties liées aux vérifications : date de validité, contrôle de la signature et du code confidentiel
- ▶ Même seuil de demande d'autorisation
- ▶ Même mode d'accès à votre centre d'autorisation
- ▶ Même consultation de la liste d'opposition
- ▶ Même remise globale à votre banque
- ▶ Mêmes conditions de mise au crédit de votre compte.

ACCEPTER LES CARTES A PUCE !

AGISSONS ENSEMBLE CONTRE LA FRAUDE

La fraude est un problème qui nous concerne tous, utilisateurs, banques et commerçants.

Nous pouvons la faire reculer, si nous agissons ensemble :
Nous, Crédit Agricole

- ▶ En fournissant aux utilisateurs l'instrument de sécurité qu'est la carte à mémoire
- ▶ En développant les outils de contrôle que sont les nouveaux terminaux de paiement électronique.

Vous Commerçants affiliés

- ▶ En utilisant ce matériel et en respectant toutes les procédures.

Et les porteurs de carte

- ▶ En mémorisant leur code confidentiel puis en détruisant toute trace.

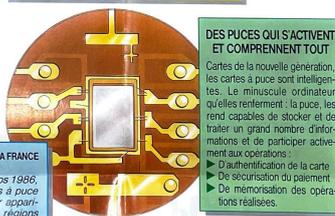
Pour bénéficier d'une sécurité maximale, jouons donc le jeu de la carte à puce ensemble.

— DEMAIN —

Une nouvelle technologie pour plus de sécurité

Le terminal de paiement électronique permettra d'exploiter la double fonction de mémoire et d'intelligence de la carte à puce. Ce lecteur de cartes permettra de :

- ▶ Vérifier l'authenticité de la carte
- ▶ Diagnostiquer une tentative de fraude
- ▶ Contrôler le code confidentiel du porteur et neutraliser la carte après trois essais consécutifs erronés. La carte devenant immédiatement inutilisable. Elle ne pourra être remise en fonctionnement que par la banque de votre client
- ▶ Déceler une utilisation intensive. Dans ce cas, le centre d'autorisation validera ou non l'achat de votre client
- ▶ Inscrire dans la mémoire de la carte, la date et le montant de l'achat
- ▶ Imprimer enfin, sur le ticket, un code appelé « certificat » justifiant la validité des contrôles précédents.



DES PUCES QUI S'ACTIVENT ET COMPRENNENT TOUT

Cartes de la nouvelle génération, les cartes à puce sont intelligentes. Le minuscule ordinateur qu'elles contiennent, la puce, les rend capables de stocker et de traiter un grand nombre d'informations et de participer activement aux opérations.

- ▶ D'authentification de la carte
- ▶ De sécurisation du paiement
- ▶ De mémorisation des opérations réalisées.

DEMAIN, DANS TOUTE LA FRANCE

Lancées au printemps 1986, les cartes bancaires à puce font aujourd'hui leur apparition dans plusieurs régions françaises. D'ici trois ans, leur diffusion sera généralisée dans toute la France. Vous, commerçants affiliés au système national de paiement par carte bancaire CB, vous êtes appelés à en rencontrer de plus en plus fréquemment. En participant à l'évolution de la monétique, vous bénéficierez d'une sécurité maximale.

LA GENERALISATION DU CODE CONFIDENTIEL

Le client en tapant son code, déclenchera tous les contrôles. Vous n'aurez donc plus à procéder aux tâches de vérification. L'acte de paiement sera pour vous très simple et très sécurisant : en effet cette automaticité du contrôle vous protégera contre les risques d'impayés.

CORRIGEONS LES IDEES FAUSSES

- 1 Les opérations de paiement sont aussi rapides et faciles qu'avec les cartes précédentes. Malgré tous les contrôles de sécurité, quelques secondes suffisent : il faut simplement faire composer le code confidentiel et l'opération se déroule automatiquement.
- 2 La carte à puce n'est pas « chargée » d'une somme maximale à dépenser, mais fait l'objet de contrôles particuliers en cas d'utilisation intensive.
- 3 Il n'y a aucune liaison directe entre le compte du client et le terminal électronique du commerçant.
- 4 Vous serez crédité et votre client sera débité de la même manière qu'avec les cartes traditionnelles.

Figure 26 – Archive Crédit Agricole, Advertisement of the Crédit Agricole promoting the security of the carte à puce in 1987.

It is therefore not surprising that French banks advertised the *cartes à puce* with maximum security at the end of the 1980s, as can be seen in the credit card advertisement of the *Crédit Agricoles* in 1987. In addition, the *carte à puce* was a suitable means of combating the rising crime rates at ATMs involving cashless means of payment in France, as already demonstrated in the previous chapter.⁴¹⁴

2.3.1.2. The final international and national breakthrough of the *carte à puce* in the 1990s

With the entry of IBM and *Telecom France*, *cartes à puces* made its breakthrough in France and worldwide. In 1988, *Telecom France* bought 2 percent of *Innovatron's* shares. The investment by the French mobile phone operator increased *Innovatron's* capital from 3 to 50.2 million French francs. *Telecom France*, however, did not buy into *Innovatron* itself but its

https://www.lemonde.fr/archives/article/1988/09/07/ibm-acquiert-la-licence-de-la-carte-a-puce-francaise_4089389_1819218.html (State: 13.12.2021).

⁴¹⁴Archive Crédit Agricole, Advertisement of the *Crédit Agricole* promoting the security of the *carte à puce*, n'ayez pas peur de la carte à puce, 1987.

subsidiary *Innovacom*. *Telecom France* announced at its Press conference that it intended to use the *cartes à puce* industrially.⁴¹⁵ This also increased the acceptance of this technology in France. The French population learned to appreciate the phone cards with integrated chip. This, of course, indirectly played into the banks' hands, as people and businesses in France and around the world began to realise the advantages of a chip card, regardless of its area of use. Until the time came in 1993 when the *Groupement des Cartes Bancaires* decided to generalise the chip card, this was never set in stone. The decision to generalise the chip card was primarily based on the banks' need for security.⁴¹⁶

The new technology was supposed to help the banks to fight against an annual loss of 600 million French francs in 1990. As seen in the previous chapter, it was the stolen and copied cards that caused headaches for the French banks. In 1990, only 19 million bank cards were equipped with chips. The continuous replacement of magnetic stripe cards with chip cards was discontinued between 1989 and 1990 because of technical defects. In 1989, 200,000 chip cards had fallen victim to an electronic overvoltage. As a result, the *Groupement des Cartes Bancaires* stopped the continuous exchange of the magnetic stripe card for a short time. Within a year, these defects could be eliminated across the board. Nevertheless, more and more critics came on the scene who argued that the generalisation of the chip card was a bottomless pit and would swallow up investments of up to two billion French francs. Consequently, it is understandable why a part of the French banks continued to challenge the *carte à puce* and thus prevented the generalisation of the chip card in France until 1993. Unfortunately, it is not known which banks vetoed the chip card, but the vote was won by only one vote. This shows the dichotomy of the French banks: some wanted to keep the magnetic stripe card for cost reasons and the other banks wanted bank cards that met their security needs. Furthermore, the decision to use the smart card in banking was influenced by the success of *Telecom France's Télécarte*. Before the *Télécarte* with integrated chip, telephone boxes had become the victim of criminals in France. In 1985 alone, 7 percent of French telephone cabins were vandalised and robbed. To put an end to the vandalism, the French telephone operators decided to

⁴¹⁵Unknown author, *Une invention testée à Saint-Brieuc Parcmètres à puces*, in: *Le Monde.fr*, URL: https://www.lemonde.fr/archives/article/1988/09/10/une-invention-testee-a-saint-brieuc-parcmeters-a-puces_4090817_1819218.html (State: 13.12.2021).

⁴¹⁶Unknown author, *Les banques françaises vont généraliser la carte à puce*, in: *Le Monde.fr*, URL: https://www.lemonde.fr/archives/article/1990/04/08/les-banques-francaises-vont-generaliser-la-carte-a-puce_3956899_1819218.html (State: 13.12.2021).

introduce the chip card. Within a year, the number of vandalism cases and the resulting breakdowns of telephone booths were reduced to almost zero.⁴¹⁷



Figure 27- Archive Crédit Agricole, chipcard advertisement in 1988.

Nevertheless, the final breakthrough in France can be dated back to 1993, as it was only at this time that French banks made the *carte à puce* the daily companion of their customers. This also shows that the description of the success story of the *carte à puce* needs to be supplemented, as banks like the BNP tend to omit the fact on their website that the French banks first had to be convinced of the chip card.⁴¹⁸ As already described in the previous subchapter, the smart card only became established throughout Europe in the 2000s with the EMV standard. The reasons for this are discussed in the next section.

This section explains why the smart card slowly started to catch on in Europe, but still exists today and is working on their *Calypso technology* and trading patents.⁴¹⁹ *Innovatron* promotes its ticketing system as follows: “*The Calypso technology specifies the contactless transaction between a contactless card and a reader, the linchpin of the electronic ticketing system. The Calypso card-terminal transaction is fast and secure: optimizing the transaction time, ensuring*

⁴¹⁷Unknown author, *Dans le dictionnaire de l'Académie française La Télécarte immortalisée*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1990/05/23/dans-le-dictionnaire-de-l-academie-francaise-la-telecarte-immortalisee_3992405_1819218.html (State: 13.12.2021).

⁴¹⁸Services historiques BNP Paribas, *La carte à puce l'invention française qui a révolutionné les paiements: l'adaptation*, in: histoire.pnbparibas, URL: <https://histoire.bnpparibas/la-carte-a-puce-linvention-francaise-qui-a-revolutionne-les-paiements-22-ladoption/> (State: 13.12.2021).

⁴¹⁹Innovatron, *Company description*, in: innovatron, URL: <https://www.innovatron.fr> (State: 13.12.2021).

the data authentication and integrity."⁴²⁰ It concludes however, the phenomenon of why banks or financial companies began to advertise the speed as well as the security of their credit cards since the emergence of digital and lists why the *Groupement des Cartes Bancaires* represented one of the few banking associations that used the smart card in Europe already in 1990s. In this way, the country comparison of this work should also be done justice to understand how the idea of security and the need for security regarding debit and credit cards spread from France throughout Europe.

2.3.2. Lobbying for the *carte à puce* as international security standard for payment cards in the 1990s

In 1993, the *Groupement des Cartes Bancaires* began discussions with Visa and lobbying throughout Europe for the *carte à puce* and its optimisation with holograms and watermarks. The *Groupement des Cartes Bancaires* sent a circular to its members informing them that they would be meeting with Visa for initial discussions in France with the following information:

*"The coming weeks will be decisive for the international future of the chip in the visa world. What has already been announced (Cannes, June 3, 1993) is the desire to secure the card by an inert holomagnetic technique or watermarks, coupled with a verification procedure by encoding on ISO 1 a control information which will have to be sent back at the time of any request for authorization. However, chip technology has not completely lost the game if Visa continues to refuse to consider adopting a French chip, i.e., an intelligent and expensive one and a simplified technology such as that used in a tele card remains possible. The mixte blue card bank card working group led by Paul Trescasses has indeed received a high-level delegation from the Visa San Mateo technical staff. Visa met with Gemplus Schlumberger CP8 Oberthur and asked for proposals for an ultra-simplified formula that would be economically comparable with competing technologies, i.e., 0.12 USD The chip in this case would only be used for the self-financing of the medium and would not even control the Visa code. Visa will be back in Paris in a fortnight and if the manufacturers respond positively, the chip could be considered in the same way as the other technologies. The vote would take place on a board which Visa acknowledges could not be October 1993 as announced in Cannes but rather February 1994."*⁴²¹

Visa showed interest in the French chip card at an early stage, but still had to be convinced. However, the *Groupement des Cartes Bancaires* also began to lobby foreign European banks throughout the continent for their technology, but they encountered resistance there as well.

⁴²⁰Innovatron, *A user-driven technology*, in: innovatron, URL: <https://www.innovatron.fr/technology.html> (State: 13.12.2021).

⁴²¹Archive BNP Paribas, *Visa et la Puce*, Communiqué de presse du Groupement des Cartes Bancaires, 02.07.93.

On 31 August 1993, Jean Marc Bornet, a member of the board of the CB, approached the members of the French banking association and informed them about their lobby activities as follows:

“As you know, the Group has undertaken an explanation and lobbying action with foreign banks. The reactions we are beginning to receive show that it is extremely difficult to make ourselves understood on this subject: abroad, it is understood that the chip is the technology of the future, but that as the track will be the dominant technology for several years, it must be protected, either by watermarks or by holograms. The problem is not to replace the chip with the track but to protect the medium and not the track with one of these two technologies... or with a very simple chip. The latter choice would facilitate future transitions to a chip-based target technology.”⁴²²

The reactions of the foreign banks to the plans of the CB to introduce the French chip card with Visa as a Europe-wide standard were seen by the European banks as the future, but the time was not yet ripe for this technology, as magnetic stripe cards were still the most widespread. *Caisse Générale d'épargne et de retraite's* (CGER) following response to a letter from the CB, which was intended to make the chip card more attractive to the Belgian banks represents the most adequate the opinion of most European Banks at that time:

“Visa should indeed pursue the smart card route, to ensure maximum security. This is a long-term vision. I fear that unfortunately, even if everyone agrees to apply the chip solution, there will be a transitional phase (5 years?) to allow issuers to adapt their cards and acquirers to adapt their terminals. In this transitional phase, whether we like it or not, most cards will be magnetic stripe cards. I think it would be unacceptable if the banking sector did not take additional measures, even temporarily, to protect magnetic stripe cards as well.”⁴²³

Even if the lobbying was unsuccessful, the CB, in cooperation with Visa, had spread the idea of security and the implementation of the chip throughout Europe. In their thinking, they were miles ahead of their colleagues worldwide. In Luxembourg and Germany, the chip cards were only implemented at a late stage between 1996 and 2006. In France, the first banks had already used chip cards in the 1980s. According to the savings banks, the implementation of the chip

⁴²²Archive BNP Paribas, Jean-Marc Bornet, *A l'attention du Comité de Direction*, Groupement Carte Bleue et Groupement des Cartes Bancaires, Paris, 31.08.1993.

⁴²³Archive BNP Paribas, Jean-Marc Bornet, *A l'attention du Comité de Direction*, Groupement Carte Bleue et Groupement des Cartes Bancaires Annexe 2, réponse de la CGER (Belgique), Paris, 31.08.09.

would lead to an increase in credit card use plus a reduction in processing costs.⁴²⁴ Nevertheless, it was not until the introduction of the EMV smart card standard in 2006 that the chip card was to be introduced throughout Europe. The Press release of the CB probably best reflects the situation at that time regarding the introduction of the chip card with EMV standard and stated as follows:

“Europe’s bankcard on the move, thanks to the adoption of the EMV chip card standard. France, which was a pioneer in the adoption of the chip in 1992, has chosen to adapt all cards and acceptance equipment simultaneously and gradually. At the end of March, a large part of the CB system had been adapted to EMV:

- more than 15 million cards, i.e., 1 in 3 CB bankcards in circulation.*
- 85% of ATMs, out of a total of 44,000*
- almost half of the electronic payment terminals in local shops and two-thirds of the terminals in major retailers.*

In the European Union, migration to the EMV smart card standard is progressing at a pace adapted to each system. Until now, all systems have used magnetic stripe technology for card payments and withdrawals. The switch to EMV chip cards represents a major investment for all banks in Europe. The objective: widespread use of the chip and better security for cardholders throughout Europe.

Globally in the European Union:

- 1/3 of cards are EMV*
- 1/4 of terminals are chip-readable*
- 40% of ATMs read EMV chip cards*

At the end of March 2005, the United Kingdom and Luxembourg were the most advanced in the migration to EMV, with more than three quarters of their system, including cards and acceptance equipment, adapted to the new standard. Other countries, such as Denmark, Belgium, Austria and Portugal, are well advanced in one or other of the links in the chain: cards, terminals or ATMs. Among the new EU countries, Estonia has adapted over 30% of its banking system. Beyond the borders of Europe, several countries are also

⁴²⁴Archive Sparkassen und Giroverband e. V., *Die Einführung der Chipkarte*, in: S-Markt, *Das Praxismagazin für Verkauf und Marktkommunikation*, 3. Jahrgang, Nr. 6, Dezember 95 Januar 96, pp.12-16.

*adopting the international EMV standard, such as Brazil, Morocco, Algeria, Turkey, Canada and Japan”.*⁴²⁵

However, Luxembourg was particularly prominent in the introduction of the EMV standard. This was due to the fact, as demonstrated in the previous chapters, that Luxembourg suffered from some of the highest debit and credit card frauds. With the EMV standard, Visa, MasterCard and Europay had laid the foundation for chip cards that they were interoperable and strengthened the security of payment cards worldwide and especially in Europe.⁴²⁶ The understanding that the security of a debit or credit card was an elementary part of a functioning cashless payment transaction was thus consolidated. Especially in the age of the Internet, when credit cards turned out to be a suitable means of mass payment on the Internet, Visa and MasterCard began to intensively revise the security concepts for their credit cards on the Internet.

2.3.3. Advertising speed and security after 1995

As demonstrated in the previous chapter, MasterCard, Visa and Europay had introduced their own security standard for their payment cards in 1996. This standard enabled the international interoperability of credit and debit cards at all MasterCard, Europay as well as Visa enabled ATMs and POS worldwide.⁴²⁷ But the digital space was also to be secured for credit card payments, as the need for security in online payments had increased extremely with the advent of the Internet. The changeover to the EMV standard was completed in Europe by the end of 2011. Thus, at least in the real world, joint efforts had succeeded in making cashless means of payment a little more secure.⁴²⁸ In the digital space, however, credit cards were to become just as secure. As a result, the credit card companies began working together on *secure transaction protocols* (SET) and 3D-Secure. Credit cards had to become a secure online payment method. This was to help alleviate the bank customer’s fear that his or her personal data had been intercepted during a credit card transaction on the Internet or had fallen into the wrong hands through a data leak. In addition, the use of these security concepts should increase the acceptance of credit as an online payment method. With the advent of the Internet, credit card

⁴²⁵Groupement des Cartes Bancaires, Communiqué de presse, *L’Europe de la carte bancaire en marche, grâce à l’adoption du standard de carte à puce EMV*, Paris, 20.04.2005.

⁴²⁶EUROPEAN CENTRAL BANK, *Second report on card fraud*, (State:14.10.21).

⁴²⁷HANSMANN, Uwe & NICKLOUS, Martin & SCHÄCK, Thomas, & SCHNEIDER, Achim & SELIGER, Frank, *Smart Card Application Development Using Java*, Springer-Verlag, 2002, pp. 76-79.

⁴²⁸EUROPEAN CENTRAL BANK, *Second report on card fraud*, (State:14.10.21).

fraud had become an international problem.⁴²⁹ It is therefore not surprising that Visa developed the security standard 3D-Secure and its *Secure Commerce Programme* to increase the acceptance of 3D-Secure among European banks and their customers.⁴³⁰

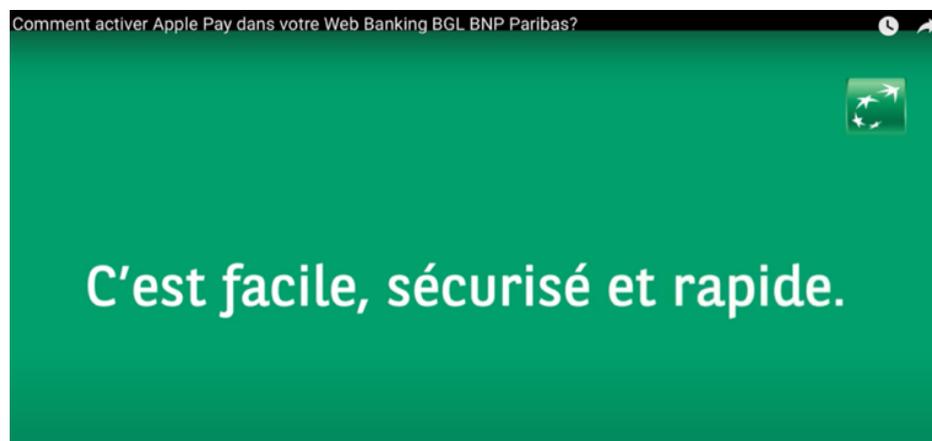


Figure 28- BGL BNP Paribas promoting Apple Pay on their YouTube channel.

Thus, Visa, MasterCard and Europay did their utmost to give their credit cards a secure coating through security software. Therefore, in addition to promoting credit cards as a secure means of travel, the promotion of credit cards as a secure online means of payment became established in France, Germany and Luxembourg, even if not all banks immediately followed suit. Not only was the software promoted as a security factor, but also the promise that for payments with 3D Secure, only the card-issuing bank would now be liable for damages and in the case of misuse. This created a reversal of liability that was supposed to protect the merchant from payment defaults. According to the credit card organisations, the advantage for the customer is that card data can almost no longer be tapped and that the card is protected against misuse, since it can no longer be used arbitrarily on the Internet for shopping without the necessary access data. This shows that the increasing need for security on the part of banks, credit card organisations and consumers was reflected in the fact that innovation came about through cooperation. Thus, it is not surprising that credit card payments, especially in the digital space when it came to 3D Secure, were promoted as more secure online payments, as seen here in the example of the Banque de Luxembourg advertisement for 3D Secure and the accompanying blog post that is part of the Luxembourg bank's digital marketing mix. However, the element

⁴²⁹Page, Universität Mannheim, uni-mannheim.de, archived on 09.02.1999 by Internet Archive, URL: <https://web.archive.org/web/20160305083848/http://trumpf-3.rz.uni-mannheim.de/www/sem96s/webbrum.uni-mannheim.de/bwl/zenner/seminar/set.htm> (State:14.10.2021).

⁴³⁰BÖHMER, Thomas, *Der Einsatz von Kreditkarten zur Abrechnung von Leistungen aus dem Internet*, Diplomica Verlag, 2004, pp. 62-71.

of security became a fixed element of bank marketing to promote the security of credit cards in the digital space at the latest around the 2010s.⁴³¹

In addition to security as an element of advertising for a cashless means of payment, especially in credit cards, a trend is emerging at the end of the study period to also advertise credit cards with their speed and security due to digital wallets. For example, Apple Pay includes a wallet for digital credit cards and serves as case study in this section to give an outlook on the most recent developments in the cashless payment market in Luxembourg, France, Germany and Europe. Security is an elementary factor in increasing the usage of a credit card by a cardholder. However, the speed of a credit card transaction is just as important. The transaction speed influences the perception of a payment instrument. With a certain market saturation, as it is the case in the credit card market in Europe, market shares and the acceptance of credit cards can only be increased by influencing the cardholder's perception of credit cards. It is therefore not surprising that banks began to promote their new payment methods as secure and fast.⁴³²



Figure 29- Banque de Luxembourg promoting 3D Secure with the slogan: *Mehr Sicherheit für Ihre Online-Zahlungen mit 3D-Secure.*

Here, young men and women and families alike represent the target group. The promotional films and educational videos for Apple Pay by BGL PNB Paribas are exemplary for the geographical scope of this dissertation. They show young women as well as men or families who simplify their lives with Apple Pay. For example, in a 15-second commercial on its Facebook channel, it shows a young father and mother with their son at the fair. The son gets

⁴³¹Banque de Luxembourg, *Mehr Sicherheit für Ihre Online-Zahlungen mit „3D-Secure*, in: *banquedeluxembourg*, URL:<https://www.banquedeluxembourg.com/de/bank/bl/blog/-/blogpost/mehr-sicherheit-f-c3-bcr-ihre-online-zahlungen-mit-e2-80-9e3d-c2-a0secure-#page-01> (State:14.10.2021).

⁴³²SCHUH, Scott & STAVINS, Joanna, *How do speed and security influence consumers' payment behaviour*, No 1871, December 2015.

an ice cream, but he wants to go on the carousel immediately. The young father not only holds the ice cream but eats it. Before the boy notices, however, the mother sprints off to get another ice cream for the son. She pays with her mobile phone via the Apple Pay app. A voice accompanies the seconds in which the viewer sees the mother holding the mobile phone up to the reader and announcing: “*In a world that is changing, you pay in complete safety*”. Thus, the mother was able to prevent the boy from having a tantrum because ice cream eaten by his father. The father and mother look at each other in love and a voice sound and quotes the bank’s slogan: “*BGL BNP Paribas La Banque d’un monde qui change*”.⁴³³ This shows that the topic of security, coupled closely with tourism, became a popular marketing element for credit cards in retail banking. The outdated image that only young men represented a target group had been thrown overboard, but the focus was still on a young working class that could afford an iPhone. It is therefore not surprising how the financial group *Deutscher Sparkassen und Giroverband e. V.* promoted the introduction of Apple Pay and that it is also possible to use their debit card in combination with a wallet as follows:

*“Security and confidentiality have the highest priority with Apple Pay. When using a Sparkasse Card with Apple Pay, the actual card numbers are not stored on the device or on Apple’s servers. Instead, they are assigned a unique device account number that is encrypted and securely stored in the device’s Secure element. Every app or online purchase is secure because authentication is done either via Face ID (facial recognition), Touch ID (fingerprint) or the device’s code.”*⁴³⁴

The *Banques Populaires* in France also believed in Apple Pay and describe the security advantages of Apple’s digital wallet on their website as follows:

“Apple Pay is a mobile payment solution that relies on the security of your Visa payment card:

- *Your physical card number is neither present in the Apple Pay-enabled iOS device nor shared with the merchant.*
- *Every payment made via your iPhone, iPad or Mac with Touch ID requires you to authenticate using Touch ID, Face ID or your passcode.*
- *Every payment made via Apple Watch is protected by a passcode that only you know and that you enter on your Apple Watch every time you put it on your wrist.*
- *In addition, every Apple Pay payment is subject to a systematic authorisation request to your bank.*

⁴³³Banque Générale du Luxembourg BNP Paribas, Apple Pay advertisement posted on the 02.09.2019 on their Facebook Channel BGL BNP PARIBAS, URL: <https://m.facebook.com/watch/?v=480632135824100&rd=1> (State:14.10.2021).

⁴³⁴Deutscher Sparkassen und Giroverband e. V., *Pressemitteilung, Apple Pay*, 13.07.2021., in: dsgv, URL: https://www.dsgv.de/newsroom/presse/210713_PM_Apple_Pay_und_Girocard_27.html (State:14.10.2021).

*To learn more about the security and privacy of Apple Pay, visit the Apple website.*⁴³⁵

Apple Pay has its competition as well, as other mobile phone manufacturers such as Samsung are also working on mobile online payment methods such as Samsung Pay or, as was discussed in the previous chapter, Ali Pay. Nevertheless, it is interesting to look back at Sebastian Gießmann's work *Money, Credit and Digital Payment 1971/2014: From the credit card to Apple Pay* where he wrote the following lines:

*"Tkacz and Velasco (2018) have convincingly argued that Apple Pay deliberately wants users to "experience money," thereby creating "experience money" as a digital differentiation within means of payment. Apple demonstrated this with two videos of a payment situation, which transformed the awkwardly long card interaction into a 3-s touch authorization via putting one's finger on the iPhone's fingerprint-reading home button (Figure 3). (The video thus created a fiction because the real-life time difference is not that different.)"*⁴³⁶

If the speed of cashless payment solutions is slowed down on a technical and legislative level, as by the double authentication process described earlier, Apple Pay will continue to sell at least the feeling of speed and security to its customers, considering that a card interaction takes only 3 seconds. Thus, at the end of the investigated research period, credit card advertisement shifted towards making them appear faster and more secure. As we have already seen, whoever controls the cashless payment market also controls retail banking and the payment data of their customers. However, one can observe that the cashless payment market is undergoing another transformation, as Visa and MasterCard are trying to expand their businesses and are starting to invest in crypto payment cards or shift the payment process completely to biometrics to secure and execute credit card payment transactions.⁴³⁷ However, this development underlines the trend that the payment market is on the move to find the fastest and most secure means of payment, considering that blockchain technology can be used to pay in real time nowadays.⁴³⁸

⁴³⁵Banques Populaire, *Découvrez Apple Pay*, in: banquepopulaire, URL: <https://www.banquepopulaire.fr/conseils/apple-pay/> (State:14.10.2021).

⁴³⁶GIEßMANN, Sebastian, *Money, Credit, and Digital Payment 1971/2014: From the Credit Card to Apple Pay*, in: *Administration & Society*, 2018, pp. 1259-1279.

⁴³⁷WINTERMEYER, Lawrence, *Crypto Cards are giving Bitcoin Purchase Power*, in: forbes, URL: <https://www.forbes.com/sites/lawrencewintermeyer/2021/12/26/crypto-cards-are-giving-bitcoin-purchase-power/?sh=280be7967ee0> (State:14.10.2021).

⁴³⁸ALT, RAINER, *Bitcoin*, in: gabler-bankenlexikon, URL: <https://www.gabler-banklexikon.de/definition/bitcoin-99843> (State:14.10.2021).

2.3.4. Conclusion

To sum up, security standards were used as an effective marketing strategy to increase sales and to gain important shares of the European payment market. The implementation of security standards helped to build trust among customers resulting in greater sales of debit and credit cards as seen already in the 1980s in France. Before the *carte à puce* began its triumphal march in France and later worldwide, it took almost 15 years from its invention in 1974 to its implementation in French bank cards. It is not surprising that Roland Moreno's chip card later found its way into French retail banking, as the engineer already noted in 1974 that his invention would be particularly suitable for credit cards. However, the French *carte à puce* could not finally establish itself in international and European retail banking. Nevertheless, it helped to drastically reduce crime rates in France. With the integration of the chip in debit and credit cards, French banks were ahead of their business partners worldwide. It should be noted, however, that even in France not all banks were convinced by the new encryption technology. Many European banking associations believed the changeover to chip cards was too cost intensive. Magnetic stripe cards were still widely used in Europe at that time. This is not to denigrate the *carte à puce* but to counter the glorifying narrative of the French media landscape regarding the *carte à puce*. It also shows that innovation rarely develops in linear economic cycles as depicted in these narratives, but in wavy lines. Nevertheless, the *Groupement des Cartes Bancaires* spread the idea of security throughout Europe with their lobbying for the *carte à puce* in the 1990s. With the introduction of the EMV standard between 1995 and 2011, the chip card finally gained acceptance in Luxembourg and Germany. However, one must admit that the French banks were already miles ahead of their foreign counterparts. An understanding had developed that security concepts and common security standards were particularly suitable for creating a certain interoperability of credit card systems and increasing credit card sales. A wonderful side effect was the drastic reduction of crime with credit cards and debit cards at ATMs. It is therefore not surprising that advertising security was already widespread in France in the 1980s. In Luxembourg and Germany, it has only become more prevalent since the end of the 90s. This is not surprising, as in the same period the demand for online payment methods was also increasing in Europe. Visa, MasterCard and Europay wanted to establish credit cards, as they are suitable for this purpose, as a means of mass payment for the digital space. Innovation in this area, however, could only come about through cooperation to make credit card payments on the Internet more secure and to take away the fear of credit card holders of using credit cards as a means of payment on the Internet. Credit card fraud on

the Internet with personal data of cardholders was already a widespread phenomenon at that time. Thus, the security of 3D Secure began to be advertised intensively. Security as an advertising element became more and more important because customers on the Internet usually chose the safest, easiest to handle and fastest payment method. The topic of security became a popular marketing element alongside the credit card as universal travel money, which was taken up again and again by banks and credit card organisations.

New players such as Samsung Pay, or Apple Pay entered the market and recognised that the international and European cashless payment market in Europe and worldwide did not yet have digital wallets for credit cards or were the first on the market. However, Apple began to promote their digital wallet with security and speed. It must be said, however, that this trend took hold in the entire payment market in the 2010s, as exemplified by *Innovatron*'s promotion of their ticketing system Calypso as one of the safest and fastest. The advertisements of Apple Pay in cooperation with French, German and Luxembourgish banks as well as Visa and Mastercard show that the young working generation has supplanted the traditional image of the family as the target group. However, security and speed are not contractually binding but can be visually and tangibly demonstrated. Thus, security concepts are a particularly efficient means of achieving economies of scale, especially in the digital age. It is therefore not surprising that at the end of the research period, advertising about credit cards and digital credit cards developed in such a way that physical credit cards were primarily marketed as fully adequate financial travel protection and travel money and in the digital space as the safest and fastest means of payment. In this context, credit card advertising also shifted to the digital space, as demonstrated here by the Facebook or YouTube channels of the Luxembourg, French and German banks.

The same advertising elements and communication strategies have been transported from America to Luxembourg, France, Germany and all over Europe in terms of credit card advertising. Credit card advertising made sustained use of gender stereotyping to sell credit cards until the 2000s, at which point the target demographic began to shift to also feature women as active cardholders and working professionals. Thus, they tried not only to address an exclusive clientele with credit cards such as the Gold Card from MasterCard or *Visa Premier*, but also to make young families forget everyday financial worries such as unexpected car repairs or bills at the end of the month with the financial flexibility of the credit card. Even

though more women were appearing in credit card advertising currently, this was not an egalitarian trend. Young working men remained the main target group of the banks in terms of credit cards, even though families with working mothers and white middle class were beginning to be addressed. The credit card thus certainly did not meet the needs of the entire population and for a long time, especially between 1974 and the end of the 1980s, credit cards experienced growing pains. Travel and leisure were more the prerogatives of wealthy businesspeople until the end of the 80s, but with the increase of mass tourism in the 90s this changed and the promotion of the credit card as a means of mass travel for the white middle class became established. A need for security in cashless payments steadily established itself at the end of the 80s and beginning of the 90s. Especially in France, this was an enormous need for banks and cardholders, as they had to deal with high credit and debit card fraud cases at ATMs. Roland Moreno had already emphasised in his patent in 1974 that this new security standard was particularly suitable to protect the security of credit cards and bank cards in general against credit card misuse. Banks in France in the mid-1980s realised that they had to do something about credit card and debit card fraud and introduced it nationwide in 1993. But they also advertised the maximum security of the *carte à puce* early on, as some French banks had already introduced it in the 1980s. This was supported by public relations regarding the *carte à puce* in debit and credit cards. This was led by engineers in chief positions of marketing or technical departments of the respective banking association or credit card organisation. This way of creating a targeted counter-publicity of the CB to the discussion about credit card fraud or payment card fraud rubbed off on Luxembourg and Germany. Even the security idea and the wish to implement the *carte à puce* as an international payment standard had been brought to Visa's attention. Through the lobbying work of the CB for the implementation of the chip in debit and credit cards in Europe, the awareness spread in European retail banking that the time of the magnetic stripe was over. As early as the 1990s, this awareness helped to establish card security as a fundamental element in promoting credit cards as well as protecting oneself and one's customers from financial losses. With the emergence of the digital space and online commerce, credit card needs had changed significantly. Worldwide, credit card fraud on the Internet with intercepted customer data had become a problem. It is therefore not surprising that Visa, Eurocard and MasterCard developed the 3D Secure standard for credit card payments on the Internet at the beginning of the 2000s. They also wanted to establish the credit card as a mass payment method. The first time they advertised security intensively is to become a mass payment method on the Internet. This is the first time they really advertised with the needs of

cardholders and people who are active in online commerce in mind. In the emerging digital age, the security of payment methods is becoming an increasingly important need for all payment transaction participants, regardless of their ethnic or national origin, as shown by the example of the advertisements for biometric payment or the Apple Pay case study, but primarily young working people are still being addressed. The advertising of credit cards through the image of the man as a globetrotter was replaced by the advent of the Internet at the latest. What can ultimately be said is that credit card advertising has remained relatively the same in the geographical area studied, but it shows that the *Groupement des Cartes Bancaires* and its engineers set standards as early as the 1980s in the way they advertised credit cards, namely with security as a sales-increasing element in Europe as well as internationally. In Luxembourg, as in Germany, this understanding only began to spread with the introduction phase of the EMV standard in the 1990s. Nevertheless, it is evident in all countries that the first credit cards were promoted as a universal means of travel payment and later also as a lifestyle mass payment method on the Internet for the working European middle class. It is therefore not surprising that credit cards have evolved on the product level since their introduction in Europe from a simple payment card without a microchip to a digitised version of credit cards. Banks pursue a digital marketing mix and promote their credit cards on all their social media as a secure and fast means of payment. However, this is merely an illusion of fast payment as shown in the case of Apple Pay. Whether the illusion of fast credit card transactions overlaps with the needs of credit card holders remains to be seen. However, in addition to the element of security, speed has now established itself as a sales-boosting element for credit cards. This shows that cashless payment transactions are becoming increasingly competitive and that security concepts are becoming a suitable instrument to secure or expand market shares of cashless payment transactions.

Conclusion of the chapter

The main debates around credit and payment cards between 1960 and 2015 in Luxembourg, France and Germany focused on multilateral interchange fees and the security of payment cards. The debate on multilateral interchange fees between banks, credit card organisations and merchants, hoteliers as well as restaurant owners started in the 1970s. Since French banks were early adopters of debit- and credit cards, it is not surprising that the debate was first observed in France. Nonetheless, the debate in France, Luxembourg and Germany centred primarily on domestic interchange fees and merchant fees. In the eyes of French, German and Luxembourgish merchants, the interchange fees of banks and credit cards were completely arbitrary and non-transparent. The pricing policy adopted by banks and credit card organisations led to a lower acceptance of credit cards. Here it was merchants, hoteliers, restaurant owners, as well as petrol station owners who began to boycott credit card payments out of frustration over high interchange fees. The debates about interchange fees usually led to bank associations and credit card organisations being sued by merchants on a regular basis. In particular, the case of the HDE against MasterCard and Visa in the mid-2000s underlines that high interchange fees significantly affect the acceptance of credit cards and distort competition. The debate on multilateral interchange fees shows that it influenced the pricing and conditions policies of banks and credit card organisations, as national and multilateral interchange fees were regulated by the European Union and national competition authorities.

The second debate regarding credit and payment cards revolved around ATM and credit card fraud. It is important to underline that from 1970 to 1995, debit and credit card fraud at ATMs dominated and fuelled the debate. Constant reporting on debit and credit card fraud at ATMs and POS in France, Germany and Luxembourg led to the security of cashless payment methods being questioned. In addition, the Luxembourgish, French and German press painted a negative picture of the security of debit and credit cards. To counteract the high fraud rates at ATMs and POS as well as the negative image of cashless payment cards, banks started working on the interoperability of ATMs, POS, debit, and credit cards. In this respect, the French banks were pioneers with the introduction of the *carte à puce* for merchants, however, it was the French banks that were the first in the world to introduce their own chip card with national security standards in 1993. By introducing the chip card, French banks were able to drastically reduce fraud rates at ATMs and POS in just a few years. However, with the advent of the Internet, reports of credit card data theft and credit card fraud increased. As a result, the debate

about credit card security regained momentum again, as credit cards were preferred as an online means of payment but revealed significant security gaps. Banks and credit card organisations were aware that the acceptance of credit cards as a means of payment in the digital space was slowed down by the constant reporting of credit card security breaches. In the end, it becomes clear French, Luxembourgish and German banks countered the debates regarding the security of cashless payment methods by hiring engineers. They represented the only actors of the cashless payment market with the necessary technical know-how to counteract the debates just discussed. In addition, engineers were aware that the implementation of security standards would increase transaction volumes of credit and debit cards. French engineers set new standards in cashless payment transactions, bank communication strategies and changed retail banking worldwide due the implementation of the *carte à puce* in 1985. It should be noted that Roland Moreno was already promoting the use of the chip card as a debit or credit card in his patents in 1974. These findings put into perspective the success narrative used by French banks that the success of the *carte à puce* was based on the strong cohesion of the French banking community during that period. In the last part of this thesis, the communication policy of French, Luxembourgish, and German banks in the Press and in the media is reconstructed, drawing from an analysis of marketing campaigns, public relations and the introduction of technological standards at the supranational dimension. Thus, the *public-facing side* of credit and cashless payment between 1960s and the 2000s is historically reconstructed and discussed. Furthermore, an outlook on the actual situation of the European cashless payment market to demonstrate that the PSD II was not only implemented to counter consumers fears. Furthermore, the analysis of the regulations regarding the cashless payment market introduced by France, Luxembourg, Germany as well as the European Union provides insights to an increasingly political will to promote cashless payment cards with the upcoming of the European single and digital market. Consequently, the last part includes the reconstruction of the shift from regulating national payment markets in Europe to deregulate them.

Part 3 - Advertising credit cards and cashless payment: the visible dimension of banks' communication strategies to the public

3. Advertising credit cards and cashless payment: the visible dimension of banks' communication strategies to the public

This part analyses the visible dimension of the bank's communication strategies to the public, namely, how credit cards were advertised on television, at Press conferences, in the Press, or in the digital space, and which target groups were addressed. Furthermore, this part demonstrates how the credit card as a product evolved during the investigated timeframe. As mentioned by Sebastian Gießmann in *Money, Credit and Digital Payment 1971/2014, From the Credit Card to Apple Pay* these questions have already been explored for the United States of America.⁴³⁹ In the US it was already common for companies to offer cashless payment cards with a loyalty programme before the Second World War. These were mostly issued by petrol stations or airlines and offered deferred payment to its cardholders. Later, credit card companies such as Diners Club pursued the idea of introducing credit-based cashless payments in restaurants. Thus, the target group of credit card companies such as American Express or Diners Club was rather an elite circle of travelling businessmen in the 1950s. In the 1960s, the target group of credit card organisations in the USA continuously diversified. Gießmann describes the overall picture at that time as follows:

*"Banks now targeted young families with acute credit needs, while maintaining elite credit cards for a mobile, white, male clientele. In addition, companies began to use credit cards as "corporate accounts" for their travelling employees. In general, the entire white middle class was targeted - including women. Yet this was not an egalitarian move. Credit card advertising remained extremely sexist, while the general genre of "consumer" shifted from women to couples and sometimes back to single men."*⁴⁴⁰

Consequently, the following questions arise: were the same images exported from America to Luxembourg, France and the rest of Europe? Who were the target audience groups of the European banks? How and at what point did the advertising for credit cards change? Were these banking services adapted to the European suburban middle class, as Louis Hyman proved in the case of the United States of America?⁴⁴¹ The first chapter related to the analysis of Eurocard advertisement in Germany builds on the findings of Sebastian Gießmann, who already showed in his work, *Ein weiteres gemeinsames Medium zur Banken-Kooperation*, that

⁴³⁹COHEN, Lizbeth, *A consumers' republic*. The politics of mass consumption in post-war America, New York, First Vintage Books Edition, 2003.

SWARTZ, Lana, *Gendered Transactions*. Identity Payment at Midcentury, in: *Women's Studies Quarterly* 41, 1-2, 2014, pp. 137-153.

⁴⁴⁰GIEßMANN, Sebastian, *Money, Credit and Digital Payment 1971/2014, From the Credit Card to Apple Pay*, in: *Administration & Society* 50(9), 2018, pp. 1259-1279.

⁴⁴¹HYMAN, Louis, *Debtor Nation*, Princeton, Princeton University Press, 2012.

the Eurocard represented a European credit card with an exclusive aura for a limited target group.⁴⁴² The timeframe of this chapter covers the historical reconstruction of credit card advertising from the 1968 until 2015. Thus, the development of credit card advertising is reconstructed from billboards to digital spaces by Luxembourgish, French and German banks as well as credit card organisations such as Visa or MasterCard for the digital space. In addition, Sebastian Gießmann points out in his work, *Money, Credit and Digital Payment 1971/2014, From the Credit Card to Apple Pay*, that digital wallets usually only give the illusion of security and speed, and that they are advertised with these elements. This part of the work thus offers a further panorama of how it came to be that credit cards were advertised with an emphasis on their security and speed.⁴⁴³ The analysis of the implementation of security standards by the PSD II therefore serves to historically demonstrate how the security of credit cards became a sales-increasing element in retail banking. Furthermore, this chapter reveals which actors shaped this development in European retail banking. The communication policies of French, Luxembourgish and German banks in the Press and in the media are reconstructed in this part of the dissertation, drawing from an analysis of marketing campaigns, public relations and the introduction of technological standards at the supranational dimension. Therefore, the second part of this chapters demonstrates that the public relations of banks were influenced by engineers as well as by banks and credit card organisations to polish up the image of credit cards and debit cards. In addition, this part shows that banks used public relations to create a counter public within the debates about the security of credit cards and to influence them with the know-how of their engineers. Thus, the public-facing side of credit and cashless payment between 1960s and 2015 is historically reconstructed and discussed. Nevertheless, the marketing strategies and messages can be divided into three phases. During the introduction phase as a mass payment method beside traveller's cheques between 1970 and 1980, potential customers were told what they could do with a credit card, how it worked and its apparent advantages such as the purchase of expensive luxury items. During the second phase between the 1980s and the 1990s, travelling without borders, financial liquidity and financial limitlessness and worldwide acceptance of the credit card were advertised. During the third phase between the 1990s and 2000s, the credit card market was intensively contested, and credit card companies and banks marketed their cards even more with extra benefits. The first

⁴⁴²GIEßMANN, Sebastian, *Ein weiteres gemeinsames Medium zur Banken-Kooperation*, Wiesbaden, Springer VS, 2019, pp. 169-198.

⁴⁴³GIEßMANN, Sebastian, *Money, Credit and Digital Payment 1971/2014, From the Credit Card to Apple Pay*, in: *Administration & Society* 50(9), 2018, pp. 1259-1279.

subchapter begins with an analysis of credit card advertising, primarily from television and the Press, by French, Luxembourgish and German banks between 1968 and 2015. This part of the thesis demonstrates which elements beside the security of cashless payment methods as well as communication policies were used by French, German and Luxembourgish financial institutions as well as credit card organisations to promote credit cards until today. Finally, this chapter of the thesis concludes with an outlook on the current situation in the European cashless payment market.

3.1. Credit card advertisement: Visa, Euro & MasterCard in Luxembourg, France and Germany

In the secondary literature, there are many different versions of the emergence of the first credit card. However, there is consensus on the country of origin of bank cards: the United States of America. Around 1920, the first cards with payment functions were issued to hotel groups and oil companies. However, these were not the credit cards we are familiar with today. The most recent studies date the first universal credit card to 1950. Diners Club launched its first credit card on the American market. Other credit card companies such as Visa, MasterCard and Amex followed and entered the market of cashless payments. By the end of the 1950s, these credit card organisations started to establish the structures and processes we know today in cashless payments in the credit card business and spread them all over the world, as was demonstrated in the previous chapter.⁴⁴⁴ In March 1967, the *Rothschild Bank* in Paris was the first continental European credit institution who distributed its own credit cards to 1000 selected customers. The credit card was in the colours black, white and yellow and carried the inscription *concordia, industria, integritas* as well as the Rothschild family coat of arms on the front. The design of the credit card was probably intended to give it an aristocratic and exclusive appearance. A member of the bank's management explained that an individual approach was taken in the selection of customers who could receive a credit card. In particular, the family name, the title or the account balance would be decisive for receiving one. For an elite few, it was possible to pay by credit card in participating luxury boutiques of haute couture, prestigious restaurants, or luxury hotels. For example, at *Christian Dior*, *Maxim's*, or the *Carlton*, it was possible to pay with the "*luxury passport*", as the German Press described the credit card. Diners' Club and American Express were already known and available in Europe

⁴⁴⁴HUCH, Stefan, *Die Transformation des europäischen Kartengeschäfts*, Berlin, Springer Gabler, 2013, pp. 87-89.

in the 1960s. Nevertheless, credit cards were considered from a large part of European society as a means of payment for the rich and famous, as well as businessmen.⁴⁴⁵

From the early 1960s onwards, cashless payment transactions increased disproportionately on an international scale. On average, a customer made 100 non-cash transactions per year. In 1975, there were already 5.5 billion non-cash transactions and 400 operations per year. These developments were mainly fuelled by private customers. Increased incomes changed habits in salary payments, electronic payment executions, the monitoring of standing orders by credit institutions, but also different leisure-time behaviour led to increased volumes of cashless transactions in Europe. In 1976, *Deutsche Bank's* cashless payment experts estimated that there were 140 million private accounts in major European countries such as France and Germany. The high number of transactions per year flooded the European credit institutions with transfer orders. Consequently, a common method of payment had to be found to cope with these developments. Since financial institutions assumed that customers' needs for cashless payment transactions were the same in almost every country of the world, financial institutions decided to mainly advertise cheque cards, credit cards, transfer procedures, standing orders and direct debits.⁴⁴⁶ The credit card systems Eurocard, MasterCard and Visa dominated in the studied geographical scope, as already demonstrated in the previous chapter. Visa and MasterCard began to compete harder for new cardholders from the beginning of the 1980s in Europe. The US market was already exhausted by this period and credit card organisations such as Diners Club already owned large market shares in France, Germany, and Luxembourg. In 1988, the average US citizen had 2.9 credit cards in his or her wallet, a figure 9 percent of potential cardholders in the United States based on marketing standards of the time. At this point, American credit card institutions had to lower their credit standards to gain new customers. At that moment, however, these strategic considerations were an implausible option, as fears of recession dominated the American financial industry. As a result, the statement of Russel Hog, president of MasterCard, in 1988 was not surprising when he announced: "*We see the continent as a mass market for us.*"⁴⁴⁷ These developments explain the extreme pick of advertisement of credit cards in television, Press, as well as large scale poster campaigns during the 1980s in

⁴⁴⁵Unknown author, *Pump à la carte*, in: spiegel.de, URL: <https://www.spiegel.de/politik/pump-a-la-carte-a-7727242-0002-0001-0000-000046437705?context=issue> (State:28.04.2021).

⁴⁴⁶Archive Deutsche Bank, *Experten Einschätzung der Deutschen Bank in Hinblick zum bargeldlosen Zahlungsverkehr, Überblick über die Situation im Zahlungsverkehr europäischer Banken und Überlegungen zu möglichen Kooperationen*, in: Folder cashless payment & credit cards, Frankfurt, 24.09.1976, pp. 2-14.

⁴⁴⁷Archive Deutsche Bank, *Kopie für Herrn Dr. van Hooven*, in: Folder cashless payment & credit cards, *The Wall Street Journal, Visa and MasterCard hunt harder for new cardholders Journal*, 07.04.1988.

Europe. Therefore, the focus of the study and especially in the next paragraph lies mainly on mass marketing campaigns for credit cards via television, Press or advertising posters in France, Germany and Luxembourg between the 1980s and 2000s, as these advertisements were intended to reach a large audience. Furthermore, mass marketing was and still is an important tool from the marketing mix of company communication policies, along with sales promotion and public relations.⁴⁴⁸ The credit card advertisements that most explicitly illustrate the results of the research were selected as case studies as it would be unrealistic to provide an exhaustive presentation and analysis of the countless publications and audio-visual documents analysed for this work. This subchapter does not include the period from 2000 to 2015, as the dominating visual and internal bank communication policies were reconstructed in the second chapter.

3.1.1. The credit card in France: A cashless travel currency and lifestyle product promising financial flexibility

In April 1972, the first credit card advertisements of the *Groupement Carte Bleue* flickered across television screens in France. A smartly dressed man in the style of an evening news anchor explained to potential customers of the upper middle class what a credit card should be used for. The middle-aged man announced: “*Do you know what the Carte Bleue stands for? It’s your wife’s birthday and you don’t want to overdraw your current account? How do you do that? You take your Carte Bleue, you choose a gift for your wife, and you pay with the Carte Bleue. Your card is not charged until the following month. Interesting, no? And when you get home...*” At this moment there is a brief silence and a man, and a woman are kissing each other. The presenter excuses himself when the audience could no longer see the young couple and continues: “*Carte Bleue to always have money available.*”⁴⁴⁹ The *Groupement Carte Bleue* campaign for credit cards was primarily aimed at wealthy, young and married couples in the 1970s, but it was primarily the male clientele who were targeted by the banks. Nonetheless, it was clear to the creators of the campaign that women in France had been achieving greater social agency compared to previous decades. It was only 6 years earlier that married women were allowed to open their bank accounts without requiring consent from their spouse.⁴⁵⁰ It had become inevitable to include women in commercials and marketing campaigns, even if women

⁴⁴⁸WÖHE, Günther, *Einführung in die allgemeine Betriebswirtschaftslehre*, 25. Überarbeitete und erweiterte Auflage, München, Vahlen, 2013, pp. 466-470.

⁴⁴⁹ GROUPEMENT CARTE BLEUE, *Carte Bleue: carte de crédit*, in: ina.fr, URL: <https://www.ina.fr/video/PUB3212580062/carte-bleue-carte-de-credit-video.html> (State: 28.02.2021).

⁴⁵⁰ EFFOSSE, Sabine, *El cheque en Francia: el lento ascenso de un medio de pago de masas (1918-1975)*, in: *Revista de la Historia de la Economía y de la Empresa*, XI, 2017, pp. 77-94.

were not the primary target group. However, banks and their advertisements reinforced the established gender roles of the time. For example, a TV spot during that time, explained to the male viewer how he could get rid of an “*uncomfortable question*”. Every married man would know the following question: “*Where does all the money go?*” To have an answer to this question, one should do one’s shopping, go to restaurants or buy clothes for the children with the *Carte Bleue*. At the end of the 32-second spot, a man appears and says to his wife in a reproachful tone: “*Now we know where all the money goes*”. So here women were portrayed as the treasurer but at the same time as consumer and spender. Men, on the other hand, were portrayed as hard-working members of society who could use the *Carte Bleue* not only as a tool of financial flexibility but also to oversee their wife’s spending’s.⁴⁵¹

At the end of the 1970s and during the 1980s, this normative image of men and women remained unchanged, but the advertisers shifted the scenes just discussed from domestic to holiday settings (see Appendix p. 444-447.).⁴⁵² French Banks tried to convey to the audience those men and woman travelling with the *Carte Bleue Visa* were likeable and credible. Having a *Carte Bleue Visa* on the table during holidays as well as in the restaurant symbolised one’s financial credibility. The audience was shown picturesque images of a coastal holiday and a woman buying souvenirs attracts the viewer’s eye.⁴⁵³ At that time, tourism in Europe began to flourish after having started in earnest during the 1960s. Over the coming decades, countless travel providers offered the European population the opportunity to travel to the most distant holiday destinations of their dreams. At the beginning of European tourism, the offer was limited to bus and train travel within Europe. Later, the emergence of flights on an international scope increased the volume of travel by European society. Within 40 years, the intensity of travel tripled from 9 million to 32 million travellers by 1991. It should be noted that travelling at that time cannot be compared to today’s mass tourism. Most holidays during this timeframe were taken to neighbouring countries and within Europe by car.⁴⁵⁴ It is therefore not surprising that the *Carte Bleue Visa* had been promoted by French banks for restaurant visits, shopping

⁴⁵¹GROUPEMENT CARTE BLEUE, *Carte Bleue: carte de crédit*, in: ina.fr, URL: <https://www.ina.fr/video/PUB3212580084/carte-bleue-carte-de-credit-video.html> (State:28.04.2021).

⁴⁵²Archive Crédit Agricole, *Carte Bleue Visa Campaign in the 1970s*.

⁴⁵³GIE CARTE BLEUE, CARTE BLEUE: *Carte de crédit*, in: ina.fr, URL: <https://www.ina.fr/video/PUB3491033031/carte-bleue-carte-de-credit-video.html> (State:28.04.2021).

⁴⁵⁴GYR, Ueli, *The History of Tourism: Structures on the Path to Modernity*, (State:28.04.2021).

in boutiques, refuelling the car at petrol stations or enjoying holidays in Spain. The credit card should be used in all situations, as it “*made life easier*”.⁴⁵⁵



Figure 30- Archive BNP Paribas, Advertisement Visa Premier, Choisissez la bonne carte, end of the 1990s.

In the 1980s, it was *Crédit Agricole*, with its subsidiary *Sofinco*, that tailored advertisements and credit cards for young middle-class women. The *Carte Kangourou* was supposed to make unforeseen purchases possible. This example of advertisement and credit card were exemplary for the new marketing approaches of financial institutions in France already since the early 1980s. From then on, credit cards were marketed by banks and credit card organisations especially for young working men and women as a lifestyle product.⁴⁵⁶ Traditional poster campaigns mostly showed the existing banks offer of cashless means of payment and logo as large parts of the middle-upper class already owned a credit card at the end of the 1970s. For example, around 3.5 million people already used the *Carte Bleue Visa* in 1983 and 1984.⁴⁵⁷ However, especially between the 1980s and 1990s, there was a trend to promote credit cards as a lifestyle product and travel money which “*offered the owner maximum financial*

⁴⁵⁵GROUPEMENT CARTE BLEUE, *Carte Bleue Restaurant: carte de crédit*, URL: <https://www.ina.fr/video/PUB3249386059/carte-bleue-restaurant-carte-de-credit-video.html> (State:28.04.2021).

⁴⁵⁶CREDIT AGRICOLE, *Carte Kangourou: carte de crédit: jeune femme au telephone*, in: ina.fr , URL: <https://www.ina.fr/video/PUB3249886043/carte-kangourou-carte-de-credit-jeune-femme-au-telephone-video.html> (State:28.04.2021).

⁴⁵⁷GROUPEMENT CARTE BLEUE, *Carte Bleue: carte de crédit: client*, in: ina.fr, URL: <https://www.ina.fr/video/PUB3252496072/carte-bleue-carte-de-credit-client-video.html> (State:28.04.2021).

freedom".⁴⁵⁸ In the 1990s, France was flooded with MasterCard advertisements, as they were above all competing with Visa for market shares in France. In particular, the MasterCard Gold designed to be spread among the population. The credit card was promoted with all its advantages of financial flexibility when travelling.⁴⁵⁹ Thus, young, well-off men were also the main target group in France in the standard credit card segment as well as in the premium segment. This sketchbook shows a drawing of scenes from the Visa commercial *L'écrivain* of the *Groupement des Cartes Bancaires* in 1993. A young writer waits in his Paris apartment for a phone call. While waiting, he remembers that he was able to travel around the world with Visa Premier, thus collecting stories for his book and thanks to his insurance against flight delays, he still made it to Paris in time to receive the important call about publishing his book. At the end of the scene, a voice-over asks the question: "Would he have finished his book without Visa Premier?"⁴⁶⁰



Figure 31 – Archive BNP Paribas, Sketchbook of the advertisement *L'écrivain* promoting Visa premier for the CB in 1993.

⁴⁵⁸EUROCARD, EUROCARD MASTERCARD: *Carte de crédit*, in: ina.fr, URL: <https://www.ina.fr/video/PUB3774386005/eurocard-mastercard-carte-de-credit-video.html> (State:28.04.2021).

⁴⁵⁹Groupement des Cartes Bancaires, *Gold MASTERCARD TF1 / 52 SUR LA UNE: CARTE DE CREDIT*, in: ina.fr, URL: <https://www.ina.fr/video/PUB3774430055/gold-mastercard-tf1-52-sur-la-une-carte-de-credit-video.html> (State:28.04.2021).

⁴⁶⁰Archive BNP Paribas, *Sketchbook of the advertisement L'écrivain promoting Visa premier for the Groupement des Cartes Bancaires* in 1993.

MasterCard had been put under pressure by Visa since the end of the 1980s. Visa expanded its market share not only in France but worldwide. They achieved a gain of worldwide market shares of consumer credits through a specific marketing strategy: *sponsoring major sporting events with a worldwide audience*. In 1986, Visa signed a sponsorship contract with the Olympic Organisational Committee and became the main sponsor for the upcoming and future Olympic Games. The contract contained a special clause stating that Visa would be the only accepted cashless payment card at the Olympic Games venues. In this way, Visa managed to become a sponsor for one of the world's biggest sporting events until the present day.⁴⁶¹ MasterCard followed suit and acquired the same rights from the *Fédération Internationale de Football Association* in 1990 and became the main sponsor of the Football World Cup. In 1998, the World Cup took place in France and played into MasterCard's hands to promote its credit cards worldwide and especially among the French population. Consequently, the 1990s witnessed the peak of MasterCard advertising in France under the guise of international relations due football.⁴⁶²



Figure 32- Archive BNP Paribas, Cover of the journal Espace BNP, 26.07.1999.

⁴⁶¹VISA, *Visa and the Olympic Games, 30 years of history together*, in: vis.no, URL: <https://www.visa.no/dam/VCOM/global/visa-everywhere/documents/visa-and-the-olympic-games-timeline.pdf> (State:28.04.2021).

⁴⁶²FEDERATION INTERNATIONALE DE FOOTBALL ASSOCIATION, *MasterCard – Official Partner of the 2006 FIFA World Cup™*, in: fifa.com, URL: <https://www.fifa.com/who-we-are/news/mastercard-official-partner-the-2006-fifa-world-cuptm-86799> (State:28.04.2021).

Looking back, we see French banks, in collaboration with Visa, Eurocard and MasterCard made their credit cards tempting for French customers through the offer of financial flexibility, as well as cashless travel currency and as a lifestyle product. However, the advertising campaign *Les plaisirs de la vie* exemplifies the distribution of roles between men and women in French credit card advertisements since the 1970s. It becomes clear that French banks propagated a traditional distribution of roles between men and women. The magazine *Espace BNP* from 1999, published by the marketing department of the French bank, was dedicated to debit and credit cards from Visa. According to the French financial institution women oversaw internal activities of a family, taking care of children as well as the household, whereas men oversaw the financial needs of a family.⁴⁶³ However, the French bank association *Groupement des Cartes Bancaires* (CB) launched a marketing campaign called *Carte bleue Visa. Les plaisirs de la vie* in 2006. The campaign for the *Carte Bleue Visa* in cooperation with the agency *Mikro Image* produced a short clip of thirty-one seconds. In fact, they produced a longer version of the scenario but reduced it for television advertising. The opening sequence shows a middle-aged woman at a breakfast table opening a yellow gift box to the sounds of “*What the world needs now is love*” by Jackie De Shannon.⁴⁶⁴ In the following sequence, the CB gives a quick response to the question mentioned in the song title: An expensive breakfast popping out of the present box with macaroons, orange juice and a hot coffee bought with the *Carte Bleue Visa*. The song continues and leads the viewer through three additional sequences in which the advantages of the *Carte Bleue Visa* are demonstrated. Paying a bill at the garage instantly, enjoying a performance with friends, or just taking the whole family on a train ride become possible if you own one of these plastic cards.⁴⁶⁵ In addition, the actors placed by *Mikro Image* in the advertising represent the French middle class. Both, men and women are represented in the advert, but they portray a certain stereotype. The women in *Les plaisirs de la vie* are using the plastic for buying presents for themselves or to have a good time at the theatre. On the other hand, the male protagonists are paying their bills at the garage or showing their family how to travel properly. To sum up, *Les Plaisirs de la vie* conveys the following message: Everyone from the middle class, both men and women, can simplify their everyday lives by using the *Carte Bleue Visa*. The plastic card represents taking advantage of the sweet pleasures of life. In contrast, those who do not own a *Carte Bleue Visa* would be certainly exposed to financial

⁴⁶³Archive BNP Paribas, Journal Espace BNP, 26.07.1999.

⁴⁶⁴DESHANNON, Jackie, *What the world needs now is love*, by DAVID, Hal & BACHARACH, Burt, 1965.

⁴⁶⁵Mikro Image & Groupement des Cartes Bancaires, *Carte Bleue Visa: Les plaisirs de la vie garage version 30 secondes*, in: ina.fr, URL: <https://www.ina.fr/video/PUB3103741016/carte-bleue-visa-les-plaisirs-de-la-vie-garage-version-30-secondes-video.html> (State:28.04.2021).

obstacles because they could not enjoy *Les plaisirs de la vie* as promoted by the banks. Consequently, one can conclude that the advertising message of credit card organisations and banks did not change in more than 30 years in France, but rather that target groups broadened.

3.1.2. Credit card advertisement in Luxembourg: A story about targeting young married couples

In the early 1980s, customers of Luxembourgish credit institutions were able to purchase the Eurocard. The introduction of Eurocard was announced to the bank employees of the *Banque Générale du Luxembourg* and members of the Luxembourgish bank association by a circular letter which explained that due to the worldwide upcoming tourism a European credit card would be needed to also fulfil Luxembourgish customers' changing needs such as liquidity during their business travels or vacation.⁴⁶⁶

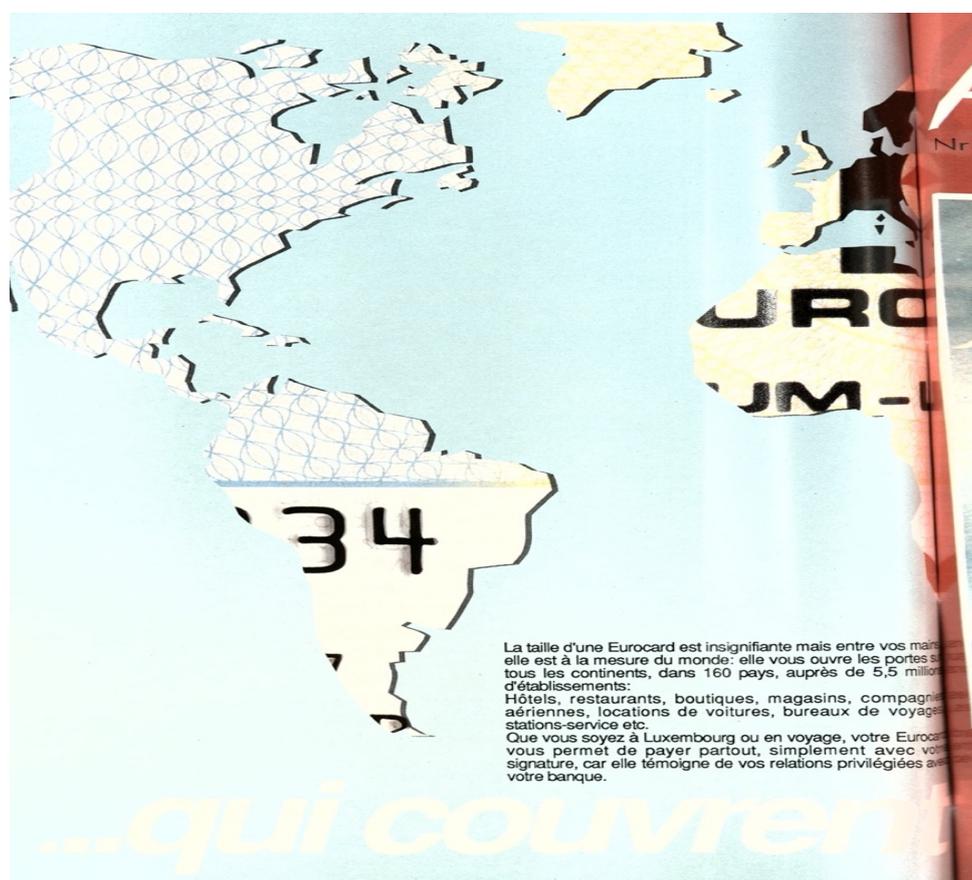


Figure 33 – Eurocard advertisement promoting financial flexibility all over the world, 1980s.⁴⁶⁷

⁴⁶⁶Archive Banque Générale du Luxembourg PNB PARIBAS, Dossier Eurocard, *Notes aux services et agences*, N°52, *Eurocard*, 1980.

⁴⁶⁷Eurocard Advertisement, *Revue* n°20, 19.05.1988, p.46., (The advertisement was a double-page ad in the *La Revue*), see Appendix p.448.

Consequently, the Eurocard and later Visa or MasterCard, were sold as travel money in the 1980s. It is therefore not surprising that in 1983, one found an advertising campaign for the Eurocard was found in the *d’Lëtzebuenger Land* and in other Luxembourg daily newspapers, such as the *Luxemburger Wort*, with the slogan: *Without Eurocard, it would have been bye-bye United States*. Looking closely at the advertisement, we see a young married couple paying for the repair services of their camper van by Eurocard. The American owner of the repair shop happily embraces the young married man. His wife holds on to him. It is thus clear that the Eurocard was primarily intended to be sold to young married couples in the 1980s. Here, however, the man is in the focus of attention and represents the bank’s main target group. The message to the audiences seems clear, the young married man can take care of his wife in emergency situations when travelling if he is in possession of a Eurocard.⁴⁶⁸



Figure 34 – Advertisement of Eurocard in *d’Lëtzebuenger Land*, *Sans Eurocard, c’était bye-bye les États-Unis* in 1983.

A careful reading of the Luxembourgish Press in the 1980s, however, reveals that the Eurocard was much more than just a cashless method of payment when travelling these days. This 1985 article stated:

⁴⁶⁸EUROCARD, *Sans Eurocard, c’était bye-bye les États-Unis*, in: *d’Lëtzebuenger Land*, N° 24, 17.06.1983, p. 12.

“Eurocard Belgium-Luxembourg SA, distributor of the credit card of the same name, which is one of the majors in the industry in association with MasterCard (USA) and Access (Great Britain), has recently opened a branch in this country. Its task is not so much to look after the cardholders, of whom there are almost 100,000 in the Belgian-Luxembourg area, but to coordinate and centrally control the marketing of the Eurocard, which is ultimately done by the 250 branches of the local banks affiliated to the Eurocard system. The Eurocard was created in the late 1970s by the European banks already working together in the Eurocheque network as a defensive weapon against the credit cards from overseas, American Express, Visa, Diners, with which it has been in fierce competition ever since. There are currently 10.2 million Eurocard holders, who turned over 517 billion francs last year.”⁴⁶⁹

The newspaper article from the *d’Lëtzebuenger Land* entitled *Eurocard Präsenz* in October 1985 reveals that the Eurocard was not simply introduced to deal with increased tourism, but to refrain from handing over the European market of consumer credit to US competitors. As already demonstrated in this section, MasterCard and Eurocard decided to follow Visa’s path in 1986 to become a mass payment method in Luxembourg. This strategic decision explains, among other factors, why credit institutions in the studied geographical scope tended to rely on brand marketing regarding large-scale advertising campaigns in the beginning of the mid-1980s. The campaign *Le dou inséparable* [the inseparable pair] exemplifies the marketing approaches of banks in Luxembourg until the end of the 1990s.⁴⁷⁰ The layout of the campaigns was primarily based on staging the logos of the banks and the cooperating credit card organisations with a neutral message. This marketing approach primarily involved the introduction of descriptive logos and indicating to the customer that it was now possible to purchase Visa and Eurocard, as well as MasterCard from the participating credit institutions. For example, the Luxembourgish banks showed an advertisement on national television where only a flower started to blossom. Afterwards, the names of the credit institutions were mentioned, and their logos were displayed. Then, a voice announced that it was now possible to buy the credit cards mentioned above from the participating credit institutions.⁴⁷¹ This shows that the Luxembourgish banks were mainly keeping the target groups vague because of the decision to introduce credit cards as a mass payment method.

⁴⁶⁹Unknown author, DIGEST, *Eurocard Präsenz*, in: *d’Lëtzebuenger Land*, N° 43, 25.10.1985, p. 19.

⁴⁷⁰Archive Banque Générale du Luxembourg PNB PARIBAS, *Le dou inseparable* [the inseparable pair], campaign, 1986.

⁴⁷¹Archive Banques Générale du Luxembourg PNB PARIBAS, Videotape *Eurocard*, 1986.



Figure 35- Advertisement of Eurocard in the Revue, "J'aime mon Eurocard...j'y gagne!" in 1988.

However, it was Eurocard that primarily stuck to targeting young working and married couples in Luxembourg. Here, the women were always perceived as a consumer, but the image of men and women remained the same throughout the 1980s. For example, in the campaign "*J'aime mon Eurocard...j'y gagne!*", a young woman was portrayed individually with a Eurocard as a consumer.⁴⁷² Nevertheless, within the framework of this campaign, Eurocard decided to create supplementary pages in which a young male protagonist only becomes attractive to the same woman through the possession of a Eurocard. She passionately pulls the delighted young man's tie towards her. Eurocard left the viewer to read between the lines. Considering that this was an advertisement from a newspaper, which first shows both protagonists independently on a full page and finally ends the campaign with the scene just described, it becomes clear that Eurocard primarily intended to extend credit cards to young working men at the end of the '80s.⁴⁷³ At the end of the day, the young married woman as a consumer and the young married man as the holder of the credit card who can fulfil his wife's every desire thanks to the financial flexibility of the credit card remained in the mind of the readership. Consequently, the advertising campaign "*J'aime mon Eurocard...j'y gagne!*" from 1989 until 1990 once again underlines these facts just illustrated. A young couple has stocked up on all their Christmas

⁴⁷²EUROCARD, *J'aime mon Eurocard...j'y gagne!*, in: Revue, N°49, 07.12.1988, p. 33.

⁴⁷³EUROCARD, *J'aime mon Eurocard...j'y gagne!*, in: Revue, 1988.

presents and the credit card made it even possible to have a Christmas tree on top for their family.⁴⁷⁴

VISA & EUROCARD

2 cartes pour plus de confort

Vous recherchez la facilité, la sécurité et le confort pour régler vos dépenses quotidiennes et vos dépenses de loisirs?

Alors profitez des services que vous proposent les deux cartes de crédit les plus appréciées à Luxembourg comme dans le monde entier: les cartes VISA et EUROCARD de la Banque et Caisse d'Épargne de l'État.

Songez dès maintenant à vos vacances et demandez vos deux cartes auprès d'une de nos 100 agences.

BANQUE ET CAISSE D'ÉPARGNE DE L'ÉTAT LUXEMBOURG

Figure 36- Banque et Caisse d'Épargne de l'État Luxembourg, Visa & Eurocard advertisement in Revue, n°23, 09.06.1993.

A saturation of the credit card market began to be saturated in Luxembourg in the mid-1990s. Interestingly, the promotion of the credit card as travel currency had been successful in Luxembourg, as most credit card transactions were made by customers of Luxembourg credit card institutions when travelling abroad. Credit card sales stagnated, explaining the decline in mass advertising and the focus on public relations to market credit cards to the present day.⁴⁷⁵ Consequently, over the years and especially due to the stagnation of the credit card market in Luxembourg in the 1990s, these new marketing strategies had to be adapted specially to convince every customer to use credit cards on a regular basis. However, since the 2000s at

⁴⁷⁴EUROCARD, *Certaines cartes...vous font rêver*, in: Revue, N°48, 29.11.1989, p. 49.

⁴⁷⁵Archive Centre national de l'audiovisuel du Luxembourg, STON970709LE / 008, *Magazine - Kapital*, 09.07.1997.

latest, there has been a trend among Luxembourgish banks to sell debit cards to young people, with the possibility of signing a credit card contract at the same time or later without supplementary fees.⁴⁷⁶



Figure 37- Archive Banque Générale du Luxembourg BNP Paribas, *Virdeeler dei naischt ze verstoppen hunn*, 1990s.

3.1.3. Credit card advertisement in Germany - Young travelling businessmen with credit cards

In 1959, the first credit cards were offered by the company *Diners Club Germany GmbH* from Frankfurt am Main in Germany. At that time, the credit cards were already being advertised as a cashless method of payment when travelling worldwide or paying the bill in restaurants. Despite intensive advertising, especially in the format of a club magazine, the Diners Club credit card was not able to establish itself in Germany and Europe during that period. This is evident from the court decision 6 Q 19/63 of the Stuttgart Regional Court in 1963. The director

⁴⁷⁶Advertisement from the BGL BNP Paribas for V-Pay on Facebook, *Plein les yeux*, 2019.

of the Stuttgart Regional Court, Dr Schwarz had stated on record that “*it can obviously not be said about the Diners Club that the American system of enjoying cashless travel and dining pleasures by credit card has prevailed in Europe.*” In 1963, Diners Club went to court against the publisher Herbert G. Grix, who had independently produced a study entitled “*The Credit Card in Germany - Idea, Allegations and Reality*”. Herbert G. Grix published the Diners’ Club Magazine until 1962 in Germany. It is not known which exact motivations led Herbert Grix to write to Diner’s Club members and contact companies to carry out his study. Grix defended the preparation of the study in front of the court by arguing that the published figures of *Diners Club GmbH Germany* with 8,000 members were too high. However, the court disciplined both parties. Herbert Grix was forbidden to claim that the credit card was rejected by associations, because Diners cooperated at least with the *Blatzheims Group*. Diners Club GmbH Germany had to correct its membership number in the Press, because the court announced that the credit card company would have no less than 3,000 members but also not more than 10,000. Overall, the credit card as a financial product had a poor standing in Germany and was perceived as a means of payment for the upper class. A certain anti-Americanism towards the credit card did not help its popularity, a phenomenon that remained pervasive until the end of the 1970s. This was particularly evident in the fact that credit cards were attributed to the American lifestyle of lending and borrowing, which, according to societal opinion, led to indebtedness. In Germany, the virtue of saving prevailed.⁴⁷⁷ However, the German anti-Americanism towards credit cards constantly diminished due to the growing recognition of the United States of America as a holiday destination. These developments become particularly evident with the marketing campaigns of Eurocard at the end of the 1970s. For example, in 1978 German banks advertised Eurocard with the slogan, *for your trip to America, a special Eurocard offer*. Eurocard’s posters and brochures featured the Statue of Liberty in New York and offered a 6-month trial period of the credit card with no fees.⁴⁷⁸ As already seen in France and Luxembourg, the marketing campaigns and their messages in those early years did not differ across the studied period: credit cards were a method of payment promising worldwide financial credibility and flexibility when travelling.⁴⁷⁹

⁴⁷⁷Unknown author, *Planziel 50000*, in: [spiegel.de](https://www.spiegel.de/politik/planziel-50000-a-7830980b-0002-0001-0000-000046172106), URL: <https://www.spiegel.de/politik/planziel-50000-a-7830980b-0002-0001-0000-000046172106> (State:28.04.2021).

⁴⁷⁸Archive Deutsche Bank, sale advisor & poster of Eurocard, *Für ihre Amerikareise, Ein besonderes Eurocard Angebot*, 1978.

⁴⁷⁹Archive Sparkassen und Giroverband Bonn e.V., *Advertisement of the Eurocard, D-2-00114, Anzeige Eurocard*, der Spiegel, 12.03.1979.



Figure 38- Archive Sparkassen und Giroverband e.V. Advertisement of Eurocard in der Spiegel in 1979.

A look at the business policy considerations of Eurocard and MasterCard reveals the reason why the advertising of previously mentioned credit card organisations dominated in Germany during the 1980s. Amexco, Diners Club, and Visa tried to expand their market shares with large-scale marketing campaigns. As a result, the German banks decided to expand their worldwide acceptance in cooperation with Eurocard and MasterCard. The decision was made to display the Eurocard and MasterCard logo in a larger format on the credit card and to offer holders special benefits when travelling. For example, the following could be read from the business policy considerations in 1985: *“The spouse and his or her underage children are covered at no extra cost by travel accident insurance up to DM 500,000 - both in the event of death and disability, if the scheduled flight ticket, ship passage, public transport, hotel room or rental car was paid with Eurocard.”*⁴⁸⁰ These statements exemplify that young families were primarily the target group of banks and financial institutions.

⁴⁸⁰ Archive Deutsche Bank, *Eurocard erfolgreich verkaufen, Eurocard sales guide for employees*, 1985.

In the early '90s, no one had to be told what a debit card or credit card looked like, not to mention an ATM. Mass marketing for credit cards from Eurocard, Visa and MasterCard regularly flickered across TV screens. In particular, the financial freedom that a credit card carried with it was advertised. It is therefore not surprising that Visa promoted their credit cards in Germany with the slogan "*Visa, the freedom I take*" in 1992. This advertising campaign exemplifies the marketing approaches and target group of credit card companies in the geographical context. One of those Visa promotional videos with the slogan "*Visa, the freedom I take*" from the 90s showed a young woman wearing a black bikini and jumping into the water during sunset. She then comes out of the water and goes into a small beach shop. The young salesman almost can't breathe when he sees the woman in front of him. The woman grabs a pair of sunglasses and wants to pay for them. The young man looks at her angrily and wants to know how she is going to pay. The young woman pulls out a Visa card from the lower part of her swimsuit. The camera image stays on the woman's buttocks. The young woman replies, "*With my visa card*" and smiles. She then leaves the shop, and a voice melodically sings the Visa slogan. Thus, there is a clear sexualisation of the product, even though the woman is portrayed as a consumer. However, here too it is a young working man who is portrayed and a young woman who is enjoying her free time. The advertisement leaves it up to the viewer to interpret the advertising message. Subliminally one is influenced by Visa, as the young salesman only takes the woman in the swimsuit seriously when she pulls out the credit card.⁴⁸¹ The working men who treated themselves or their families with luxury remained the target group of credit card organisations and banks from the 1970s until the 2000s in Germany. In 1996, Visa showed the German audience in a commercial with a father and son having fun during the hunt for the latest toys to promote Visa Gold. The father pays by credit card and then winks at the female cashier. In this way, the woman is shown as a working part of society, but it is the man who is portrayed as the generous father. The female cashier plays a subordinate role in the commercial.⁴⁸² In 2003, for example, MasterCard shows a man on his last day in Cuba and gives the viewer tips on what to buy as a souvenir with his credit card. The suggestion to bring his boss a box of cigars, his father-in-law rum, and his brother a guitar speaks to normative gender roles and stereotypes about masculinity over time. Buying a gift for his wife, sister or mother-in-law goes unmentioned. Finally, a male voice speaks to the audience,

⁴⁸¹VISA, *Die Freiheit nehm' ich mir*, Grey, Düsseldorf, 1992.

⁴⁸²VISA, *Die Freiheit nehm' ich mir*, Grey, Düsseldorf, 1996.

accompanied by Cuban music and points out: “*Just think of yourself, priceless.*”⁴⁸³ If one looks back at the individual advertising campaigns, one notices that German banks always stuck to a conservative target group in their marketing campaigns, whether it was Visa, Eurocard, or MasterCard. Young working couples and especially young working men represented the target group. In the advertisements, women appeared as consumers, but they primarily played a subordinate role and were often shown as cashiers (see Appendix p.449).⁴⁸⁴

Die SparkassenCard – überall die Nummer 1.

→ in Deutschland
 Ob Supermarkt, Tankstelle oder Apotheke – Ihre SparkassenCard ist überall willkommen, wo Sie eines dieser Symbole sehen. Neu hinzugekommen ist das girocard-Logo – dieses wird schrittweise die electronic cash-Symbole ersetzen. Unverändert bleiben die klaren Vorteile Ihrer SparkassenCard: Bezahlen und Geldabheben mit Karte und PIN ist absolut sicher, schnell und bequem. Bundesweit können Sie an über 570 000 Akzeptanzstellen mit Ihrer SparkassenCard und PIN bezahlen und an mehr als 53 300 Automaten Bargeld abheben.

GeldKarte
 Im goldenen Chip Ihrer SparkassenCard befindet sich u. a. die elektronische Geldbörse – Ihre GeldKarte. Sie ist besonders bei der Zahlung kleinerer Beträge die Nummer 1. Einfach GeldKarte aufladen und schnell und bequem an Automaten oder im Internet bezahlen. Weitere Infos unter: www.geldkarte.de

→ in Europa
 Die SparkassenCard ist auch in Europa Ihre Nummer 1. Durch die Kooperation europäischer Zahlverfahren wie electronic cash und EUFISERV in der EAPS (Euro Alliance) können Sie in vielen europäischen Ländern an noch mehr Akzeptanzstellen mit Karte und PIN bezahlen oder Bargeld abheben. EUFISERV steht für den europäischen Verbund der Geldautomaten. Überall, wo Sie im europäischen Ausland das EAPS- oder das EUFISERV-Logo sehen, können Sie mit Karte und PIN bezahlen oder Geld abheben. Durch den Zusammenschluss stehen europaweit zahlreiche Händlerkassen und Geldautomaten zur Verfügung. **www.eufiserv.com:** Unter „ATM-Search“ (ATM, engl.: Geldautomat) finden Sie den Geldautomaten in Ihrem europäischen Reiseland. Für Deutschland gibt es zusätzlich den Filialfinder unter: www.sparkasse.de

→ weltweit
 Mit der SparkassenCard und einer unserer Kreditkarten sind Sie auf Reisen für alle Fälle bestens gerüstet. Das Maestro-Zeichen finden Sie an 11 Mio. Akzeptanzstellen in mehr als 93 Ländern. Allein in Europa gibt es 4,3 Mio. Händlerkassen und über 265 000 Geldautomaten, die Maestro und damit Ihre SparkassenCard akzeptieren. **www.mastercard.de:** Auf dieser Internetseite finden Sie unter „Geldautomaten-Suche“ den nächstgelegenen Maestro-Geldautomaten – weltweit. Kreditkarten stellen im Ausland das übliche Zahlungsmittel im Handel, Hotel und beim Mietwagenservice dar. Das Kartenduo aus SparkassenCard und Kreditkarte bietet Ihnen ein Maximum an Komfort und Sicherheit für Ihre Auslandsaufenthalte!

Figure 39- Archive Sparkassen und Giroverband e.V., Die SparkassenCard- überall die Nummer 1, 2013.

The next section illustrates how banks adapted their marketing and communications strategies to a changing digital cashless payments market and which digital marketing strategies were used by French, German and Luxembourg banks themselves to promote debit and credit cards especially from the 1980s onwards with the emergence of first online banking services. An analysis of the digital communication and marketing strategies of Cetrel, GZS and *Groupement des Cartes Bancaires* follows in next part of this dissertation.

⁴⁸³MASTERCARD, *Es gibt Dinge, die kann man nicht kaufen für alles andere gibt es Mastercard*, Universal, McCann, 2003.

⁴⁸⁴Archive Sparkassen und Giroverband e.V., Flyer, Sparkasse KölnBonn, *Ihre SparkassenCard: immer und überall dabei*, 2006.

3.1.4. The individualisation of mass commerce in retail banking: From Mass marketing to customer-centred communication strategies

The innovations described in the previous chapters, such as Minitel or *Bildschirmtext*, laid the foundation for direct and multichannel marketing. By covering all communication channels, the banks were able to get in touch with most of their customers with increasingly sophisticated innovations, such as phone banking, online banking and credit cards. These innovations could be used perfectly as marketing tools, as they allowed for direct access to the customer while simultaneously requesting from them a response. In addition, credit card information could be used to segment customers more efficiently and thus provide an increasingly customized direct marketing experience. It is therefore not surprising that the definition of direct marketing was established as early as 1967. In this context, Lester Wunderman is considered the forefather of direct marketing. The first direct banks were founded in the United Kingdom in the early 1980s. In the UK, customers of traditional financial institutions were growing increasingly dissatisfied, and as a result, many switched to direct banks. As a result, many customers of traditional credit institutions switched to direct banks. In 1999, JP Morgan experts estimated the “*internauts bancaires*” at 3.2 million in Europe. This corresponded to 3 percent of traditional bank customers in Europe in 1998. Due to the widespread use of Minitel or (to a lesser degree) *Bildschirmtext*, a large part of the French and German population was already used to login via web. It should be noted that most customers switched to direct banks because they could take advantage of a real-time stock market and low-price strategy.⁴⁸⁵ Xavier Azalbert, marketing director of the French savings bank underestimated the trend at the time. He noted the following: “*Direct banks have so far failed to offer tangible benefits to their customers, while online brokers are enticing stock traders with very attractive brokerage fees.*” Nevertheless, he had realised that direct banks had considerable advantages in their pricing policies because they did not have to maintain a branch and ATM network. Pricing is a powerful tool, as most customers look for the best price-performance ratio. Thus, direct banks also had a considerable advantage in terms of financial resources compared to traditional banks.⁴⁸⁶ In other words, around the 2000s, direct banks in particular intensified competition in retail banking. However, it was not until the Payment Service Directive I in 2007 that players

⁴⁸⁵MORIO, Joel, Courtiers et banques en ligne cassent les prix ,in: lemonde, URL: https://www.lemonde.fr/archives/article/2001/04/15/courtiers-et-banques-en-ligne-cassent-les-prix_4170284_1819218.html (State: 15.02.2021).

⁴⁸⁶Unknown author, *Internet favorise la banque directe en Europe*, in: Le Monde, URL: https://www.lemonde.fr/archives/article/1999/09/11/internet-favorise-la-banque-directe-en-europe_22167_1819218.html (State: 15.02.2021).

such as Paypal became a threat to traditional financial institutions.⁴⁸⁷ The breakthrough of online banking and direct banks took also place in Germany. In 1998, there were already 6.6 million bank accounts at German banks with electronic access via teletext standard to direct banking and similar financial services from traditional banks with branch networks. For example, the *Deutsche Bank* took advantage of these developments and invested 400 million deutsche marks in its direct banking subsidiary *Deutsche Bank 24*, which already had 400,000 customers at that time.⁴⁸⁸ In France, home banking via Minitel enjoyed great success. Online banking, on the other hand, was not immediately successful in France. Internet access was rare in the 1990s in France. This explains the low number of users in the early years of online banking in France. However, it was not only direct banks that increased competition. Traditional banks were now trying to offer their branch networks and internet services throughout Europe. This was particularly encouraged by the fact that the European single market and the European digital market were becoming increasingly homogeneous. At the beginning of the 2000s, one could gradually observe that customers were abandoning Minitel in favour of the internet in France.⁴⁸⁹ In Europe, Netbank was the first direct bank to enter the market in 1998.⁴⁹⁰ In Luxembourg, the situation presented itself differently. Since the Luxembourgish Post Office had neglected to establish teletext in Luxembourg, as described in the previous chapter, bank customers were not able to use home banking until 1996 in Luxembourg.⁴⁹¹ Since the 2000s, data mining has gained popularity among banks as a tool for adapting marketing campaigns. This has resulted in banks having to rely on vast electronic data from their customers to inform the design of their campaigns. The volumes of data generated using credit cards, direct marketing and online banking are nearly impossible to process by human analysts. However, data mining helped banks to process big data and tailor marketing strategies and new financial products to the customer. This means that banks stored and commercially exploited huge amounts of data about their customers during the 90s and ultimately becoming standard procedure in the 2000s. Consequently, Big Data has been used in retail banking until the present to build a direct relationship and connection with the

⁴⁸⁷DIRECTIVE 2007/64/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 13 November 2007 on payment services in the internal market amending Directives 97/7/EC, 2002/65/EC, 2005/60/EC, and 2006/48/EC and repealing Directive 97/5/EC.

⁴⁸⁸FORTIN, Daniel, La Banque Directe démarre en flannant, in: *lexpansion.lexpress*, URL: https://lexpansion.lexpress.fr/actualite-economique/la-banque-directe-demarre-en-flanant_1408326.html (State: 15.02.2021).

⁴⁸⁹Unknown author, Internet favorise la banque directe en Europe, (State: 15.02.2021).

⁴⁹⁰ENGELBERT, Frank, *Electronic Business Strategien im Bankensektor*, Diplomica Verlag, 2000, pp. 82-85.

⁴⁹¹MATZET, Jean, Online-Banking, in: *Luxemburger Wort*, n°102-2001, Archive *Luxemburger Wort*, Sammelmappe Elias 7, dossier - banques et technologies de l'information, 04.05.2001.

customer. This allowed banks to address customers individually while nevertheless but promoting a mass product.⁴⁹² However, this also enabled banks to individualise their financial services as well as to sell and advertise them through new distribution channels. In recent financial literature, the individualisation of mass retail banking is called *customizing*. According to financial institutions, the approach to tailor financial services and products to the needs of their customers serves to satisfy the Europeans society's increasing need for individuality.⁴⁹³

Therefore, the 1990s can be considered as a transition period from mass marketing and brand marketing to omnichannel marketing in retail banking. As a result, the traditional marketing channels of communication and sales were discarded by new marketing strategies and channels as banks increasingly forced their way into the digital market with the emergence of the Internet. Nevertheless, many banks relied on mass marketing strategies to introduce new financial services or products to their customers. As already demonstrated, banks relied mostly on communication messages to all their customers and did not try to build a direct relationship with them. Mass marketing mostly relied on brand marketing and broadcasting simple messages such as the advantages of their products and services via television, radio or commercials. With the establishment of smart phones in the 2000s, banks started to communicate with their customers across all channels. From the mid-2000s until 2015, one can speak of an omnichannel age in retail banking. In other words, banks saw direct marketing as their holy grail. Communicating and distributing their financial products and services through all communication channels became their priority. The most suitable example of the processes just described is the *BGL BNP Paribas web banking app* for the *Apple Watch* from 2015. Jean-Claude Schneider, who was a member of the *BGL BNP Paribas* Management Board and Head of Retail and Corporate Banking in Luxembourg, summarised it as it follows: "*This innovation allows BGL BNP Paribas to fully live up to its reputation as the bank for a changing world and pursue its omni-channel approach, designed to allow our clients to interact with the bank as simply as possible using the most convenient channel for them.*"⁴⁹⁴ With these statements,

⁴⁹²ELSALAMONY, Hany A., *Bank Direct Marketing Analysis of Data Mining Technique*, in: *International Journal of Computer Applications* (0975-8887), Volume 85 - No 7, Math Dept, Faculty of Science, Helwan University Cairo, Egypt, January 2014.

⁴⁹³HOCHBERGER, Bernd, *Financial Planning: Eine Finanzdienstleistung für private Haushalte des Retail-Segmentes*, Deutscher Universitäts-Verlag, Wiesbaden, 2003, pp. 169-179.

⁴⁹⁴Banque Générale du Luxembourg BNP PARIBAS, PRESS RELEASE, *BGL BNP Paribas launches iPhone Web Banking app for Apple Watch**, Luxembourg, 23 April 2015.

Schneider resumed the worldwide *Zeitgeist* of retail banking in a few sentences, highlighting the importance that the image of being an innovative bank was useful for contemporary marketing. The marketing and communication strategies behind these statements are analysed in the following sections. However, the implementation of innovation, especially in retail banking, forced also European financial institutions to adapt to and take advantage of the challenges of a changing environment. The next paragraphs provide a historical reconstruction of the emergence of new communication and distribution channels of banks from the 1980s until 2015 by reconstructing the first online banking services in France, Luxembourg, and Germany. Furthermore, it will be clarified how financial institutions adapted credit and debit cards to the increasing need of customisation. The homepages of the *Société Générale*, *Banque Générale du Luxembourg*, and *Deutsche Bank* serve as case studies to illustrate the upcoming of the individualisation of financial services and products in the digital age.

In France in particular, the emergence of direct banks and the aggressive expansion of traditional banks in the field of online banking made it necessary for French traditional financial institutions to react. Therefore, it is not surprising that the *Société Générale* offered to their customers the free-of-charge service *Logitel* via Minitel since 1984.⁴⁹⁵

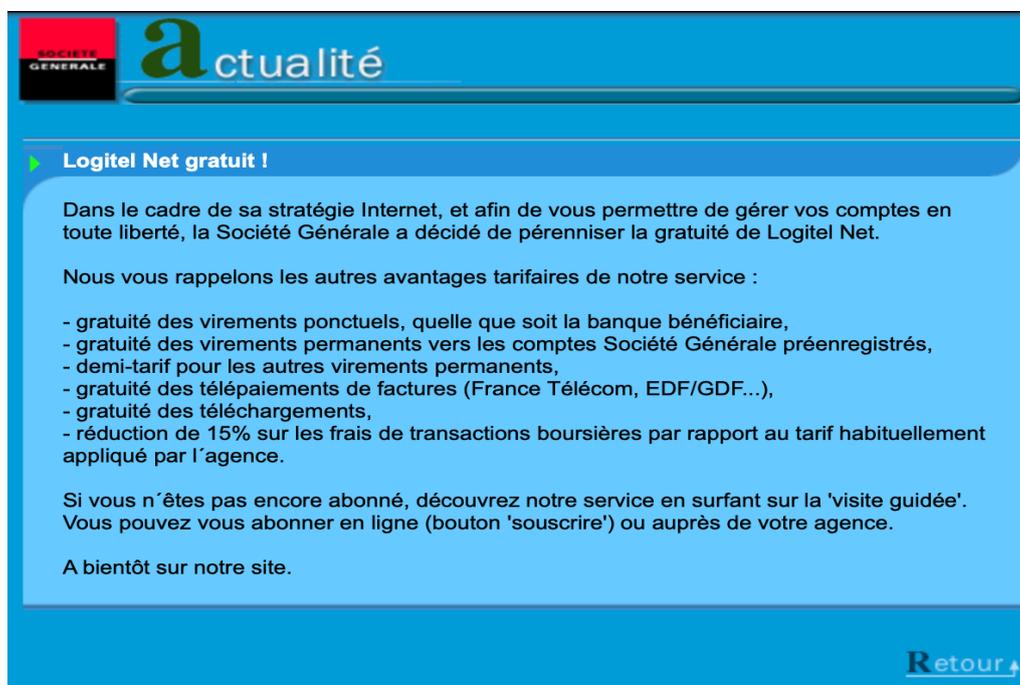


Figure 40 - Archive Wayback Machine, Webpage Société Générale promoting Logitel Net in 2001.

⁴⁹⁵Société Générale, *Notre Histoire*, in: societegenerale.com, <https://www.societegenerale.com/fr/connaitre-notre-entreprise/identite/150-ans-d-histoire/l-esprit-d-innovation/pionnier-de-la-banque-en-ligne> (State:15.02.2021).

URL:

In 1999, the French bank started to take advantage of the Internet. Transfers, consultations or receiving information about stock exchange became available online.⁴⁹⁶ In fact, the credit institutions provided two main banking services during the initial phase of using the Internet to reach their clients, *LogitelNet* and *Sogenactif*. *LogitelNet* was the first pillar of their *stratégie Internet*. The bank permitted their clients to access several services free of charge. Just to name a few: interbank transfers, permanent transfers to the account of the *Société Générale*, payments via mobile and downloads of bank documents. In summary, the *Société Générale* offered the banking service *LogitelNet* because their clients were familiar with *Logitel* since the emergence of Minitel. Furthermore, by offering *LogitelNet* for free, the *Société Générale* tried to motivate their clients to switch from Videotext telecommunication systems towards internet-ready devices. In addition to that, Minitel was turned off in 2012.⁴⁹⁷ The *Sogenactif* was the second pillar of the *Société Générale's* early Internet strategy. The web product *Sogenactif* is a banking service that allows online retailers and their clients to use the *Société Générale's* servers for secure transactions. Moreover, the service makes sure that customer's bank data, especially the credit card number is not stored on the retailer's website.⁴⁹⁸ Both online banking services represented the *Société Générale's* fundamental early web policy. The development of the *Société Générale* homepage layout progressed but the possibilities of exploring new services did not change significantly from 1999 to 2009. In other words, the clients of the *Société Générale* used the same interface structure on their website for over a decade nearly. The *Société Générale's* web page contained two main spaces in the beginning of their web presence. First, the bank had one section for their normal customers, companies, professionals and associations alike that provided access to banking services and information themselves about the best conditions related to their respective needs.⁴⁹⁹ For example, through the section *L'espace des Professionnels* a French farmer could not only check his bank account but also get information about banking services such as *La gestion de votre épargne et de votre*

⁴⁹⁶Webpage Société Générale, societegenerale.com, archived on 07.06.2000 by Internet Archive, URL: <https://web.archive.org/web/20000620222343/http://logitелnet.socgen.com:80/ia01.html>, (State:15.02.2021).

⁴⁹⁷Heinz-Nixdorf-Museums Forum, *Die drei Jahrzehnte des Minitels*, in: blog.hnf.de, URL: <https://blog.hnf.de/die-drei-jahrzehnte-des-minitel/> (State:15.02.2021).

⁴⁹⁸Webpage Société Générale, societegenerale.com, archived on 08.02.2001 by Internet Archive, URL: https://web.archive.org/web/20010208120552/http://sogenactif.com/faq_frame.htm (State:15.02.2021).

⁴⁹⁹Webpage Société Générale, societegenerale.com, archived on 24.01.2001 by Internet Archive, URL: <https://web.archive.org/web/20010424140622/http://www.societegenerale.fr/> (State:15.02.2021).

patrimoine, Le financement de vos projets or *La carte de Business*.⁵⁰⁰ In 2006, the French Bank launched a new banking product into the market and made it available over their website: *Le crédit à la consommation Expresso*. The bank made it possible for their clients to demand a consummation credit in real time over their web page. With a few clicks, the client can receive a credit from 1,000 Euro up to 350,000 depending on certain conditions.⁵⁰¹ Nevertheless, the bank followed over the years a new marketing strategy to reach a larger audience and created an *Espaces Jeunes*.⁵⁰² In 2019, the Internet policy of the *Société Générale* primarily aimed to reach young customers. The middle part of the web page shows banking services adapted to young adults such as credits for renovation, building loan contracts or a personalised credit card in terms of choosing your own layout.⁵⁰³ During the recent years, the website changed in several ways. It became a multi-service platform and distribution channel for financial services of various kinds. Nowadays, the bank uses the website not only to give access to banking services but also to inform, communicate and interact with their clients.⁵⁰⁴ To resume, since the emergence of the Internet, the *Société Générale* took advantage of the new medium to promote its banking services. With their experience dating from the Minitel era, the *Société Générale's* webmasters could easily adapt *Logitel* to their webpage and develop new banking products such as *Le crédit à la consommation Expresso*. Moreover, the *Société Générale* changed their web policy during the recent years and tried to reach a younger client base.

In contrast, Luxembourgish universal banks had not significantly invested in communication tools such as videotex. Nevertheless, with *SLine* the customers of the Luxembourgish Saving Bank had access to home banking beginning in 1996. The *SLine* user needed a modem and a computer. Access to the Internet was not necessary. By 2000, 10,000 customers were already using the service. This means that in 2001, out of a population of around 450,000 people, 2.5 percent of the total Luxembourgish population was already using home banking. This percentage is purely approximate, as one must bear in mind that the users could be companies,

⁵⁰⁰Webpage Société Générale, societegenerale.com, archived on 07.04.2001 by Internet Archive, URL: https://web.archive.org/web/20010407205244/http://www.professionnels.societegenerale.fr/html/fr/pro/agr/agr_f.htm, (State:15.02.2021).

⁵⁰¹Société Générale, Crédit à la consommation Expresso, in: particuliers.societegenerale.fr, URL: <https://particuliers.societegenerale.fr/comptes-banque/pre-credit-consommation/credit-conso-expresso> (State:15.02.2021).

⁵⁰²Webpage Société Générale, societegenerale.com, archived on 09.01.2009 by Internet Archive, URL: <https://web.archive.org/web/20090109091903/https://www.societegenerale.fr/> (State:15.02.2021).

⁵⁰³Webpage Société Générale, societegenerale.com, archived on 18.01.2019 by Internet Archive, URL: <https://web.archive.org/web/20190118083300/https://particuliers.societegenerale.fr/> (State:15.02.2021).

⁵⁰⁴Webpage Société Générale, societegenerale.com, archived on 10.07.2019 by Internet Archive, URL: <https://web.archive.org/web/20190710131035/https://particuliers.societegenerale.fr/> (State:15.02.2021).

private customers, or non-resident customers.⁵⁰⁵ Furthermore, other banks such as *Banque Générale du Luxembourg* started to offer home banking services such as *Multiline* between 1996 and 2001. Thus, the grey figure was significantly higher.⁵⁰⁶ It is not clear from the sources which bank was the first provider of home banking in Luxembourg. Nevertheless, it was *Banque UCL* that was the first bank in Luxembourg that advertised online banking in 1996.⁵⁰⁷ *Banque Générale du Luxembourg* represents one of the largest universal banks in Luxembourg with 3,830 employees today and has followed a multi-channel marketing strategy since the early 1980s.⁵⁰⁸

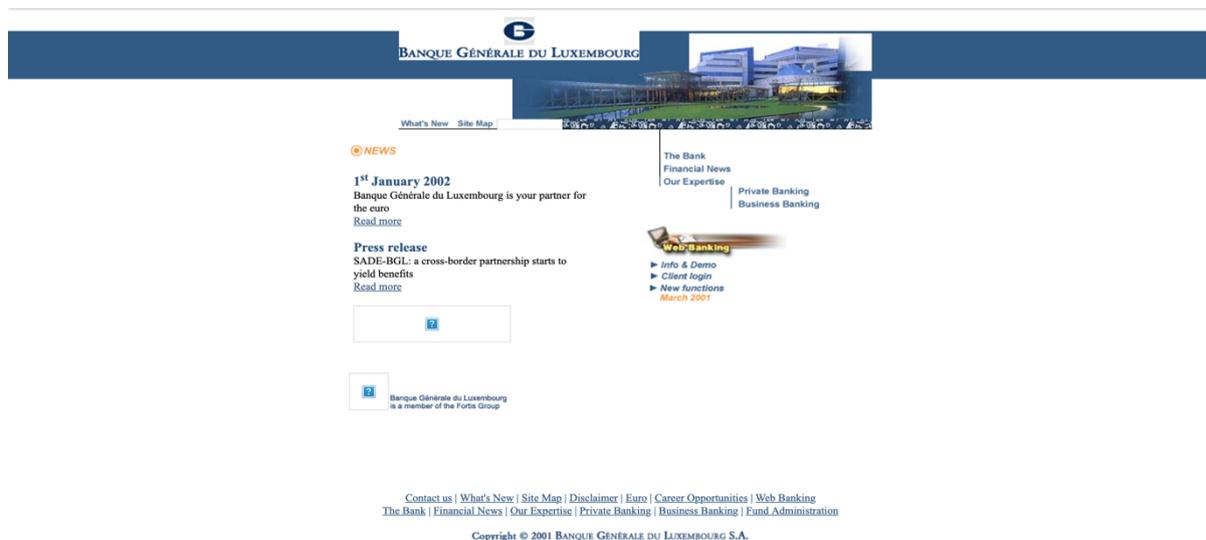


Figure 41– Archive Wayback Machine, Landing page of the Banque Générale du Luxembourg archived in 2001.

In 2001, Luxembourg journalist Jean Matzet provides a precise insight into *Banque Générale du Luxembourg*'s first *Webbanking* service:

“Start Pack and Smartcard Reader + Webbanking, the name of the electronic banking application of the Banque Générale du Luxembourg (BGL), consists of a so-called “Start Pack” with which the programme is installed on a PC. This includes a CD-ROM and a smartcard reader, which is needed to read a security card. Access to web banking is thus tied to a single workstation; if you want to view your accounts on another PC, you must reinstall the programme. BGL introduced online banking in September 1999. In the

⁵⁰⁵National Institute for Statistics and Economic Studies - Luxembourg, *Luxembourg in Zahlen 2020*, in: statistiques.public, URL: <https://statistiques.public.lu/catalogue-publications/luxembourg-en-chiffres/2020/luxembourg-zahlen.pdf> (State:15.02.2021).

⁵⁰⁶MATZET, Jean, *Online-Banking*, in: Luxemburger Wort, 04.05.2001, n°102-2001.

⁵⁰⁷Banque UCL, *La banque UCL sur Internet... Surfez avec nous!*, in: Revue n°1, 3.1.1996, Luxembourg, p. 64.

⁵⁰⁸National Institute for Statistics and Economic Studies - Luxembourg, *Liste des principaux employeurs au 1er Janvier 2003-2020*, in: statistiques.public, URL:https://statistiques.public.lu/stat/TableViewer/tableViewHTML.aspx?ReportId=13298&IF_Language=fra&MainTheme=4&FldrName=1 (State:15.02.2021).

meantime, about 10,000 customers use web banking to view their accounts, make national and international transfers and trade on the stock exchanges. This service was automated in September 2000: the customer can now submit orders at six stock exchanges, which are immediately executed. In addition to shares, the user can trade bonds, investment funds, structured products, index-linked certificates, and new issues. In the area of investment funds, only purchases of in-house securities are possible online. In addition, Webbanking offers special financial and economic information to guide customers when trading securities online. The necessary application forms for Webbanking must be picked up at a BGL branch.”⁵⁰⁹

Matzet gives a precise insight into the required technology, the advantages of online banking at that time and the user interface.⁵¹⁰ However, this is not a scientific analysis by Matzet but a comparison of several online banking services in Luxembourg. This shows that the comparison culture, which we know today in the form of comparison portals, started to become more prevalent at the beginning of the 2000s. Customers were becoming more and more informed and connected due to the emergence of the Internet. Before the *Banque Générale du Luxembourg*'s website became a functioning financial tool in 2000, it was a landing page. This meant that the domain name had also been secured ahead of time and shows a high level of technical understanding on the part of the bank's administrators and technical employees. This is not surprising, since *Banque Générale du Luxembourg*'s had been building up a marketing and innovation department within the institution since the 1980s. Furthermore, *Banque Générale du Luxembourg* was taken over by the *BNP Paribas* in 2009. The analysis of the annual reports of the *Banque Générale du Luxembourg BNP Paribas* show clearly that the accent was mainly put on the technological infrastructure of their website and its safety in terms of security.⁵¹¹ The only interaction the user could perform on the *Banque Générale du Luxembourg*'s landing page in the year 2000 was to print out a form needed to open a new current account in the year 1998. The required document and a copy of one's identity card had to then be sent by mail sent to a bank branch. The reason for this was the following:

“Before applying to open an account, we would ask you to carefully read the following:

1) The Law of 5 April 1993 concerning the financial sector obliges every entity operating in the financial sector in Luxembourg to identify its customers by means of a relevant document.

⁵⁰⁹MATZET, Jean, *Online-Banking*, in: Luxemburger Wort, 04.05.2001, n°102-2001.

⁵¹⁰Archive Banque Générale du Luxembourg BNP Paribas, Annual reports, Banque Générale du Luxembourg BNP Paribas, 1985-2017.

⁵¹¹Webpage Banque Générale du Luxembourg, bgl.lu, URL: <http://web.archive.org/web/20010531154029/http://www5.bgl.lu/> archived on 19.04.1998 by Internet Archive, (State:31.05.2001).

Consequently, we would ask you to send us a certified copy of your valid ID card. The document can be certified by a public authority or by a notary.

2) Within the framework of the fight against money laundering, the Luxembourg banks are bound to ask, under certain circumstances, their customers to provide documentary evidence of the source of any substantial deposits.

3) The bank reserves the right to refuse to open an account without having to give a reason.”⁵¹²

This quote explains the security philosophy of European banks in general even if IT-security represented high cost.⁵¹³ Furthermore, it demonstrates once again the high level of requirements that financial institutions in Europe were confronted with, especially since the 1990s. Regulations became restrictive in terms of combatting money laundering on the European internal market and the emerging European digital market. In its early years, *Banque Générale du Luxembourg* used its website as a landing page to promote its history, products, and the financial centre of Luxembourg. In addition, the branch network of *Banque Générale du Luxembourg* could be viewed on a map. However, this quote demonstrates the early used web typography found on the landing page to give an idea of the font used at the beginning of the twenty first century. Among other things, it is a testimony to how closely innovation and marketing were linked in retail banking in that period, as typography is an elementary tool of marketing until today. *Banque Générale du Luxembourg*'s marketing motto during this period was as follows: *“If wealth must grow, it must be placed in a favourable environment and entrusted to the care of a skilled administrator. In the same way as a gardener’s talents are revealed in the balance of forms and colours in the space which he has arranged, a banker’s know-how appears in the judicious use of products and services to ensure the security and growth of the assets placed in his care.”*⁵¹⁴ It is therefore not surprising that over the year 2000 and the transformation of the landing page into a financial tool, the focus of *Webbanking* was stock trading. These developments are clear, thanks to 1126 screenshots and individual hyperlinks preserved from 19 April 1998 to 8 January 2021, by the Wayback Machine.⁵¹⁵ After

⁵¹²Webpage Banque Générale du Luxembourg, bgl.lu, archived on 19.04.1998 by Internet Archive, URL: http://web.archive.org/web/19980419100410/http://www.bgl.lu/prod_ser/index.htm (State:15.02.2021).

⁵¹³RUEPPEL, A. Rainer, IT-Sicherheit-Strategischer Faktor in der Finanzwirtschaft, in: Telecommunications 23 Münchner Kreis, Telekommunikation für Banken und Versicherungen, Finanzdienstleistungen im Wandel, Vorträge der am 19. Juni 1995 in München abgehaltenen Fachkonferenz, EWERDWALBESLOH. G (ed.), Berlin Heidelberg, Springer-Verlag, 1996, pp. 149-161.

⁵¹⁴Webpage Banque Générale du Luxembourg, bgl.lu, archived on 22.05.1998 by Internet Archive, URL: http://web.archive.org/web/19980419100553/http://www.bgl.lu/prod_ser/services/pribank/sitemap_17.html (State:15.02.2021).

⁵¹⁵Webpage Banque Générale du Luxembourg, bgl.lu, URL: https://web.archive.org/web/*/bgl.lu archived by Internet Archive, (State:15.02.2021).

2000, the focus of the Brooker tools shifted to marketing real-time home banking and financial products, in order to tailor to young people. Over time, customers were thus able to obtain detailed information and conclude contracts for *Prêt personnel*, *Prêt auto*, *Prêt immobilier*, *Épargne logement*, *Compte Épargne*, *Jeunes*, *Easiinvest* or *Fonds d'investissement* via the website. Young people, business customers and investors represented the target group, but young customers were later in the spotlight of their marketing activities. Young customers have a longer life span. The transition period of the bank's website to a centralized functioning financial tool as well as sales channel or marketing platform took BGL until the year 2000, because the programmers first had to connect the front ends of their systems, such as the ATM, with the new internal systems. This procedure cost the Luxembourgish bank a lot of time and financial resources to connect all their systems. Even though they were already in the 2000s, BGL was trapped in the 90s in terms of their frontends.⁵¹⁶ The same phenomenon occurred between the years 2000 until 2015 in customer data analysis in retail banking. Many banks created their own technical infrastructures with the *Common Business Oriented Language* (Cobol) programming language. However, this language was no longer taught to the same extent in programming schools as in the 80s. Thus, it occurs that financial institutions' data is still stuck in the 80s and 90s.⁵¹⁷

Since the beginning of the 2000s, real-time online banking enabled *Banque Générale du Luxembourg* to get in touch with its customers and to offer the “all-around feel-good package” to build a stable future. *Banque Générale du Luxembourg* transmitted this message to its young customers on its website. The focus on younger people was already decided in the 1980s, as demonstrated by the analysis of the marketing campaign of the Eurocard. In the 90s, the strategy to reach young customers was intensified. In the course of time, there were more and more possibilities for interaction on the *Banque Générale du Luxembourg*'s website, such as calculators as credit calculators for homebuyers or how to finance a student loan.⁵¹⁸ This is evident from the annual reports and documents of *Banque Générale du Luxembourg*'s marketing department between 1980 and 2017. Even after the takeover of *Banque Générale du*

⁵¹⁶Webpage Banque Générale du Luxembourg, bgl.lu, archived on 12.04.2010 by Internet Archive, URL: <https://web.archive.org/web/20100412185737/http://www.bgl.lu/fr/banque/homepage.htm> (State:15.02.2021).

⁵¹⁷T3n, *Senior Programmer händeringend gesucht – für 60 Jahre alte Programmiersprache*, in: t3n.de, URL: https://t3n.de/news/senior-programmer-haenderingend-1271123/?utm_source=rss&utm_medium=feed&utm_campaign=news (State 15.02.2021).

⁵¹⁸Webpage Banque Générale du Luxembourg, bgl.lu, archived on 07.05.2012 by Internet Archive, URL: <https://web.archive.org/web/20120507132105/http://www.bgl.lu/fr/banque/pages/jeunes/etudiants-2.htm>, (State:15.02.2021).

Luxembourg from *BNP Paribas* in 2009, the long-term marketing strategy to promote online banking was based on the security of the online banking tools and the bank's homepage as an information and financial services platform. In particular, the bank was committed to attract young people as a target group.⁵¹⁹

In 1996, *Spardabanken* constructed the first bank in Europe to offer its customers a complete current account on the Internet in the form of *Netbank* without a branch network.⁵²⁰ For this purpose, a *MeChip* was required. The *MeChip* was a small blue box designed by Jozsef Bugovics. The hardware was connected to the printer port of the customer's domestic computer, between the keyboard and the personal computer. The security concept of the *MeChip* lay in the fact that each blue box was individually designed and encrypted. This was also reflected in the media response in Germany in the mid 90s. The *Mechip* was described as Fort Knox in terms of its security design. Thus, the media landscape strengthened the image of *Netbank* being one of the safest online banks. Europe's first online bank established on the European retail banking market and advertised itself until today with the slogan "*Europe's oldest online bank*".⁵²¹



Figure 42-Spada-Bank Hamburg, cover of the book, *Von der Eisenbahn auf die Daten-Autobahn*, showing the *MeChip* in 2013.

⁵¹⁹Rapports annuels Banque Générale du Luxembourg BNP Paribas, 1985-2017.

⁵²⁰TJADEN, Gregor, *Erfolgsfaktoren Virtueller Unternehmen, Eine theoretische und empirische Untersuchung*, edited by Roland Berger Strategy Consultants, DUV Gabler Edition Wissenschaft, Wiesbaden, 2003, p.166-174.

⁵²¹Sparda Bank-Hamburg, *110 Jahre Sparda-Bank Hamburg, Von der Eisenbahn auf die Daten-Autobahn*, Hamburg, Sparda-Banken, 2013.

The fact that *Sparda Banken* set standards in terms of online banking and user interfaces can be seen when compared with other online banks. The fact that *Sparda Banken* was an inspiration to following online banking websites can be observed in comparison with subsequent online banking websites of universal banks in France, Germany, and Luxembourg. The features and the structure of the *Netbank* homepage can be found in every bank website. Access to the current account or brokerage tools are the areas of the websites that stood out. Unfortunately, a detailed analysis of *Netbank* is only possible from 2003 onwards. Thus, this statement is based on the secondary literature and the first available screenshots from the Internet Archive.⁵²² Eventually, traditional banks caught up with *Netbank* and in the end only differentiated themselves in terms of the number of information options, communication channels or marketing campaigns. On 1 September 1999, *Deutsche Bank AG* separated its private customer and branch networks. While high net worth private customers were excluded from the spin-off, the branches were rebranded as *Bank 24*. In 1999, however, the mistake was made to rebrand the branches as *Bank 24*. Expanded to include business clients, *DB24* operated as *Deutsche Bank Privat- und Geschäftskunden Aktiengesellschaft* from 1 October 2002, under whose umbrella private banking and the online broker *Maxblue* were also brought together.⁵²³ Therefore, *Deutsche Bank* made an unsuccessful start in online banking, but since 2002 has seen a steady optimisation of its website into a centralised marketing and financial tool, as already seen at *BGL BNP Paribas* and *Société Générale*. However, *Deutsche Bank* followed the same marketing strategy as *Netbank*. Current accounts and brokerage tools were their focus since the mid 90s until today, whereby the target group has steadily become younger and the financial products have been tailored to a young audience. These developments are identified by the fact that the products were advertised centrally in the user interface with images depicting young people happily managing their financial situation.⁵²⁴ *Deutsche Bank* clearly fell behind other banks in Europe, both with and without a branch network, due to a lack of appropriate marketing and two different banking platforms. Thus, it is illustrated that competitiveness of a traditional bank compared to a pure online bank was only achieved if marketing and innovation management were consistent. However, in 1999 it was not

⁵²²Webpage *Netbank*, [netbank.com](http://www.netbank.com), archived on 17.06.2003 by Internet Archive, URL: <https://web.archive.org/web/20030717200414/http://www.netbank.com/> (State:15.02.2021).

⁵²³SCHWARZ, Friedhelm, *Die Deutsche Bank, Riese auf tönernen Füßen*, Frankfurt, CAMPUS, 2003, P.148-153.

⁵²⁴Webpage *Deutsche Bank*, [group.deutsche-bank.de](http://www.deutsche-bank.de), URL: <http://web.archive.org/web/20180307072339/https://www.deutsche-bank.de/pk.html> archived on 07.03.2018 by Internet Archive, (State:15.02.2021).

considered to be of enormous importance to have a cooperate identity at the *Deutsche Bank*, both internally and externally. *Société Générale* and *Banque Générale du Luxembourg* did not know these problems, as they had been working on their own corporate identity and technological infrastructure for a long time and attached great importance to a unified appearance over a long-term perspective.

However, the standardisation of mass commerce in retail banking led to the individualisation of consumer credit. This development particularly expresses itself regarding credit cards where cardholder can choose the design of his/her credit- or debit card as already demonstrated in the case study of the *Société Générale's* Webpage. These trends could also be observed in Germany. For example, the so called *Bildkarte* is offered by *Raiffeisen-Volksbank eG* for a payment of 19.90 euros. Therefore, the customer receives a payment card (debit- or credit card) with a four-year guarantee. Additionally, the bank customer can choose an individual design for its card. According to the *Raiffeisen-Volksbank eG*, their *Bildkarte* has the following advantages: *access to a Europe-wide network of ATMs and merchant terminals, free access to withdraw money at over 17,600 ATMs, the possibility to make cashless purchases as well as easy, fast, and secure contactless or mobile payments with a smartphone.*⁵²⁵ However, this marketing strategy used by banks, the so-called *customer centricity* has the aim to give a cashless payment card an aura of exclusivity through its uniqueness. The result is that the cardholder identifies himself/herself more strongly with the financial service or product. Furthermore, the possibility is higher that the customer builds up an emotional bond to its credit or debit card. Additionally, financial institutions can satisfy with these services the uprising need for individuality in the digital age.⁵²⁶



[Privatkunden](#) > [Girokonto & Kreditkarten](#) > [Girokonto](#) > [Bildkarte](#) @

Figure 43 – Bildkarte der Raiffeisen-Volksbank eG im Jahr 2020.

⁵²⁵Raiffeisen-Volksbank eG, *Ihre Bildkarte*, in: meine-rvb, URL: <https://www.meine-rvb.de/privatkunden/girokonto-kreditkarten/girokonto/bildkarte-neu.html> (State: 28.02.2021).

⁵²⁶ REINHART, G. & ZÄH, M.F. (ed.), *Marktchance Individualisierung*, Springer Verlag, Berlin, 2003, pp. 55-65.

3.1.5. Conclusion

However, if one compares retail banking in France, Germany, and Luxembourg, *Netbank* was the first direct bank in Europe to offer home banking via the Internet and without a branch network in 1996. *Banque UCL*, on the other hand, was one of the first traditional banks in Europe that promoted to its customers in 1996. It is also clear that *Netbank* was a pioneer in the field of marketing and security of online banking. As a result, traditional universal banks had to upgrade their communication and distribution channels to stay competitive. Of course, the emergence of new competitors in retail banking caused a considerable stir. It is therefore not surprising that universal banks wanted to motivate young people to try out and use financial tools through omnichannel marketing. Nevertheless, in the mid-90s the focus of traditional banks was on wealthy customers looking to manage their stocks and equity in real-time. At the beginning of the 21st century, French, German, and Luxembourgish banks focused on young clients. As a result, between 1996 and 2005, the websites of traditional universal banks evolved from landing pages to financial and marketing tools designed to appeal to young people. Luxembourgish Banks could keep up with these developments as Luxembourg evolved into a global and digital financial centre. As already demonstrated through *SLine* or *Webbanking*, Luxembourgish online banking was firmly in the care of the state. In France and Germany, on the other hand, the market was highly competitive and could not be protected by the state. Nevertheless, the case of the *Deutsche Bank* shows that it was not enough to have a functioning user interface or to be the first at the market to distribute financial products over the internet. A centralised platform and a corporate identity, on the other hand, were a more promising recipe for success for traditional universal banks to catch up with the technological and physical advantage of direct banks between 1996 and 2015. Traditional banks in France, Germany and Luxembourg were once again forced by the competition regulations of the European internal market and digital market to maintain their supremacy in European retail banking. However, this represents the nature of banks, which are always concerned with security, but on the other hand also must react quickly to changes in the market to survive in a highly competitive and regulated banking world. After credit card companies in the 1960s and innovations such as screen text in the 1980s intensified competition in retail banking, the world of banking was once again turned up-side down by direct banks since the middle of the 1990s. Direct banks thus gave the starting signal for the beginning of omni-channel marketing or to put it more simply, marketing and distribution on all channels. Thus, the emergence of online banking in the middle of the 1990s led to a strengthening of the trend towards individualised mass business

in retail banking. Banks in France, Germany and Luxembourg recognised the technological advantages of a centralized platform which allowed them a full omni-channel marketing approach to promote their financial services and products until today. The enormous diversification of financial services in the digital age was also a favourable possibility for banks of meeting the raising need for individuality in Europe. Important insights could be gained through the historical reconstruction of the emergence of the individualisation of mass commerce, its customisation, as well as new distribution and communication channels. The knowledge that financial institutions pursue the strategy of emotionally binding their customers to digital means of payment should encourage researchers to investigate to which extent an early binding to consumer credit leads to debt of private individuals, especially young people.

In summary, credit cards have been continuously promoted in the same way with slight differences since their introduction at the end of the 1960s to the retail banking market in France, Germany and Luxembourg. The banks and the credit card organisations Visa, Eurocard or MasterCard assumed in the 1970s that customers' needs were the same worldwide regarding consumer credit. Increased incomes and changing leisure behaviour in the geographical scope studied led especially to the need for cashless travel money. In addition to businesspeople, wealthy clients and bankers, large parts of society began to treat themselves with holidays and luxury items. These developments additionally led to the flooding of banks with transactions. Consequently, a cashless method of payment had to be found early on that could always satisfy the new needs of society. Here, the credit card was the obvious choice of financial institutions in the studied geographical context. Between the 1980s and 1990s, the credit card went from being a method of payment for the upper classes of society to a mass payment method in Luxembourg, France and Germany. The credit card organisations and credit card associations assumed that individual needs did not differ much around the world and this perspective did not change significantly until the beginning of the 2000s. However, the fact that there was also intense competition for market share should not be underestimated. Mass advertisements from MasterCard, Visa and Eurocard were very similar in design and message to their audience, but the extra services such as special travel insurance or the cost of the card were clearly different and should lead the individual customer to choose the credit card with the best benefits. However, between the mid-1990s and the 2000s, credit cards were marketed in a slightly different way in Luxembourg than in France and Germany. The Luxembourg credit card market had shown a certain saturation since the mid-90s. As a result, Cetrel who promoted credit cards in Luxembourg from the late 1980s, focused on public relations instead of mass

marketing via commercials to promote the use and sale of credit cards. Here, the focus was on the security aspect of the cashless means of payment. However, this change in marketing strategy cannot be explained exclusively by the saturation of the market. Cetrel primarily hired programmers, engineers, and experts in cashless payments as employees who brought their technical expertise into the company. In contrast to the banks, these people recognised early on that in an increasingly complex digital world as well as the saturation of the market, customer had further needs regarding credit cards. As a result, Cetrel tried to convince the Luxembourgish customers of the security of credit cards to increase their use.

Altogether, advertising messages and target groups did not differ significantly throughout the studied timeframe. Credit cards were mainly advertised as a form of financial freedom and flexibility. By showing a credit card, one was considered as a trustworthy customer anywhere in the world. With the advent of mass tourism in the 1970s, banks focused on promoting the advantages of credit cards during the customers' holidays. Having money in difficult situations, appearing trustworthy, always arriving at one's destination, being able to treat oneself with the small but not self-evident things in life and the greatest strength of the credit card having the ability to travel anywhere in the world with an all covering insurance were the messages of Visa, MasterCard and Eurocard. But one fact remained valid for the whole period, the credit card was primarily advertised as a lifestyle product in the geographical scope of this study. However, the periodisation made here remains only a rough categorisation, as the advertising messages and strategies partly overlapped or remained the same until the 2000s. This becomes particularly clear by taking a closer look at the target groups. Credit cards were primarily sold to the young working population of the middle class since the 1970s. However, young working men constantly represented the target group in France, Germany and Luxembourg. This becomes particularly obvious by comparing how men and women have been portrayed in bank advertisements for credit cards. For banks and credit card organisations, the image of women usually remained a recurring marketing element to make the credit card more attractive or sensual. Bank advertising messages often contained sexual innuendos, ultimately leaving it up to the audience how to interpret such messages. Women were also perceived as consumers, though not as a working professional but instead as housewives. From today's point of view, a reductionist image of women was suggested towards the audience.



Figure 44- Archive Sparkassen und Giroverband e.V., Matchbox promoting Eurocheque in 1969.

This chapter focused mainly on credit card advertising of Luxembourgish, German and French financial institutions. However, there are indications that the Eurocheque Association also promoted the Eurocheque with a reductionist image of women. For example, on this matchbox of the German saving banks from 1969 one could see a young woman drawn in comic style on a shopping tour through Europe. The young woman served as an advertising element to make the Eurocheque appear more attractive, while its male correspondent was portrayed as an adventurous pilot in 1970.⁵²⁷ Nevertheless, the described image of women and men persisted into the year 2000s in credit card advertising. Young working and married men remained the target group of banks, especially in Germany, until the 2000s.



Figure 45- Archive Sparkassen und Giroverband e.V., Matchbox promoting Eurocheque in 1970.

⁵²⁷Further examples of this reductionist world view of the Eurocheque association in the context of mass marketing can be found in the appendix, pp. 450-451.

In France and Luxembourg, however, a more wide-ranging target group was steadily addressed in the early 1990s, whereas the German banks remained faithful to their target group and stuck to the target group of young married couples up to the present day. Nevertheless, French, Luxembourgish and German banks, in cooperation with the individual international branches of the credit card organisations and local advertising companies, relied primarily on commercials and Press advertising to reach their customers until the 2000s. The advent of online banking in the mid-1990s led to the individualisation of mass retail banking. Thus, French, German and Luxembourgish banks began to apply an omni-channel strategy to market their financial services. The aim was to meet the growing need for individuality in Europe. The elements and advertising messages used by banks in the digital age is illustrated in the following chapter. However, besides promoting credit cards as cashless travel money, the credit card organisations invested increasingly into their public relations to promote their products. The next chapter demonstrates that the public relations of banks were primarily influenced by engineers to polish up the image of credit cards and debit cards. Furthermore, it is shown that banks used public relations to create a counter public within the debates about the security of credit cards.

3.2. Public relations of banks: gaining, building, and maintaining trust with consumers of cashless payment methods

This section deals with the public relation activities of banks, banking associations and credit card organisations in France, Luxembourg and German regarding cashless payment methods between the 1960s and 2015. Public relations of financial institutions are part of their communication policy and marketing activities. Therefore, this part of the dissertation demonstrates how banks constantly adapted their public relations until the digital age. The historical reconstruction of public relations during this timeframe demonstrates how banks first acknowledged the importance of public relations are an important marketing aspect when it comes to cashless payment methods. This chapter sheds new light on the beginnings of the emergence of banks' public relations in the digital space. In business studies, communication policy refers to a company's marketing mix. Overall, this part of the dissertation provides an analysis of the main actors who contributed to the banks as well as banking association public relations. The analysis of the involved actors clarifies how they shaped or influenced the banks public relations regarding credit and debit cards. In this context, the communication policy of a company represents the strategy of using advertising or public relations to optimise the sale of its financial services and products. The communication policy of a company thus pursues the enforcement, creation, or adherence to standards in information through planned communication. Companies place particular emphasis on directing communication to the public especially for their own interests.⁵²⁸ Hubert Bonin illustrated this with the example of the *Société Générale* in his work, *Banque et identité commerciale, La société Générale (1864-2014)*, under a renewed commercial identity, they strengthened their image within the company between 1990 and 2000 by diversifying their business portfolio and enriching their savoir-faire. Bonin reconstructs how each department within the organisational chart of the *Société Générale* had to acquire and consolidate its identity within the banking community to appear competent to the public.⁵²⁹

⁵²⁸TONNENMACHER, Jan, *Kommunikationspolitik in Deutschland*, Konstanz, UVK Verlagsgesellschaft GmbH, 2003, p. 21.

⁵²⁹BONIN, Hubert, *Banque et identité commerciale*, Paris, Presses universitaires du Septentrion, 2014, pp. 191-204.

However, public relations of a bank, a banking association or a credit card organisation are understood in the literature as conscious, targeted and long-term efforts of a bank to build up an understanding of their own concerns as well as a basis of trust vis-à-vis the public. The aspect of maintaining the public's trust in the banking industry plays an essential role in this context. For bank marketing and public relations, the term public refers to all parts of society. To be more precise, the term refers to all parts of society that have an opinion-forming effect and encounter financial institutions in various ways. This includes primarily institutional and social groups as well as mass media. It becomes clear that financial institutions often pursue a differentiated target group approach as well as the need to focus on opinion leaders who usually play a key role in influencing the broader public. The public relations of credit institutions thus have the goal of presenting their qualities or services in a targeted manner to encourage the public to adopt a positive attitude towards the bank and its financial services and products. The tasks of public relations in banking include promoting the awareness and reputation of a bank, underlining its own range of services and the position and function of its own bank for the economy and society. The main aim is to consolidate and expand their own market share. Public relations therefore have the responsibility of, among other things, of reducing existing prejudices and supporting advertising measures. The most frequently used communication measures of public relations regarding financial products of a financial institution include Press conferences, the institution's own publications and public conferences. In this chapter, therefore, these marketing documents are used to reconstruct how French, German and Luxembourgish banks used their public relations to build up and maintain trust in credit cards among their customers.⁵³⁰

Public relations are primarily the management of communication processes. The measures serve to influence, shape and change the relationship between a bank and the relevant public. The task of public relations is not the direct sale of concrete bank services or the acquisition of new customers, but to improve its image. Nevertheless, the secondary effect of public relations is the increase of sales. The public relations of banks, however, creates trust in the banking sector and achieves broad acceptance without having to yield to an authoritative public opinion. In this context, banks, banking associations and credit card organisations primarily push those conflicts that affect their own scope for action in the future. The term "*exposure*" is used in

⁵³⁰HASTENTEUFEL, Jessica, Öffentlichkeitsarbeit, in: gabler-banklexikon, URL: <https://www.gabler-banklexikon.de/definition/oeffentlichkeitsarbeit-70554> (State: 22.11.2021).

the literature to describe the conflicted position of an individual bank in the public eye. The goal of public relations work is thus ultimately to reduce a bank's public exposure.⁵³¹ The term *public exposure* describes the confrontation of companies with claims that are not directly related to the actual purpose of the company. As a result, banks and other companies also face the challenge of finding an appropriate way to deal with the public debate and the influence of external actors and the associated increased recognition of societal demands. By analysing the social sphere, the identification of an emerging change in social values can be ascertained. The diffusion curve, which shows the number of media reports as a function of time, is a suitable approach to determine these changes.⁵³² In the following paragraphs the historical reconstruction analyses the main communication measures and disseminated messages of French, German and Luxembourgish credit institutions as well as banking associations regarding credit cards and cashless payment methods from their emergence in Europe until the upcoming of the digital European payment market.

3.2.1. A French bank's first lessons in communication policy in 1973

In France, *BNP Paribas* (BNP) that was the first bank to face public exposure in 1973. In this case, it was not a financial service that came into the focus of the public eye but a large-scale advertising campaign promoting the cheque. Since the 1970s, the major French banks began to use more aggressive advertising slogans. The BNP advertising campaign was perceived by the public as particularly aggressive because it did not respect the discretion in financial questions that was typical in France. According to the historian Sabine Effosse, the public's indignation resulted also from the change in cheque usage, which reflected the economic and social modernisation in France at the end of the 1960s.⁵³³ The advertising campaign showed a banker turning to the audience with a mischievous smile and announcing: "*To put it straight, I'm interested in your money*". He then added the following two sentences "*Don't be afraid to bother me, I like talking about money*" and "*You take money seriously, we'll get along.*" The advertising campaign was spread throughout France via television, radio, billboards and the Press. In retrospect, the historians of BNP concluded the following: "While BNP's initiative was both praised and heavily criticised, its huge media impact seems to have been rather

⁵³¹BÜSCHGEN E., Hans, Bankbetriebslehre, *Bankgeschäfte und Bankmanagement*, Wiesbaden, Springer Fachmedien, Gabler, 1998, p. 692.

⁵³²GÜNTHER, Edeltraud, *öffentliche Exponiertheit*, in: gabler-banklexikon, URL: <https://wirtschaftslexikon.gabler.de/definition/oeffentliche-exponiertheit-52427> (State: 22.11.2021).

⁵³³EFFOSSE, Sabine, *El cheque en Francia: el lento ascenso de un medio de pago de masas (1918- 1975)*, in: *Revista de la Historia de la Economía y de la Empresa*, XI, 2017, pp. 77-94.

positive for the institution. Its gamble of completely assuming the public's perception of bankers proved beneficial. In the course of 1973, the number of accounts opened increased”.⁵³⁴ However, it was a learning lesson for the French banks that the public has a significant impact on the marketing strategy of a bank and even damaging to the business at first.



Figure 46—Archive BNP Paribas, Article in the *Dialogue* informing bank employees about the BNP campaign in 1973.

In March 1973, the mood of the management and the marketing department of the BNP was not one of joyful excitement. This is particularly evident in the fact that a three-page article was immediately published in the internal banking magazine *Le Dialogue* for the employees of the young Parisian bank, explaining to all employees what the intention behind the advertising campaign was, right down to the detailed timeline of the campaign. Thus, countermeasures were immediately taken to create a counter public. This was done primarily by relying on the employees in the bank branches on the front line to counter the public outrage. *BNP Paribas* explained to their employees in this article that they wanted to improve the image of the bank with the campaign to show own customers as well as potential customers that their relationship with their clients was both authentic and honest.⁵³⁵ Within a year, the BNP’s management stopped the advertising campaign and replaced it with the slogan: “*The BNP on your street corner and in all corners of the world*”. As a result, the French banking industry realised already in the early 1970s that it was in the nature of the banking business especially in retail banking to be at the mercy of public exposure and that the briefing of their employees

⁵³⁴BNP PARIBAS, *La BNP diffuse sa campagne publicitaire “Votre argent m’intéresse”*, in: *histoire.bnpparibas*, URL:<https://histoire.bnpparibas/images/la-bnp-diffuse-sa-campagne-publicitaire-votre-argent-minteresse-dans-le-metro-parisien/> (State: 22.11.2021).

⁵³⁵Archive BNP Paribas, *Histoire de la campagne de publicité BNP 1973*, in: *Le dialogue*, Mars, 1973.

on advertising campaigns or new financial services was an essential part of public relations.⁵³⁶ In the following paragraphs, the communication policy and public relations measures of the *Groupement Carte Bleue* and *Groupement des Cartes Bancaires* are analysed in relation to the already discussed debate on the security of their cashless means of payment.

3.2.2. The public relations activities of the *Groupement des Cartes Bancaires*

As already demonstrated in the previous chapters, the commercialisation of credit cards was coordinated centrally via banking associations. However, not only were the licencing of banks and the acquisition of new merchants managed centrally, but also public relations. The *Groupement Carte Bleue*, which became the *Groupement des Cartes Bancaires* (CB) in 1984, used public relations in their early days primarily to make its brand widely known in France. In newspaper articles or Press conferences, the CBs marketing directors usually only presented new products such as the *Carte Bleue Internationale*, with a specific emphasis on informing the public about the advantages and costs of their credit and debit cards, as can be seen in the following article from 1974:

*“Following an agreement with Bank of America, promoter of the world’s largest bank credit card, Bankamericard (34 million cardholders), the French grouping Carte bleue will launch a Carte Bleue internationale next month. It will give access to a network of 1,500,000 merchants in 84 foreign countries as well as the possibility to withdraw money from banks affiliated to the Eurocheque system in 33 countries. The new international card, which will cost 40 francs, will not replace the current blue card (sold for 30 francs), which is held by more than 900,000 people in France and gives access to a national network of 51,000 merchants and 10,000 bank branches.”*⁵³⁷

It is therefore not surprising that between 1970 and 1984, the focus of the CB’s public relations work was mostly on raising their profile. From 1984 onwards, the CB began to focus on the issue of credit and debit card security in Press conferences and newspaper articles. The *Groupement Carte Bleue* was one of the first banking groups to equip its payment cards with magnetic strips and chips as well as to inform the public about their new features. The attentive reader of *Le Monde* on 12 January 1984 could read the following lines:

⁵³⁶RICHEBOIS, Véronique, *BNP: votre argent les intéresse*, in: lesechos, URL: <https://www.lesechos.fr/2010/08/bnp-votre-argent-les-interesse-1086965> (State: 22.11.2021).

⁵³⁷Unknown author, *Lancement d’une carte bleue internationale*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1974/03/27/lancement-d-une-carte-bleue-internationale_2515344_1819218.html (State: 22.11.2021).

*“It was known that the decision was imminent, but it was a Press release from the Carte Bleue group, which manages most of the French cards for commercial use (four million), that officially gave the green light on 9 January 1984 (Le Monde, 11 January 1984). A mixed card formula, including both magnetic stripes and an electronic memory, is going to be tested commercially in Blois and will probably be distributed in several hundred thousand copies by the end of the year. It will be supplied in bronze as the old cards are replaced, with priority given to regions equipped with electronic directories (one million Minitel’s at the end of 1984 in Île-de-France, Picardy, Ille-et-Vilaine, Basse-Normandie, Nord-Pas-de-Calais, Provence-Alpes-Côte d’Azur, Alsace and Lorraine) and payphones with memory cards (three thousand). In addition, two thousand point-of-sale (POS) terminals will be installed in shops”.*⁵³⁸

However, the introduction of the new security measures regarding cashless payment methods were not promoted extensively in 1984, as the merger of the *Groupement Carte Bleue* with *Crédit Agricole* and *Mutuel* led to the *Groupement des Cartes Bancaires*. The newly founded banking grouping continued to focus its public relations efforts mainly on raising its profile, as can be seen in the following article:

“Since the beginning of the year, therefore, after the signing of the agreement in principle, the modalities have been discussed, and now a final agreement has been reached. From now on, only one card will be distributed, called the “bank card” (CB), which will not lose the benefit of the tangible and intangible investments made in the blue card (also CB). Payment cards will be blue or green, with the CB logo in white on the front, while those for withdrawals will be free-coloured, but with the CB logo on the back. Merchants will display signs in a colour ranging from blue to green.”⁵³⁹

It was not until the beginning of 1986 that the first 200,000 smart cards were issued by the CB in Rennes and Ille-et-Vilaine.⁵⁴⁰ In the 1990s, the way in which the *Groupement des Cartes Bancaires* conducted its public relations changed fundamentally. The next sections demonstrate which actors were involved in the CB’s public relations and how the CB’s public relations in Luxembourg and Germany became state of the art.

⁵³⁸RENARD, François, *La nouvelle carte à mémoire va prendre son essor dans les banques*, in: Le Monde.fr, URL:https://www.lemonde.fr/archives/article/1984/01/12/la-nouvelle-carte-a-memoire-va-prendre-son-essor-dans-les-banques_3002435_1819218.html (State: 22.11.2021).

⁵³⁹RENARD, François, *Une carte bancaire unique*, in: Le Monde.fr, URL:https://www.lemonde.fr/archives/article/1984/07/31/une-carte-bancaire-unique_3026265_1819218.html (State: 22.11.2021).

⁵⁴⁰Unknown author, *200 000 cartes à mémoire*, in: Le Monde.fr, URL:https://www.lemonde.fr/archives/article/1985/11/04/200-000-cartes-a-memoire_2753263_1819218.html (State: 22.11.2021).

3.2.2.1. The systematic shaping of the image of the smart card and controversies about its security in France

As already demonstrated in the previous chapter, the introduction of the chip card became obligatory between 1992 and 1993. CB credit and debit cards were replaced throughout France and merchants were obliged to upgrade their POS. The reason for this was that fraud rates with debit and credit cards were at a high level in France at that time. In addition, the French media publicised the security problem of the CB's cashless means of payment to an extreme degree. As a result, the CB, which had in the meantime reached a certain market saturation, used its public relations work to counter the public discourse on the security of cashless means of payment. Thus, in addition to targeted newspaper articles, the CB began to give interviews on the topic of security, organised conferences and published its own magazines such as the *CB Actualité la lettre du Groupement des Cartes Bancaires*.⁵⁴¹

In the framework of the eighth *Expobanques interfinancière* fair from 10 to 13 March in 1993, a series of *tables rondes* was organised under the moderation of the renowned journalist Jean-Louis Courleux with the following topics: *Fighting fraud in Europe: in search of better synergies*, *Bank cards: What equipment for the retail sector? What technological developments can be expected for card systems?* This *table ronde* was attended not only by representatives of the banking industry but also by the public and important opinion leaders of the French retail sector, such as Henri Chevalier IT Director of the *Galeries Lafayette* group or the Director of Information Systems Casino. The merchants complained first and foremost about the high investment costs that would result from the new security measures. Mr Roger Kierbel, Director IT Networks *Groupement des Cartes Bancaires*, reassured all participants of the discussion round and pointed out that the success of the CB card depended on the quality of its components and dryly underlined that the smart card as well as the upgrading of point of sales and automated teller machines was only for the good of all. He also answered questions on how retailers and banks could work together, and which equipment was best. From the very beginning, the CB's public relations work was carried out by the leaders of the individual banks and credit card organisations. This is reflected in the list of participants in the roundtables. The first day on the topic,

⁵⁴¹The *CB Actualité la lettre du Groupement des Cartes Bancaires* was sent to the partner banks of the CB in a targeted manner to inform the counterparties on the latest developments or decisions of the Board of Directors. It has not been possible to determine when the *CB Actualité* was issued for the first time. Today, most of the information contained in the *CB Actualité* at that time is disseminated via <https://www.cartes-bancaires.com/actualites/>.

Fighting fraud in Europe: in search of better synergies, was attended by the following leaders of the banking industry: Philippe Depaep, Head of the Security and Control Department of *Bank Card Company*, Robert Littas, Security Director of Visa Emea, Jean-Marie Scullino, Head of International Operations of *Eurocard France*, Daniel Woehl, Deputy Director of Litigation and Delinquency of *Crédit Mutuel* (Centre Est Europe) and Paul Trescases, Head of the Risk Management Department of *Groupement des Cartes Bancaires*. On 10 March 1993, Paul Trescases, Head of the Risk Management Department of *Groupement des Cartes Bancaires*, made it clear in which direction the CB would shift its public relations work and what its general mission as a banking association was. He pointed out that one of the CB's tasks was to coordinate the fight against fraud in France. The CB would now promote the development of smart cards for issuers and acquirers, as well as its centralised surveillance activity of the French payment market. The CB would henceforth introduce a preventative policy and a general repressive commercial policy by lowering the guaranteed threshold or even requiring a merchant to cooperate closely with the Police in cases of payment card fraud.⁵⁴²



Figure 47- Archive BNP Paribas, Tables rondes of the *Groupement des Cartes Bancaires* in 1993.

Internationally, the CB would maintain permanent relations with foreign banks and with its partners from Visa and Eurocard to achieve its goals. The reorientation of public relations was essential for the CB. In France, 21 million bank cards had already been issued between 1992 and 1993. The procedure of checking the secret number with the merchants made stolen or lost cards without their secret number partly unusable. Including prevention as part

⁵⁴²Archive BNP Paribas, *La lutte contre la fraude en Europe: à la recherche d'une meilleure synergie*, in: CB actualité la lettre du Groupement des Cartes Bancaires "CB" N° 17 Mai 1993, pp. 2-6.

of public relations had thus become inevitable.⁵⁴³ The advent of the Internet allowed the CB to implement 24/7 preventive public relations, as will be demonstrated in the next section.

3.2.2.2. From a landing page to an essential part of the digital public relations strategy of the *Groupement des Cartes Bancaires*

With the advent of the Internet in the mid-90s, the CB also shifted its public relations work into the digital space. This enabled the CB to expand its preventive public relations work and to counter public exposure with a round-the-clock counter public. Although at the beginning it was only a landing page on which the CB presented itself, visitors to the website could already find the following information:

“LOST OR STOLEN CARD? Notify your bank immediately.

Otherwise, call 08 36 69 08 80

This voice server (0.34 per minute), which is available 24 hours a day, seven days a week, will automatically direct your call to the appropriate stop payment centre.

Confirm with your bank as soon as possible.

THE SECRET CODE OF YOUR BANK CARD “CB”

It must remain SECRET: don't write it down anywhere, don't give it to anyone and protect yourself from prying eyes when you type it in!”⁵⁴⁴

Between 2000 and 2015, the CB's website became an essential part of the digital public relations strategy of the *Groupement des Cartes Bancaires*. In this context, the promotion of the security measures and the handling for customers in case of credit and debit card fraud became an important pillar and element of the CB's website.⁵⁴⁵

⁵⁴³Unknown author, *En raison du développement de la carte à puce la fraude par carte bancaire a réculé*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1993/05/11/en-raison-du-developpement-de-la-carte-a-puce-la-fraude-par-carte-bancaire-a-recule-de-22-en-1992_3541852_1819218.html (State: 22.11.2021).

⁵⁴⁴Webpage *Groupement des Cartes Bancaires*, cartes-bancaires.com, archived on 18.02.1999 by Internet Archive, URL: <https://web.archive.org/web/19990218164513/http://www.cartes-bancaires.com/html/prat/index.html> (State: 22.11.2021).

⁵⁴⁵Webpage *Groupement des Cartes Bancaires*, cartes-bancaires.com, archived on 06.02.2006 by Internet Archive, URL: <https://web.archive.org/web/20060206030322/http://www.cartes-bancaires.com/> (State: 22.11.2021).

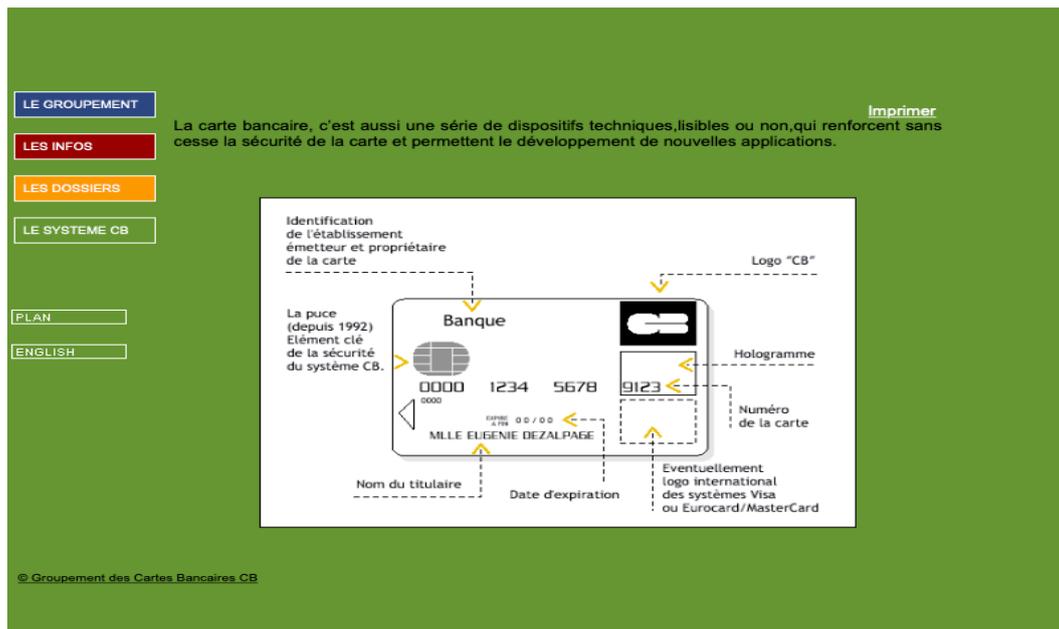


Figure 48 - Archive Wayback Machine, Groupement des Cartes Bancaires promoting the security of their chipcards in 2005.⁵⁴⁶

In 2006, for example, the introduction of the EMV standard was announced as follows:

“2004 was a year of major technological change for the CB bankcard payment and withdrawal system, involving all the players concerned: banks, manufacturers, merchants and cardholders. Since the end of 2003, the 50.1 million CB bankcards, the one million electronic payment terminals and the 43,714 ATMs in France have been gradually moving towards the new international EMV (Europay MasterCard Visa) standard. Faced with the need for many European countries to “switch to the chip”, the international Europay, MasterCard and Visa networks have been working together since 1997 to define the specifications for the new international EMV standard. France actively participated in this programme. All the banks in the world have decided to equip their bank cards - more than one billion of them - with a chip whose technology has been proven in France for 12 years. Motivations differ from one country to another, but the main reason for switching to chip cards is to increase security for cardholders, merchants and banks.

For European countries, the arrival of the smart card is a revolution: it is more secure and more efficient. In France, where CB bankcards have already been equipped with a chip since 1992, EMV is also a major technological advance that involves all the links in the bankcard payment/withdrawal chain:

- *Engineers and security experts have drawn up the specifications and standards for future equipment and carried out numerous tests,*
- *The manufacturers of cards and payment equipment adapted to this new standard.*

⁵⁴⁶On this web page of the Groupement des Cartes Bancaires one could also see the back of the chipcard including a magnetic strip / two years later, a significant change in the user interface can be observed, see Appendix pp. 452-453.

- The banks are adapting their IT systems and cash dispensers.
- Merchants are upgrading their payment equipment to meet the expectations of consumers who are increasingly using their CB bank card.⁵⁴⁷

Especially since 2012, a category called *CB et la sécurité* was created on the CB's website. It is therefore not surprising that nowadays, when a user goes to the CB's website, one lands on its starting page, which aims to lead the visitor directly to the topics of payment methods, security and innovation. Thus, the CB's landing page became an essential element of their public relations in the digital space. Or in other terms, an interface between the real and digital world of CBs public relations.⁵⁴⁸



Figure 49- Archive Wayback Machine, Web page Groupement des Cartes Bancaires, CB et la sécurité, 2012.

3.2.3. Public relations of Luxembourgish banks and banking associations

This *Crédit Européen* advertisement was one of the first to promote the Visa credit card in 1980 in Luxembourg. The Luxembourgish bank focused on promoting the product as finally accessible in Luxembourg and its worldwide acceptance.⁵⁴⁹ The Luxembourgish banks that promoted Eurocard, on the other hand, used a large Press conference to announce their credit

⁵⁴⁷Webpage Groupement des Cartes Bancaires, cartes-bancaires.com, archived on 26.08.2006 by Internet Archive, URL: <https://web.archive.org/web/20060826105012/http://www.cartes-bancaires.com/FR/info/communiqués/2005/com200405.pdf> (State: 22.11.2021).

⁵⁴⁸Webpage Groupement des Cartes bancaires, cartes-bancaires.com, archived on 15.10.2012 by Internet Archive, URL: <https://web.archive.org/web/20121015232850/http://www.cartes-bancaires.com/spip.php?article96> (State: 22.11.2021).

⁵⁴⁹CREDIT EUROPEEN, La carte Visa enfin accessible au Luxembourg! in: Luxemburger Wort, Publicité, 26.07.1980, p. 16.

card. Albert Schleimer, president of the *Communauté Luxembourgeoise Eurochèque*, presented the new credit card in the presence of the following members of the *Comité-Directeur Eurochèque*: Robert Hoffmann (*Banque UCL*), Guy Everaert (*Kredietbank S.A.*), Luden Peter (BCEE), Luden Peter (BCEE), Marcel Schleder (*Banque Internationale à Luxembourg*), Albert Schleimer (*Banque Générale du Luxembourg*), Fernand Simon (*Banque Générale du Luxembourg*), Lull Gillen (*Crédit Industriel d'Alsace et de Lorraine*), Jean Pierre Mailliet (*Banque Internationale à Luxembourg*). He also took the opportunity to announce their newly founded company *Eurocard Belgium-Luxembourg*. However, as can be seen from this newspaper article in the *Luxemburger Wort*, the Luxembourgish banks promoted the Eurocard as a means of payment which would bring the cardholder a certain financial security and protection. Thus, on 26 July 1980, one could read the following lines in the newspaper article Eurocard now in Luxembourg:

“Loss or theft can be reported immediately to a Eurocard agency and a police station. From then on, the cardholder is released from the consequences of misuse by unauthorised third parties. To prevent over-generous use of the tempting credit card, a monthly overdraft limit is set for each card. It is usually a maximum of F100,000. This amount is the sum of the F 35,000 usually granted for the Eurocheque card. A F 35,000 limit usually granted for the Eurocheque card and a further F 50,000 credit for the credit card plus a goodwill margin. If the turnover reaches 125 percent of the agreed limit, the card is put on a "stop list". This means, for example, that you will no longer receive cash on presentation of the card. In general, up to F 20,000 or the equivalent may be paid out in cash, but the bank must first get the OK from Eurocard. If the limit continues to be exceeded, the card will be confiscated.”⁵⁵⁰

Financial protection due to travel insurances also became an element of advertisements for credit cards and it is discussed in the following sub-chapter. However, the next paragraph focuses on the *Crédit Européen* and its Director Claude Pescatore, who used their public relations between 1980 and 1990 to promote the technical security of credit cards in Luxembourg. As already demonstrated in the previous chapters, *Crédit Européen* was one of the first banks to offer Visa credit cards in the early 1980s. The *Bancomat Association* opted for Eurocard in a first phase, as they had been part of the Eurocheque system.

⁵⁵⁰EUROCARD BELGIUM-LUXEMBOURG, *Eurocard jetzt auch in Luxemburg*, in: *Luxemburger Wort*, 20.11.1980, p. 13.



Figure 50 – First Visa advertisement in Luxembourg Wort in the 1980.

3.2.3.1. Demystifying the magnetic strip - A story from Claude Pescatore and his role at the *Crédit Européen* during the 1980s

Crédit Européen is a Luxembourgish bank that was later taken over by the Dutch banking group ING. Claude Pescatore was at the head of *Crédit Européen*'s board of directors in the 1980s. Since 1985, he managed the public relations of the Luxembourgish bank in the retail banking sector with a particular focus on credit cards.⁵⁵¹ The person Claude Pescatore is particularly interesting because he enjoyed an education as an engineer during his years of study. Claude Pescatore was a member from the Pescatore family, who have been known in Luxembourg since the 18th century as influential merchants and businessmen and who shaped political life in Luxembourg. The Pescatore family provided the mayor of Luxembourg city a few times as well as members and presidents of the Luxembourgish parliament or government. In the following centuries the Pescatore family could extend their influence on the cultural, industrial and financial life of Luxembourg. As an engineer, he worked at the *Aciéries Réunies de Burbach-Eich-Dudelange* (ARBED) and made a career in the steel industry. This is described by the author Antoine Wehenkel in his work, *Chronique de la famille Pescatore, Histoire généalogique et Culturelle* as follows:

⁵⁵¹Unknown author, *Claude Pescatore gestorben*, in: lessentiel, URL: <http://www.lessentiel.lu/de/news/story/Claude-Pescatore-gestorben-15565151> (State:06.12.2021).

*“He was first head of department at the Belval steelworks, then director of the Belval and Differdingen works and finally deputy general manager of ARBED at the beginning of the steel crisis in the 1970s. The decline of the steel industry since 1973 was fortunately compensated in Luxembourg by the parallel and rapid development of the financial centre, which kept unemployment at a relatively low level. After working in the steel industry, Claude PESCATORE was for several years a very committed member of the Chamber of Deputies in the ranks of the Democratic Party or the Liberal Party.”*⁵⁵²

In the 1980s, *Crédit Européen* published its internal magazine, *Notes Économiques et Financières*. The internal publication was addressed primarily to a professional readership as well as to the staff of the small Luxembourgish bank. In the issue, *30 ans de révolution bancaire: la monnaie électronique remplace la monnaie scripturale*, from 1985, of which Claude Pescatore is the author, he explicitly underlines in the subchapter, *Les mystères des pistes noires sur les cartes de crédit* that the *bande magnétique* would be secure. Thus, Pescatore tries to convince the reader of the security of credit cards through a perfect analysis of the advantages and disadvantages of their technological components.⁵⁵³

In 1984, Claude Pescatore had already published a newspaper article called, *les mystères des pistes noires* in *d’Lëtzebuenger Land*. The article slightly differed from the *Notes Économiques et Financières*, of 1985 and showed the reader a picture of credit cards and the Bancomat card with the caption “*protection des pistes magnétiques: Pour dissuader les bricoleurs de falsifier les différentes pistes*”. Thus, he had already addressed a broader public with the same ideas a year earlier and used his views as a template for the issue of *30 ans de révolution bancaire: la monnaie électronique remplace la monnaie scripturale*. As an engineer, he was aware that the public and parts of the banking world still had to be convinced of the security of credit and debit cards, so he tried to demystify the credit card. It is therefore not surprising that as early as 1986 he praised the *carte à mémoire* and security as follows:

“La carte à mémoire est une variante de la monnaie électronique. Des essais à grande échelle auront lieu prochainement en France. Pour le porteur de carte, cette technologie offre surtout l’avantage d’un niveau de sécurité actuellement considéré comme absolu. De ce fait, la rapidité des transactions peut être

⁵⁵²WEHENKEL, Antoine, *Chronique de la famille Pescatore, Une Histoire Généalogique et Culturelle*, Luxembourg, Association Luxembourgeoise de Généalogie et d’Héraldique, a.s.b.l., 2002, p. 193.

⁵⁵³PESCATORE, Claude, *30 ans de révolution bancaire: la monnaie électronique remplace la monnaie scripturale*, Notes Economiques et Financieres, Luxembourg, Credit Européen, 1985.

notoirement accrue étant donné que la vérification du code confidentiel s'opère dans la mémoire de la carte même."⁵⁵⁴

Claude Pescatore's early understanding of the enormous importance of public relations regarding credit cards with a focus on the security of cashless payment methods resulted primarily from the fact that he himself was an engineer. However, the Visa advertisement in the *Luxemburger Wort* shown at the beginning of this chapter gives further clues as to where Pescatore drew his knowledge from. The advertisement clearly shows which foreign banking associations Visa cooperated with apart from *Crédit Européen*. The credit card of the *Groupement Carte Bleue* also catches the eye and points to the close contacts that were maintained between the issuing banks of Visa. This is discussed in more detail in the final chapter.⁵⁵⁵ When *Crédit Européen* was pushed out of the Luxembourg payment market by the *Bancomat Association* at the end of the 1980s, Cetrel began to intensively promote the security of its means of cashless payment on RTL and via its website for the *Bancomat Association*.



Figure 51 – Article from Claude Pescatore in the *d'Lëtzeburger Land* in the 1980s about the mysteries of magnetic strips.

⁵⁵⁴PESCATORE, Claude, *Le client face aux produits bancaires*, in: *d'Lëtzeburger Land*, 07.03.1986, p. 13.

⁵⁵⁵CREDIT EUROPEEN, *La carte Visa enfin accessible au Luxembourg*, 1980.

3.2.3.2. The Cetrel and its public relations at RTL and in the digital space

The Luxembourgish banks from the *Bancomat Association* decided to reach young people as customers and to convince the elderly population of the security of credit cards through public relations. A decisive aspect for this strategic change, however, was that the *Centre de transferts électroniques*, Cetrel, had been responsible for the marketing of credit cards in Luxembourg since 1985. Cetrel worked with young engineers, programmers and trained marketing experts. They quickly realised that in a stagnating market, new target groups had to be found in addition to the traditional ones. As a result, the Cetrel employees focused on the concept of security to promote their products. Cetrel recorded approximately 26.1 million card transactions in 1997. This included credit card and debit card transactions. The debit card transactions predominated. Cetrel announced at its annual general meeting that it had transferred a volume of more than 459 billion francs between the players in the cashless payment market in 1997. This figure represented an increase of 35 per cent over 1996. However, Frank Wagener, Vice-President of the Cetrel Board of Directors, announced at the annual general meeting that Visa and Eurocard, the most widely used credit cards in Luxembourg, were stagnating.⁵⁵⁶ In addition to the advertising campaigns, which were designed to reach to the masses, Cetrel began to rely on educational work to boost credit card sales. This strategic decision explains the decline in targeting the traditional audience in the 2000s and the emergence of numerous reports on credit card security on Luxembourgish television. In RTL Luxembourg's television format *Magazine* showed under the heading "*consommateurs*", Cetrel employees who explained how to use MasterCard, Visa and Eurocard credit cards correctly. From the security of the cards to the costs incurred when using them, the advantages of credit cards were explained to the viewer in every detail.⁵⁵⁷ In the 2000s, however, not only educational videos flickered across the TV screens of the Luxembourg population, but also warning videos. In these productions, people were warned against credit card fraudsters on their travels. For example, in the TV format *de Nol op den Kapp* from RTL Luxembourg in 2008, Cetrel employee Cecile Hemmen appeared and informed the audience to cut up outdated credit cards. She then cut the credit card demonstratively in two pieces in front of the camera. Later, she continued to give further advice

⁵⁵⁶Archive Luxemburger Wort, Sammelmappe - Elias 7, PICARD, Jean-Jaques, Cetrel, *Das Zahlen mit Plastik setzt sich immer mehr durch*, in: Luxemburger Wort, Ressort: Wirtschaft und Finanzen - Économie et Finance, 26.03.1998.

⁵⁵⁷Archive Centre national de l'audiovisuel de Luxembourg, STON991215LE / 008, *Magazine - Conseil, Sécurité cartes de crédit*, 15.12.1999.

on the right and secure way to handle credit cards.⁵⁵⁸ Consequently, over the years and especially due to the stagnation of the credit card market in Luxembourg in the 1990s, these new marketing strategies had to be adapted specially to convince customers to use credit cards. It was not until the early 2000s that the Cetrel's online portal became a place of enlightenment. However, in the 2000s, Cetrel mostly limited itself to sending monthly reports or information sheets to its customers regarding changing pricing policies or the implementation of new technological standards such as the EMV standard in 2006. Public relations in Luxembourg in the digital space were neglected for a long time. As a result, Cetrel's website resembled a landing page for many years.⁵⁵⁹ One explanation for the neglect of the website seems to be the slow takeover of Cetrel by *Six Payments*, as it dragged on from 2009 to 2016. Thus, the webpage as tool for public relations and for raising the awareness of security issues of cashless payment cards was not a part of their communication policy until late in the 2000s.⁵⁶⁰

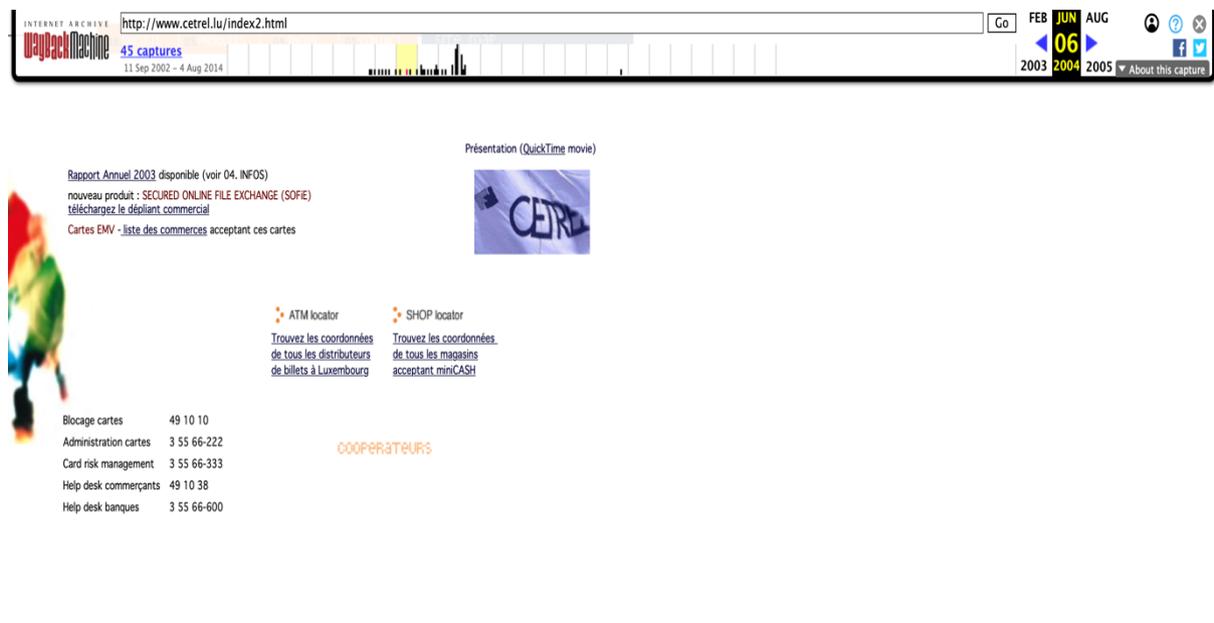


Figure 52 – Archive Wayback Machine, landing page of Cetrel in 2004.

⁵⁵⁸ Archive Centre national de l'audiovisuel du Luxembourg, STON080310LE / 002, Magazine - *De Nol op de Kapp*, 10.03.2008.

⁵⁵⁹ Webpage Cetrel, www.cetrel.lu, archived on 06.06.2004 by Internet Archive, URL <https://web.archive.org/web/20040606130429/http://www.cetrel.lu/index2.html> (State:06.12.2021).

⁵⁶⁰ Unknown author, *Aus Cetrel wird Six*, (State:06.12.2021).

3.2.4. Public relations of German banks and banking associations regarding credit cards

This story starts with the analysis of Eckhart van Hooven's works at the *Deutsche Bank* during the '90s, as he was the only chairman of a German bank whose handwritten notes reveal that a targeted counter-publicity had to be established to counter reports that, in his opinion, spread misinformation about cashless payment methods. Eckhart van Hooven studied law and started working at *Norddeutsche Bank* after his studies. Within a very short time, he became branch manager in Barmbek and later in Harburg near Hamburg. He is considered as one of the first German bankers who wanted to introduce small loans in retail banking. Between 1972 and 1991, he was a member of *Deutsche Bank's* Board of Managing Directors and was largely responsible for retail banking and the marketing of non-cash means of payment. He is also considered one of the founding fathers of the Eurocheque.⁵⁶¹ In collaboration with Joachim Süchting, he published the book, *Handbuch des Bankmarketing*, at the end of the 1980s which for a long time represented the state of the art of bank marketing in European retail banking. In fact, his book is an anthology in which the leaders of the worldwide cashless payments industry at the time share their views on bank marketing strategies and the challenges of retail banking. In this anthology, 26 renowned personalities of retail banking of the '80s, such as Jacques Mayoux, head of *Société Générale*, Anthony N. Hunter, assistant general manager *Barclays Bank* or James B. Wieseler, vice chairman of the Bank of America, express their views on the topic. In this book, Eckhart van Hooven emphasised already in the 1980s that bank marketing strategies and technological innovation were strongly intertwined.⁵⁶² Mr Eckhart van Hooven made his first experience of the necessity of public relations in retail banking and the targeted steering of a counter-discourse in 1985. In his notes on the television programme of *Radio Bremen* on 29 June 1985 with contributions about *Bildschirmtext* (BTX), he noted the following lines:

*“The interventions in the BTX system shown in the programme “Extratour” were faked. Even according to Mr Stauber, such interventions are not technically possible. It is problematic that the fear of the “transparent human being” is being stoked further. In this context, the attached critique of the programme, which appeared in the feuilleton of the FAZ on 3 July 1985, is also interesting. We are still trying - with the Press department - to obtain a recording of the programme”.*⁵⁶³

⁵⁶¹IKEN, Matthias, *Eckhart van Hooven: Ein deutsches Leben*, in: welt, URL: <https://www.welt.de/print-wams/article109747/Eckart-van-Hooven-Ein-deutsches-Leben.html> (State:06.12.2021).

⁵⁶²SÜCHTING, Joachim & VAN HOOVEN, Eckart, *Handbuch des Bankmarketing*, Wiesbaden, Gabler, 1987.

⁵⁶³Archive Deutsche Bank, Eckhart van Hooven, Fernsehsendung von Radio Bremen am 29. Juni 1985 mit Beiträgen über BTX.

With the term *transparent human*, in German “*gläserner Mensch*”, van Hooven used a metaphor of data protectionist. The term refers to the voluntary, but also involuntary disclosure of personal data.⁵⁶⁴ Van Hooven also noted in his handwriting that action would have to be taken against this misinformation and that he had informed the *Zentraler Kreditausschuss* immediately. Thus, he already created an awareness at the *Bundesverband der Deutschen Volksbanken und Raiffeisenbanken e.V.*, *Bundesverband deutscher Banken e.V.*, *Bundesverband Öffentlicher Banken Deutschlands e.V.*, *Deutscher Sparkassen- und Giroverband e.V.* and *Verband deutscher Pfandbriefbanken e.V.* that banks are always at the public’s disposal.⁵⁶⁵ This was an influential moment for Eckhart van Hooven, as can be seen from the extensive collection of his paperwork stored at *Deutsche Bank* archive. On a regular basis, prefabricated Press articles about cashless payment methods appear in his documents, in which he always underlines the security from Eurocard to Europlus.⁵⁶⁶

In general, though, the *Gesellschaft für Zahlungssysteme* (GZS) took care of the public relations regarding credit and debit cards in Germany. Therefore, in the final section, an analysis of the public relations of the GZS, later *Eurokartensysteme*, follows. The GZS was responsible for marketing of the Eurocard and MasterCard in Germany between 1982 and 1997. They issued guidelines to the banks on how credit cards should be advertised, but the decision about the extent of their marketing budget was left to the banks, which concentrated primarily on consolidating their position in the card market with an active, offensive, and early offer of their own credit cards, to take immediately take full advantage of market opportunities and not to leave the field open to competitors. The banks in general promoted their credit cards to the public through advertisements in selected publications and to their own prime customers with a personal letter.⁵⁶⁷ The GZS was a common umbrella for card-based payment transactions for the German banking industry. In 1997, the umbrella organisation was renamed *Euro Kartensysteme GmbH* and operated as a joint venture of the German banks and savings banks. The main tasks of the *Euro Kartensysteme GmbH* were mainly brand and system management for the licence management of Eurocard and

⁵⁶⁴R., Carina, *Gläserner Mensch*, in: informatik.uni-oldenburg, URL: http://www.informatik.uni-oldenburg.de/~iug17/gm/content/text_DefinitionGlaesernerMensch.html (State:06.12.2021).

⁵⁶⁵SCHÖNING, Stephan, *Zentraler Kreditausschuss*, in: gabler-bankenlexikon, URL: <https://wirtschaftslexikon.gabler.de/definition/zentraler-kreditausschuss-zka-48170> (State:06.12.2021).

⁵⁶⁶Archive Deutsche Bank, Eckhart van Hooven, *Beitrag für die Bank zum Thema Europlus*, Frankfurt, 1987.

⁵⁶⁷Archive Deutsche Bank, *Eurocard mit Deutsche Bank Schriftzug. Einführungskampagne, Entscheidung im GZS Aufsichtsrat* am 7.10.1988.

MasterCard.⁵⁶⁸ *Euro Kartensysteme GmbH* has been using its website for public relations since 2002, doing prevention work and trying to build up trust in credit and debit cards among the population and their business partners as well as to market the credit card as a secure means of payment on the Internet.⁵⁶⁹

For example, as early as 2002, a seal of quality was introduced that was supposed to give visitors to online partner shops of Eurocard and MasterCard the feeling of security, as these had been checked for their trustworthiness by the independent technical experts hired by the credit card organisation as well as Eurocard. Hence, they also tried to recruit online shops as follows:

“EUROCARD wants more security and transparency in online payment transactions. The new Safe’n Easy acceptance mark should be a sign of trust for the consumer. Therefore, high demands are made on the awarding of the logo. EUROCARD found a like-minded partner in the independent EuroHandelsinstitut (EHI). The EHI - the first institute in Germany to award online quality marks - has many years of experience in testing and certifying online shops. All test criteria were developed by an independent advisory board. Would you also like to offer your online shop and your customers’ optimum quality in terms of consumer-friendliness, functionality and service? Then take up the challenge and check your online shop against the EHI’s 10 quality mark test criteria. These include, for example, minimum data security requirements for transactions, indication of binding prices or compliance with data protection regulations and legal sales restrictions. Register here without obligation for the Certified Online Shop system. You will then immediately receive your access data by email for further information. Have you already received your access data? Then download your contract, the description of a sample shop or a checklist for your online shop, here. Risks for credit card holders. Even for credit card holders, payment processing by credit card on the Internet is not without risk. Many merchants offer SSL data encryption for the transfer of card data on the Internet. This makes the credit card data “tap-proof” during transmission, but it is decrypted again on arrival and stored in the merchant’s database. Hackers repeatedly succeed in penetrating merchants’ databases to obtain credit card data, which is then misused - e.g., for online purchases. Even if credit card data are secured against hackers with an appropriate firewall, they are still openly accessible to the merchant’s employees. The big security risk often comes from “inside”! Do you still have questions? Contact us by email: set.service@eurocard.de.”⁵⁷⁰

⁵⁶⁸GESCHREY, Erhard, *Euro Kartensysteme GmbH*, in: gabler-banklexikon, URL: <https://www.gabler-banklexikon.de/definition/euro-kartensysteme-gmbh-57661> (State:06.12.2021).

⁵⁶⁹Webpage Eurokartensysteme, www.eurokartensysteme.de, archived on 18.06.2002 by Internet Archive <https://web.archive.org/web/20020718223226/http://www.eurokartensysteme.de/> (State:06.12.2021).

⁵⁷⁰Webpage Eurokartensysteme, www.eurokartensysteme.de, archived on 09.06.2002 by Internet Archive <https://web.archive.org/web/20020609095239/http://www.eurokartensysteme.de/e-commerce/sicherheit/safeneasy/> (State:06.12.2021).

With more security and transparency on the Internet, *Eurokartensysteme* wanted to encourage its credit card holders to use their cashless means of payment on the Internet.



Figure 53- Archive Wayback Machine, Eurokartensysteme, Mit Eurocard Safe'n Easy auf der sicheren Seite, 2002.

However, this example shows that not only banks did inform the public about possible security gaps through prevention work but also their business partners. Thus, it was explicitly pointed out that credit cards offer the user great security, but the greatest danger comes from company employees who have gained unauthorised access to the company's credit card or in the words of Eurocard and MasterCard, the "big security risk often comes from inside".⁵⁷¹

In addition to its own homepage, *Euro Kartensysteme* had built up another platform called *Card Security* from the 2000s onwards. The information portal www.kartensicherheit.de informed its visitors about all aspects of security in card-based payment transactions. *Euro Kartensysteme* described their service on their information portal as follows:

"The risk of card misuse can only be contained through extensive education, information and the active cooperation of all parties involved. This website informs and links employees and security experts of banks, savings banks and credit industry associations, members of the ZKA as well as law enforcement agencies, card processors and other stakeholders. Cardholders will find information on this website about card

⁵⁷¹Webpage Eurokartensysteme, www.eurokartensysteme.de, archived on 09.05.2021 by Internet Archive <https://web.archive.org/web/20210509172034/https://www.eurokartensysteme.de/sicherheitsmanagement/die-sicherheitskonferenz.html> (State:06.12.2021).

blocking, about the best behaviour in case of suspected misuse and about the responsible use of payment cards."⁵⁷²

In addition to the digital educational work, the security conference has been held annually since 2005. The security conference is called "*kartensicherheit.de*" as their webpage served to bring all those involved in cashless payment transactions to one table and to bring their discussions to the public, including the investigating authorities for debit and credit card fraud. It was an attempt to network the actors of the German cashless payment market. The focus of this security conference was the exchange of experiences and the transfer of knowledge on national and international card fraud as well as on measures for prevention. In recent years, product optimisation was added as a further aspect, as the participants were increasingly concerned with the question of which means of payment would be suitable for the future.⁵⁷³ Thus, especially in the digital age, the German banks kept coming up with new ways of gaining, building and maintaining trust with consumers of cashless payment methods, as this became especially important in the digital age, as credit cards should be established as a mean of mass payment.



**Gütesiegel "Geprüfter-Online-Shop"
des EHI in Kooperation mit EUROCARD.**
Die vollständig ausgefüllte und von der
EURO Kartensysteme positiv geprüfte Selbstauss-
kunft ist Voraussetzung für die Weiterleitung an
das EHI-EuroHandelsinstitut.

Figure 54 – Archive Wayback Machine, Quality Seal for an approved safe online shop by Eurocard and MasterCard in 2002.

⁵⁷²Webpage Eurokartensysteme, www.eurokartensysteme.de, archived on 18.06.2002 by Internet Archive <https://web.archive.org/web/20070717194406/https://www.kartensicherheit.de/ww/de/pub/index.php> (State:06.12.2021).

⁵⁷³Webpage Eurokartensysteme, www.eurokartensysteme.de, archived on 18.06.2002 by Internet Archive <https://web.archive.org/web/20210509172034/https://www.eurokartensysteme.de/sicherheitsmanagement/die-sicherheitskonferenz.html> (State:06.12.2021).

3.2.5. Conclusion

Banks realised early in the 1970s that they were exposed to public scrutiny. They had to learn to deal with it. However, the *Groupement des Cartes Bancaires* set standards here already at the end of the 1980s, as it had to deal with the issue of security at an early stage because of the high incidence of credit and debit card fraud. It became clear at an early stage that prevention work and education about the secure use of a credit card at cash machines or later in the digital area was the most suitable form of public relations work to convince the public of the security of their debit and credit cards. German banks and Luxembourgish banks handled public relations in the same way over time because the CB's way of handling public relations regarding cashless payments methods established in Europe over time. Here, Claude Pescatore's public relation activities for the *Crédit Européen* and its Visa card in Luxembourg during the '90s are a good example to picture this development. They strongly resemble the CBs public relation activities, especially Press articles during that period. Furthermore, the first Visa credit card advertisement in Luxembourg in 1980 gives hints of the knowledge exchange in this field as it also shows the *Groupement Carte Bleue* credit card. However, conferences were organised, information portals founded, fairs held, and newspaper articles published to initiate a targeted counter-publicity to the debate on the security of cashless means of payment by the CB. The public relations work was always taken over centrally by the CB, the *Euro Kartensysteme GmbH* or the Cetrel, especially since the 1980s. Overall, the historical analysis of Press conferences, the institution's own publications, press articles as well as public conferences demonstrates that the banking associations deliberately used engineers and bank directors as opinion leaders. Public relations have always been a matter of the management of banks. Not only do public relations get more authority through the election of engineers and marketing directors as opinion leaders, but also the necessary expertise in the field of technology and security aspects. Furthermore, it is clear from the analysis that the engineers thus had a considerable influence on the form of the banks' public relations and pushed them in the direction of prevention work. They were aware that the financial service debit or credit card sometimes needed to be explained as a product, customer data was also stored here. Banks have always made it their task to convey to their customer that debit and credit cards are safe from a technical point of view. Incorrect handling, on the other hand, could lead to the loss of personal data. This was particularly necessary in Germany, where, as in the example of the fictitious BTX contribution by *Radio Bremen*, the fear of the "gläserner Mensch" was already rife in the 1980s.

If one compares the way the public relations were conducted in France, Germany and Luxembourg, there are no significant differences except that Cetrel used intensively Luxembourgish state television to strengthen its public relations. In the 2000s, educational videos and warning videos regularly flickered across the screens of the Luxembourg population. These productions warned people about credit card fraudsters on their travels or informed viewers to cut up outdated credit cards. Additionally, Cetrel and *Euro Kartensysteme* were late in starting digital public relations and prevention work on the topic of security compared to CB. This can be explained by the fact that Cetrel was taken over by Six Payment in a nine-year process and the payment company was restructured into *Eurokartensysteme* in 1997. Since it was only focusing on brand and system management for the licence management of Eurocard and MasterCard, it quickly caught up with its Internet presence, public relations and prevention work and was able to strengthen the trust in credit and debit cards among the population and its business partners as well as market the credit card as a secure means of payment on the Internet. Finally, it can be said that the CB with its engineers had a significant impact on public relations from the 1970s until the digital age in Europe. Thus, preventive digital public relations became the state of the art in Europe in form of websites or quality seals for cashless payment methods in general. However, even in the digital age, as the security conference of *Euro Kartensysteme GmbH* shows, the networking of the players in the payment market through real encounters has been set up to counter the debate about the security of credit and debit cards. Furthermore, an understanding was formed at these conferences that product optimisation was an important marketing aspect in relation to credit cards, as well as a feeling that the tasks of the future in cashless payment transactions must be faced. In the last part of this thesis the regulation of the European cashless payment market from 1957 until 2015 is reconstructed whereby the PSD II serves as main case study to give an outlook on the actual situation and actors of the European digital payment market. In addition, the last subchapter of this thesis investigates the shift from regulating national payment markets in Europe to the upcoming political will of their deregulation.

3.3. Regulating the European payment market as a response to consumer & merchants' fears?

From 1957 onwards, the European Union made efforts to create a single European market. Consequently, the goal of creating a complete integrated single European market became one core of the European integration process. The following four principles of the internal market were established to reach this goal: free movement of goods, persons, services and capital. In order to achieve the plan of creating a single European market, the European Commission enacted this strategy until the mid-1980s, where national regulations had to be harmonised with European directives. It was also agreed that a product or service lawfully produced in one member state could also be sold on the market of another member state. However, the products had to comply with the health and consumer protection regulations of the European Union. Until then, national regulations and non-tariff barriers to trade had hindered the free movement of goods and services.⁵⁷⁴ Although the goal of creating a common European single market was pursued from 1957, it was not possible for the European Union to totally achieve it until today. Therefore, one cannot speak of a complete realisation of the European single market, as there were always deficits in the transposition of European directives into national contexts. In particular, the areas of financial services, energy and the digital single market showed large implementation deficits. Therefore, different national legislation prevailed in the individual member states of the European Union over a long period of time, including in the field of cashless payment transactions.

This subchapter deals primarily with the European Union's regulations on the European cashless payments market between 1985 and 2015. The aim is to find out whether these regulations by the European Union are the answers to fears of consumers' and merchants' fears discussed in the previous sub-chapters. Consequently, this subchapter begins its analysis with the white paper on the creation of a single European market from 1985 and ends with the Payment Service Directive II (PSD II) in 2015. It should be underlined that in the current literature the Payment Service Directives I (PSD I) and II are understood as measures to implement a single market for cashless payment transactions under uniform competitive conditions and to promote innovation, as well as to break monopolistic banking structures within the European payment market. However, current research focuses mainly on individual

⁵⁷⁴BUNDESZENTRALE FÜR POLITISCHE BILDUNG, *Binnenmarkt*, in: bpb, URL: <https://www.bpb.de/nachschlagen/lexika/das-europalexikon/176716/binnenmarkt> (State: 28.10.2021).

directives and does not examine them in a historical long-term perspective. In addition, most research contributions on European regulations in the field of the payment service directives come from jurisprudence or political sciences. For example, in jurisprudence there exist a strong focus on the transposition of the PSD I and II into national laws in the recent literature.⁵⁷⁵ However, this part of the work primarily finds inspiration in works such as, *Disrupting Finance*, as these works give a clear picture of all actors of the digital cashless payments market in Europe from financial institutions to new players of the cashless payments market such as Fintechs or companies as Apple, Amazon or Facebook. Furthermore, these works provide an idea of how financial technologies are transforming society in its way of operating.⁵⁷⁶ The historical analysis of the European Union's decisions on cashless payments therefore makes it possible to draw a more detailed picture of competition and developments in the European single market and the upcoming European digital market. It should be noted that in Germany, France and Luxembourg, credit cards did not play the same role as in the United States of America on the way to a consumer society. Here, alternative systems prevailed instead. The German historian Sebastian Knake describes the development as follows:

“In the Federal Republic, a combination of debit card and overdraft facility took over the function of the credit card. The emergence of this system is directly related to the widespread introduction of cashless salary payments in the 1960s. The spread of debit cards and especially the Eurocheque card (EC card) is directly related to the introduction of the current account. The latter was introduced nationwide in 1969 and spread in Germany and many other European countries in the following years. In Germany, debit cards fulfilled the central function of cashless payment that credit cards had in America. Unlike credit cards, however, they were not a credit instrument. Instead, this role was taken over by the overdraft facility offered by the savings banks and major banks since 1968. For this purpose, the credit institutions simply transferred the principle of the overdraft facility to the private customer business. This form of credit offered a similarly high flexibility of use as a credit card. The introduction of the overdraft facility was due to the efforts of banks and savings banks to make wage and salary accounts profitable. The consequence of this alternative arrangement was that German consumers, unlike their American counterparts, generally made cashless payments without automatically taking out a loan.”⁵⁷⁷

⁵⁷⁵JANSSEN, Dominic, *Die Zahlungsdienstrichtlinie (PSD I) und ihre aufsichtsrechtliche Umsetzung im vereinigten Königreich und Deutschland, Untersuchungen über das Spar-, Giro- und Kreditwesen / B*, Abteilung B, Rechtswissenschaft, Band 206, Berlin, Duncker & Humblot, 2017, pp. 19-24.

⁵⁷⁶LYNN, Theo & G. MOONEY, John & ROSATI, Pierangelo & CUMMINS, Mark (ed.), *Disrupting Finance, Fintechs and Strategy in the 21st Century*, Palgrave Studies in Digital Business & Enabling Technologies, Malibu, Palgrave Macmillan, 2019.

⁵⁷⁷KNAKE, Sebastian, Die Geschichte des Konsumentenkredits in internationaler Perspektive, in: LOGEMANN, Jan (ed.), *Konsum im 19. und 20. Jahrhundert*, Handbücher zur Wirtschaftsgeschichte, Oldenbourg Berlin Boston, De Gruyter, 2021. pp. 391-433.

The historical study of consumer credit in Germany and Luxembourg represents a research gap in the recent literature. In France, the historian Sabine Effosse investigated consumer credit concluding that French authorities were in favour of consumer credit but preferred to control it.⁵⁷⁸ Similar tendencies seem to be observable in Luxembourg if one looks at the regulation of consumer credit.⁵⁷⁹ However, the following paragraphs primarily deal with the motives of the European Union for promoting cashless payment methods. The importance of state institutions for the development of consumer credit can hardly be ignored. However, state regulation has had an ambivalent effect.

3.3.1. The regulation of the European payments market as an instrument for the creation of a single European market

The European Commission published its white paper on the creation of a single European market in 1985. Their main objective was to establish a single integrated market without restrictions on the movement of goods, persons, services, and capital. In addition, the European Commission wanted to prevent distortions of competition. The European Commission saw the creation of a common European market for services and goods as one of the most important factors for the return to economic prosperity in Europe in the 1980s. Therefore, the European Union decided the following:

“The completion of this large single market of 320 million inhabitants presupposes that the Member States of the Community abolish all kinds of barriers, harmonise their rules, approximate their legislation and their tax structures, develop their monetary cooperation and take the necessary flanking measures to ensure that European businesses cooperate. The Commission will therefore ask the European Council to set itself the objective of completing the internal market by 1992 at the latest and to adopt a programme with a realistic and binding timetable to that end.”⁵⁸⁰

It is important to underline, that the creation of the European single market was also intended to combat massive unemployment in Europe. Many economic crises and as structural changes in the European economy modified the labour market in many European countries in the 1970s

⁵⁷⁸EFFOSSE, Sabine, *Le crédit à la consommation en France, 1947-1965: De la Stigmatisation à la réglementation*, Neuauflage [Online]. Paris: Institut de la gestion publique et du développement économique, 2014, (Erstellungsdatum: 31 mai 2022). DOI: <https://doi.org/10.4000/books.igpde.3150>.

⁵⁷⁹GOUVERNEMENT LUXEMBOURGEOIS, Loi du 9 août réglementant le crédit à la consommation, 1993.

⁵⁸⁰Archives historiques de la commission européenne, collection reliée des documents “com”, COM (85) 310, Vol. 1985/0130, Commission of the European Communities, *Completing the internal Market*, COM (85) 310 final, Brussels, 14.06.1985, pp. 1-39.

and 1980s. At the same time, women and generations with high birth rates entered the labour market in constantly increasing numbers.⁵⁸¹ To combat unemployment, the Commission considered it necessary to liberalise the entire services market. Between 1973 and 1983 there was an increase of 5 million jobs in the service sector in Europe. As a result, it is not surprising that there was a strong interest in promoting service sectors such as information marketing, audio-visual service sectors, transport, banking, and insurance. For example, the liberalisation of financial services and products should promote European financial integration and accelerate the deepening of the internal market. Hereby, the European Commission placed particular emphasis on the free movement of financial products with a special regard on cross-border services and transactions. The European Commission was aware that these financial services such as credit cards could only develop economies of scale if they could be used within an integrated European single market. In addition, the European Commission underlined that debit- and credit cards would be a decisive factor for the construction of the European single market. The European Commission was aware of the fragmentation of the European payment market regarding cashless payment methods and that the compatibility of cards within the European Union was not given in 1985. Consequently, the European Commission announced in its white paper on the creation of a single European market that it would start to work together with the financial industry to find ways to define common technical characteristics of the machines used to produce new payment cards. Furthermore, the European Commission planned to work on the conformity of competition rules in the European payment traffic. The aim behind these first directives was mainly to create a uniform environment for all market participants of the European payment market.⁵⁸² With the beginning of the 1990s, the *Banque de France*, *Deutsche Bundesbank*, *Institut Monétaire Luxembourgeois* (IML) and *Banque Centrale du Luxembourg* (BCL) intensively started to work on the modernisation, security and smooth functioning of its non-cash means of payment.

Since the 4 August 1993 the *Banque de France* was responsible by law for the smooth functioning and security of the existing payment systems and methods in France. The *Banque de France*'s main task was to ensure the solidity of payment systems and to fight against fraud regarding non-cash means of payment. As a result, the modernisation of payment methods was

⁵⁸¹HINZ-WESSELS, Anette, Arbeitslosigkeit, in: Lebendiges Museum Online, Stiftung Haus der Geschichte der Bundesrepublik, URL: <https://www.hdg.de/lemo/kapitel/geteiltes-deutschland-krisenmanagement/bundesrepublik-im-umbruch/arbeitslosigkeit.html> (State: 28.10.2021).

⁵⁸²Commission of the European Communities, *Developing the internal Market*, pp. 1-39.

mainly driven by the *Banque de France*, as French banks started to replace paper-based cashless payment methods with automated ones. The percentage of automated transactions was 56 percent in 1995, compared to 47 per cent in 1990 in France. However, the use of cheques decreased. This decline resulted due to the measures taken by the *Banque de France* and the banking industry to promote the use of alternative means of payment methods. The promotion of alternative cashless payment methods by the *Banque de France* mainly based on their findings that, despite efforts to mechanise the processing of cheques and simplify collection procedures, automatised cheque processing remained costly for financial institutions with an average of 3 to 5 francs per form. In addition, French banks refused to use the *Système interbancaire de télécompensation* (SIT) introduced in 1993. The SIT was supposed to facilitate the exchange of cheque images. The implementation of the SIT system failed according to the *Banque de France* due to the strong reluctance of French financial institutions, as the retraining of employees responsible for the manual processing of cheques was too costly and time-consuming. Consequently, dematerialised cheques represented only 7.3 percent of the total volume of cheques circulating in France in 1995. Nevertheless, over nine regional cheque exchange centres were set up by the *Banque de France* together with the postal cheque centres. At the end of the 2000s, the SIT was switched off by the French authorities. After all, the *Banque de France* relied on payment cards as a mass payment method instead of the cheque. The French central bank secretly considered credit and debit cards as more secure than cheques, especially due to the general introduction of the chip card in 1993.⁵⁸³ Although politicians and banks worked hard since the 1990s to decrease the volumes of cheques in France completely, they persisted. In 2009, 3.3 billion cheques were still issued by French financial institutions.⁵⁸⁴ In Germany, the development could be observed that the *Deutsche Bundesbank* relied more and more on debit- and credit cards as a means of masspayment since the early 2000s. The *Deutsche Bundesbank* changed its pricing policy of its French counterpart SIT, the so-called *Elektronischer Massenzahlungsverkehr* (EMZ). Prices were set in favour of standardised electronic transmission channels and payment methods.⁵⁸⁵ In Luxembourg similar tendencies could be observed as in France or Germany. The *Institut Monétaire Luxembourgeois* (IML),

⁵⁸³Webpage *Banque de France*, in: [banque-france.fr](http://www.banque-france.fr), URL: <https://web.archive.org/web/19970331161718/http://www.banque-france.fr/banque/missions/2b.htm> archived on 31.03.1997 archived by Internet Archive, (State: 11.05.2022).

⁵⁸⁴EFFOSSE, Sabine, *El cheque en Francia: el lento ascenso de un medio de pago de masas* (1918-1975), in: MAIXE-ALTES, Joan Carles & DEL ANGEL, Guillermo & BÁTIZ-LAZO, Bernardo, *Retail payments in historical perspective*, *Revista de la Historia de la Economía y de la Empresa*, XI, 2017, pp. 77-94.

⁵⁸⁵STROBORN, Karsten, *Sicherheit elektronischer Bezahlssystem in Deutschland unter spezieller Berücksichtigung bankaufsichtlicher Besonderheiten*, Dissertation, Karlsruhe, Universität Fridericiana, 2004.

founded in 1983, was responsible for the supervision of the financial sector and issuing banknotes. As early as 1994, the *Luxembourg Interbank Payment System Netting System* (LIPS-Net) was implemented. The system was the national clearing system for domestic cheques and credit transfers. The system was introduced in 1994 to replace their manual clearing house. However, the volume of cheque transactions declined steadily since the 2000s. Since the 1 July 2006, banks in Luxembourg settled cheques bilaterally. Domestic and cross-border transfers as well as standing orders were settled via the pan-European system since 9 October 2006. Since the mid-2000s, the *Banque Centrale du Luxembourg*, founded in 1998, strongly aligned itself with the European Union's regulations and increased its focus on cashless means of payment as mass payment method.⁵⁸⁶ Since the 1990s, a strong national political will to promote digital cashless payment systems set the foundation for overcoming the fragmentation of the European payment market to ensure its stability. After this short excursion we come back to the European scale and the European Union, which increasingly relied on cashless payment methods since the 2000s. However, one of the first directives adopted by the European Union concerning non-cash payments was Directive 97/5/EC of 27 January 1997. The transfer directive was intended to simplify and improve cross-border transfers. Therefore, the European Union introduced deadlines for the execution of cross-border transfers to promote competition in the field of credit transfers for the benefit of private individuals and companies. However, Directive 97/5/EC did not cover direct debits or payments by debit and credit cards.⁵⁸⁷ The European member states experienced a strong shift from regulation to deregulation of their financial markets at the end of the 1990s. The shift took place in the context of the integration of national financial markets into a single European market. Different regulations, national rules, practices and currencies had primarily created barriers to entering the European market. Klaus Liebscher, Governor of the Austrian National Bank described the goals of the European financial integration in 2005 as follows:

“Before taking a closer look at the European process of deregulation and integration, let me reflect a little on the objectives of financial integration: The integration of national financial markets, which used to be subject to entry barriers as well as different national regulations, practices and currencies, aims at fuelling competition, reducing transaction costs and creating markets which are deeper, more liquid and more efficient. Cross-border integration requires the removal of entry barriers, the convergence of legal,

⁵⁸⁶BANQUE CENTRALE DU LUXEMBOURG, Retail Payments, in: bcl, URL: https://www.bcl.lu/en/payment-systems/systemes_paiement/paiement_masse/paiements_de_masse/index.html (State:11.05.22).

⁵⁸⁷ARNDT, M. Matthias, *Das Interbankenverhältnis im Überweisungsrecht, Vom Weiterleitungsmodell zum SEPA Credit Transfer*, Bank- und Kapitalrecht 10, Transfer scheme rulebook, Göttingen, V&R unipress, 2012, pp. 115-123.

supervisory and fiscal conditions underlying financial markets, the harmonisation of financial standards and the creation of common payment, clearing and settlement systems. To a certain extent, the geographical dimension of financial market integration is brought about by institutional integration. This comprises the cross-border consolidation and expansion of financial institutions, the main purposes of which are to make use of economies of scale and scope, and to improve risk diversification. [...] From 1999 onwards, European financial integration gathered additional momentum with the introduction of the euro and the Financial Services Action Plan (FSAP). The adoption of the single currency eliminated currency risk for the Member States of the euro area and at the same time made it easier for borrowers and investors to take advantage of borrowing and investment opportunities within the euro area. The purpose of the FSAP was to complete by 2005 the legal framework enabling the effective exercise of market freedoms in financial services throughout the European Union. The Lisbon Agenda, launched in 2000, gave further stimulus to the integration process by enhancing structural reforms in order to increase competitiveness. What has been achieved so far with respect to European financial integration? To answer this question, I am referring to a new report published by the ECB with the aim of monitoring the progress of financial integration in the euro area. Both this report and the European Commission's Financial Integration Monitor for 2004 point out that the integration of financial markets has deepened considerably in the recent past, but its degree varies widely among markets. Generally, it can be said that the integration of a market segment is the more advanced the closer it is to the single monetary policy. [...] As regards banking markets in the euro area, the ECB integration indicators show that retail banking is generally far less integrated than wholesale banking and banks' capital market-related activities. [...] Increased integration is undoubtedly beneficial for structural progress and efficiency. Greater competitive pressure compelled financial intermediaries to offer price concessions to their customers, which reduced transaction costs and consequently facilitated a more efficient allocation of financial resources."⁵⁸⁸

Since the 2000s, the idea of the European Union to create a single European payment area within the European trade has been solidified. As a result, the European Union worked with the European Central Bank (ECB) and the European Payments Council (EPC) on the realisation of the Single European Payment Area (SEPA). It should be noted that the EPC played a leading role in implementing detailed issues, such as the technical standards of payment cards. However, the main objective of the European Union, ECB and EPC was to create a legal framework for cashless payments in Europe. The creation of a uniform framework was intended to eliminate differences between domestic payments and cross-border payments.⁵⁸⁹ In June 2002, the EPC was founded. The EPC consists of 74 members. The EPC members consisted of representatives of banks and national and European banking associations. The

⁵⁸⁸LIEBSCHER, Klaus, *Financial deregulation in the EU – chances and challenges for financial stability*, Speech by Dr. Klaus Liebscher, Governor of the Austrian National Bank, to the 5th Annual CSI Conference - "New Agenda of the WTO: Challenge and Contribution of the European Union", Innsbruck, 18 November 2005.

⁵⁸⁹WANDHÖFER, Ruth, *EU Payments Integration, The tale of SEPA, PSD and other milestones along the road*, New York, Palgrave Macmillan, 2010, p. 36.

number of seats within the EPC of an association or a bank was based on the number of payment transactions of the respective country.⁵⁹⁰ The main representatives of the Luxembourgish, French and German banking industry were until today the *Association des Banques et Banquiers Luxembourgeois*, *Bundesverband Deutscher Banken*, and the *Fédération bancaire française*.⁵⁹¹ Especially with the introduction of the euro, the EPC saw the need to create SEPA.⁵⁹² One of the frameworks implemented by the creation of the Single European Payments Area was the *SEPA Card Framework* (SCF). In 2006, there were more than 350 million cashless payment cards in the euro area. With these payment cards, more than 12 billion payment transactions and 6 billion cash withdrawals were made in Europe at that time. Thus, it had become inevitable for the European banking industry to create common technical and legal payment card standards. As a result, the SCF gave banks three options to offer SCF-compliant products and services. The first option was for banks to replace their national card schemes with an international scheme. In this case, co-branding became obsolete, as cross-border and national transactions were covered by the same card providers. Another option to offer SCF-compliant products and services for banks was the invitation of the European Commission to form alliances with other card schemes. Alliances with other card schemes should encourage participants to agree on one card provider. Ultimately, banks could decide to pursue co-branding with international card providers. Co-branding is the cooperation of national and international card schemes in cross-border card use. Nevertheless, the *Eurosystem* argued primarily for a single European card system. The *Eurosystem* is the organisational unit for the euro formed by the European Monetary Union from the national central banks of all European member states and the ECB. In this context, the *Eurosystem* proposed the creation of a European cashless payment card. However, the main problem in creating a European debit or credit card would have required considerable efforts from European banks to promote a European cashless payment card and its acceptance outside Europe. As a result, the idea of a European cashless payment card has not been implemented until today. A leading idea in the creation of a European payment card in the digital age was to preserve the experience of national card schemes in Europe. Therefore the *Eurosystem* expressed concerns at the time that SEPA would not ultimately strengthen the European single market and that further cooperation

⁵⁹⁰DIE DEUTSCHE KREDITWIRTSCHAFT, *European payment council*, in: die-dk, URL:<https://die-dk.de/zahlungsverkehr/sepa/organisation/european-payments-council-epc/> (State: 28.10.2021).

⁵⁹¹EUROPEAN PAYMENTS COUNCIL, List of EPC members, in: [europeanpaymentscouncil.eu](https://www.europeanpaymentscouncil.eu/about-us/epc-members/list-epc-members), URL: <https://www.europeanpaymentscouncil.eu/about-us/epc-members/list-epc-members> (State: 28.10.2021).

⁵⁹²BÁTIZ-LAZO, *Cash and Dash*, Oxford, Oxford University Press, 2018, pp. 159-167.

with international credit card organisations would drive up interchange fees.⁵⁹³ In summarising all the key ideas of SEPA, one realises that the goal of the European Commission and the EPC was to abolish the predominantly national orientation of card payment systems and to ensure interoperability and standardisation at all levels of card payment. To achieve these objectives, the EPC adopted the *SEPA Card Standardisation Volumes* in December 2008, which provided a framework for the standardisation of card payments. With the adoption of the *SEPA Card Standardisation Framework*, a final commitment was made to the EMV chip and the principle of separation of card scheme administration and operation. The European banking industry had already agreed on the EMV standard two years earlier with the publication of the SCF but was not mandatory until 2008. With the introduction of the EMV standard, it was finally possible to make debit and credit cards more secure in the physical world with a common security standard.⁵⁹⁴

3.3.2. Regulating the upcoming digital European payments market since 2007

With the Payment Service Directive I from 2007, the European Union introduced another legal framework that pursued the goal of implementing a uniform European contract payment traffic supervisory law. However, the PSD I did not achieve the goal of strengthening the free movement of services and capital, but in a patchwork of national regulations in the Europe.⁵⁹⁵ The further fragmentation of the European payment regulations resulted from the imprecise definitions and different interpretations of the PSD I by the individual European member states. For example, the German legislator did not accept the definition of the term payment instrument by the European Union and changed it to payment authentication instrument. It is therefore not surprising that the Payment Service Directive I was revised two years later to achieve more uniformity.⁵⁹⁶ However, not only had the PSD I turned into a disaster, but the European Union was also unable to implement its *Lisbon Strategy* of the year 2000 until 2010. Through the *Lisbon Strategy*, the European Union aimed to become one of the most competitive, dynamic, and knowledge-based economies in the world until 2010. The member states of the European Union were aware that globalisation represented a challenge, and that

⁵⁹³EUROPEAN CENTRAL BANK, *The Eurosystem's view of a "SEPA for cards"*, Frankfurt am Main, November 2006, pp. 1-14.

⁵⁹⁴DEUTSCHE BUNDESBANK, *Kartenzahlungen (Sepa for Cards)*, in: bundesbank, URL: <https://www.bundesbank.de/de/aufgaben/unbarer-zahlungsverkehr/serviceangebot/sepa/inhalte/kartenzahlungen-sepa-for-cards--603058> (State: 28.10.2021).

⁵⁹⁵JANSSEN, Dominic, *Die Zahlungsdienstrichtlinie (PSD I) und ihre aufsichtsrechtliche Umsetzung im vereinigten Königreich und Deutschland*, Duncker & Humblot, 2017, pp. 19-24.

⁵⁹⁶SCHMALENBACH, Philipp, *Die Digitalisierung des Zahlwesens*, De Gruyter, Berlin, 2019, pp. 50-53.

the entire world was undergoing massive technological change. To achieve their goal, the European Union wanted to transform national economies into knowledge-based economies and modernise social systems. Therefore, the European Union wanted to strengthen the creation of an information society, a European research area, the completion of the internal market and the fight against unemployment. The goals of the *Lisbon Strategy* were not achieved because the individual states themselves were responsible for implementing the common goals and the political will to achieve them did not exist. The failure of the *Lisbon Strategy* prompted the European Union to launch the follow-up programme *Europe 2020*. This time their focus was on the strengthening of intelligent, sustainable, and inclusive growth of the European economy.⁵⁹⁷ The following five targets were set in the Europe 2020 Strategy:

- “1. An employment rate of 75 percent among 20–64-year-olds.
2. A total public and private investment volume for research and development of 3 percent of the gross domestic product.
3. To reduce greenhouse gas emissions by 20 per cent compared to 1990, the share of renewable energy in total energy consumption to increase to 20 per cent, and an increase in energy efficiency towards 20 per cent.
4. To reduce the school drop-out rate below 10 percent, 40 percent of 30–34-year-olds should complete tertiary education or equivalent.
5. To prevent at least 20 million people faces the risk of poverty or exclusion.”⁵⁹⁸

The Green Paper *Towards an integrated European market for card, Internet and mobile payments* published in 2012 shows that the European Union continued to see the integration of the European payment market and its regulation as a pillar to strengthen the European single market and digital market and can be understood in the context of the Europe 2020.⁵⁹⁹ In their Green Paper, the European Union clearly stated which cashless means of payment it envisaged to counteract the strong fragmentation of the European payment market and to create a European single and digital market. As the title of the Green Paper suggests, these were payments via the Internet, credit cards and mobile payments. Due to the emergence of e-commerce, electronic and mobile payments played a significant role within the European

⁵⁹⁷BUNDESZENTRALE FÜR POLITISCHE BILDUNG, *Lissabon-Strategie*, in: bpb, URL: <https://www.bpb.de/nachschlagen/lexika/das-europalexikon/177114/lissabon-strategie> (State: 28.10.2021).

⁵⁹⁸BUNDESMINISTERIUM FÜR UMWELT, NATURSCHUTZ; UND NUKLEARE SICHERHEIT, *Europa-2020-Strategie*, in: bmu, URL: <https://www.bmu.de/themen/europa-internationales/europa/europa-2020-strategie> (State: 28.10.2021).

⁵⁹⁹BOUYALA, Régis, *Les paiements à l'heure de l'Europe et de l'e- et m-paiement*, e-book, Paris, RB Éditions, 2013, pp. 56-59.

Union from the late 1990s onwards. In 2009, 140 million euro were turned over in online trade in Europe. These numbers corresponded to a per capita expenditure of 483 Euro per year. Furthermore, the European Union expected an annual growth rate of the e-commerce at 10 percent on average. It became clear that the potential of e-commerce was still completely untapped. Only 3.4 percent of the total European retail trade was accounted for by European online trade in 2012. In a public consultation on e-commerce, the European Union observed that the variety of non-cash payment options available represented one of the main barriers to future growth in online commerce. Therefore, it is not surprising that the European Union concluded the following in its Green Paper:

*“The consultation showed that key issues include the diversity of different payment methods across Member States, the costs for consumers and merchants, especially for small value payments (micropayments), and payment security. Due to the lack of a coherent and comprehensive (self-) regulatory framework, the e-payments environment in Europe is currently highly fragmented along national lines and characterised by a small number of successful domestic e-payment schemes and a limited number of large international players from outside Europe.”*⁶⁰⁰

Consequently, the European Union focused on mobile payment systems. Here, it is important to underline that current research shows that there is no significant difference in the sequence of payment interactions between a credit card terminal equipped with a modem or a *Near Field Communication* (NFC) scan triggered by a smartphone.⁶⁰¹ Most mobile payment methods are based on credit or debit cards.⁶⁰² NFC technology is an international standard for the contactless exchange of data over short distances of up to 4 centimetres. Physical cards as well as smartphones can be equipped with this technology.⁶⁰³ For the *business-2-consumer* sector (B2C), NFC represents a suitable solution to combine physical payment with digital payment. One could also speak of the digitalisation of debit and credit cards as the NFC principle consists of reproducing a point-of-sale interface on a mobile application where the cardholder is asked by the merchant to enter his/her card number, expiry date and visual cryptogram. The transaction kinetics are identical to those of a traditional payment page on the Internet. This

⁶⁰⁰EUROPEAN COMMISSION, *Green Paper Towards an integrated European market for card, internet and mobile payments*, COM (2011) 941 final, Brussels, 11.01.2012, pp. 1-25.

⁶⁰¹GIEBMANN, Sebastian, *Money, Credit, and Digital Payment 1971/2014: From the Credit Card to Apple Pay*, in: *Administration & Society*, 2018, pp. 1259-1279.

⁶⁰²BOUYALA, Régis, *Les paiements à l'heure de l'Europe et de l'e- et m-paiement*, e-book, Paris, RB edition, 2013, p. 115.

⁶⁰³MOORMANN, Jürgen, *NFC*, in: *gabler-bankenlexikon*, URL: <https://www.gabler-banklexikon.de/definition/nfc-70659> (State: 28.10.2021).

input can be automated if the card and smartphone are NFC-enabled.⁶⁰⁴ The European Union was aware that mobile payments therefore represented the fastest growing segment of non-cash payments worldwide at that period. The European Union expected that mobile payments would reach 350 billion USD and that one in five smartphones would be NFC-enabled in Europe in the coming decades. However, it became clear that one of the main reasons for the slow take-up of NFC payments in Europe was the highly fragmented mobile payment market. European mobile network operators, payment service providers as well as mobile phone manufacturers had not been able to agree on a viable business model that could ensure the interoperability of their systems. Consequently, it is not surprising that the largest global payment initiatives outside Europe were developed by Apple, Google, or Visa. The EPC worked primarily together with the global industry association of mobile operators on the integration of mobile payments in Europe. By promoting mobile payments, the European Union wanted to fulfil the vision of the SEPA declaration, which stated that there should be no distinction between cross-border and national payments for electronic retail payments. In this context, the European Union outlined that the complete integration of the European payment market would lead to the achievement of the five following goals:

“1. consumers use a single bank account for all payment transactions, even if they do not live in their country of origin or are frequent travellers in the EU. Accelerating innovation makes payments more user-friendly and adapted to the situation (online vs. offline payments, micro vs. large-value payments, etc.).

2. businesses and public administrations can simplify and streamline their payment processes and centralise financial transactions in the EU. This offers significant savings potential. In addition, common, open standards and faster processing of payment transactions will improve cash flow.

3. Merchants will also benefit from low-cost, efficient, and secure electronic payment options. Increased competition makes alternatives to cash payment more attractive. The shift to e-commerce is being driven and customers are gaining experience in using such payments.

4. Payment service providers, i.e., banks and other providers, can achieve economies of scale thanks to standardised payment instruments and, after making certain initial investments, save costs. At the same time, new markets are opened so that new sources of revenue can be developed for existing payment instruments and innovations can be applied on a larger scale.

⁶⁰⁴LANGER, Josef & ROLAND, Michael, *Anwendungen und Technick von Near Field Communication (NFC)*, Heidelberg, Springer, 2010, pp. 1-11.

5. *Technology providers such as software vendors, processors and IT consultants can align their developments and solutions to instruments used across Europe, thus stimulating innovation in all EU Member States.*⁶⁰⁵

3.3.3. Revising the Payment Service Directive I in 2009

It is therefore unsurprising that the European Union revised the PSD I and implemented the PSD II in 2015. By promoting the digital space, consumers and businesses should have easier access to online goods and services across Europe. However, their strategy required eliminating key differences between the online and offline worlds in order to remove barriers to cross-border online activities. The creation of new regulatory frameworks should promote the flourishing of digital networks and services through the implementation of fast, secure and trustworthy infrastructures.⁶⁰⁶ The European Union realised that the achievement of their goals would only be possible through the regulation of cashless payment transactions. The PSD II contained many points that were already included in the *Green Paper* of 2012. For example, it was known that multilateral interchange fees posed a significant problem due to their distortion of competition. The European Commission was aware that not regulating MIFs would lead to further market fragmentation of the digital and physical payments market in Europe. Furthermore, there was awareness of the need to address security issues and the transparency of the pricing policy regarding credit and debit cards.⁶⁰⁷ The European Union responded as follows to the question why the Commission decided to adopt a revised Payment Services Directive:

“While the review of the Payment Services Directive confirmed that the existing PSD is generally fit for purpose, it revealed that some of its provisions needed to be modernised to take account of new types of payment services (such as payment initiation services offered in the context of e-commerce, see 2.1 below). These services providers have brought innovation and competition to the market by providing alternative, and often cheaper, payment solution for internet payments. So far, these new types of payment services were not regulated. Bringing them within the scope of the PSD will boost transparency, innovation and security in the single market and create a level playing field between different payment services providers.

⁶⁰⁵EUROPEAN COMMISSION, *Green Paper Towards an integrated European market for card, Internet and mobile payments*, pp. 1-25.

⁶⁰⁶EUROPEAN COMMISSION, Communication from the Commission to the European Parliament, the Council, the European economic and social committee and the committee of the regions, A digital single market strategy for Europe, COM (2015, Brussels, 06.05.2015, pp.1-20.

⁶⁰⁷EUROPEAN COMMISSION, *Green Paper Towards an integrated European market for card, Internet and mobile payments*, pp. 1-25.

At the same time, certain rules set out in the PSD, such as the exemptions of a number of payments related activities from the scope of the Directive (payment services provided within a “limited network” or through mobile phones or other IT devices) have been transposed or applied by Member States in different ways leading to regulatory arbitrage and legal uncertainty and in a number of areas to impaired consumer protection and competitive distortions. Updated definitions will ensure a level playing field between different providers and address in a more efficient way the consumer protection needed in the context of payments.”⁶⁰⁸

A closer look at the PSD II shows that it was only with this directive that the fears discussed in the previous chapters were addressed throughout the research period. On 13 January 2018, the second Payment Services Directive began to take effect. The European Union gave banks three years to transpose the PSD II into national law. This was necessary because the conversion of European directives into national law entailed several legislative changes in every European country. For example, Germany had to adapt the legal framework of the *Zahlungsdiensteaufsichtsgesetz (ZAG)* or the *Bürgerliches Gesetzbuch (BGB)*. In addition, the PSD II had the consequence that the *Kreditwesengesetz (KWG)* had to be amended.⁶⁰⁹ In France as well as in Luxembourg, PSD II had to be transposed into national law. The French legislator enacted the following amendments to achieve the implementation of PSD II in 2018:

“Ordonnance n° 2017-1252 du 9 août 2017 portant transposition de la directive 2015/2366 du Parlement européen et du Conseil du 25 novembre 2015 concernant les services de paiement dans le marché intérieur, Décret n° 2017-1313 du 31 août 2017 portant transposition de la directive n° 2015/2366 du Parlement européen et du Conseil du 25 novembre 2015 concernant les services de paiement dans le marché intérieur, Décret n° 2017-1314 du 31 août 2017 portant transposition de la directive n° 2015/2366 du Parlement européen et du Conseil du 25 novembre 2015 concernant les services de paiement dans le marché intérieur, Arrêté du 31 août 2017 modifiant l'arrêté du 3 novembre 2014 relatif au contrôle interne des entreprises du secteur de la banque, des services de paiement et des services d'investissement soumises au contrôle de l'Autorité de contrôle prudentiel et de résolution, Arrêté du 31 août 2017 modifiant l'arrêté du 20 mai 2015 portant réglementation prudentielle et comptable en matière bancaire et financière en Nouvelle-Calédonie, en Polynésie française et dans les îles Wallis et Futuna, Arrêté du 31 août 2017 modifiant l'arrêté du 2 mai 2013 portant sur la réglementation prudentielle des établissements de monnaie

⁶⁰⁸EUROPEAN COMMISSION, *Payment service directive*, in: ec.europa.eu, URL: https://ec.europa.eu/commission/presscorner/detail/en/MEMO_15_5793 (State: 28.10.2021).

⁶⁰⁹DEUTSCHE BUNDESBANK, *PSD2*, in: bundesbank, URL: <https://www.bundesbank.de/de/aufgaben/unbarer-zahlungsverkehr/psd2/psd2-775434> (State: 28.10.2021).

*électronique, aussi bien que sur l'Arrêté du 31 août 2017 modifiant l'arrêté du 29 octobre 2009 portant sur la réglementation prudentielle des établissements de paiement.*⁶¹⁰

In Luxembourg, PSD II was introduced into national law on 20 July 2018 with the following legislative amendments: *transposition de la directive (UE) 2015/2366 du Parlement européen et du Conseil du 25 novembre 2015 concernant les services de paiement dans le marché intérieur, modifiant les directives 2002/65/CE, 2009/110/CE et 2013/36/UE et le règlement (UE) n° 1093/2010, et abrogeant la directive 2007/64/CE, et la modification de la loi modifiée du 10 Novembre 2009 relative aux services de paiement.*⁶¹¹ These amendments of the French, Luxembourgish and German law illustrate the massive efforts that European governments and banks had to undertake to implement the directive.

3.3.4. Creating a legal framework for open banking with the PSD II

However, the PSD II was introduced to regulate payment services and payment service providers in Europe. The PSD II was intended to increase innovation, competition, and consumer protection, as well as to improve the security of payment transactions. It should be mentioned that the PSD II refers to payments in euros between payment service providers based in Europe. The implementation of PSD II was implemented in two phases. The first phase lasted from 2015 to 2018 and included the reduction of the strict liability limit for unauthorised card payments, the introduction of the surcharge ban, and the extension of the scope of the directive to non-EU currencies. In the second phase from 2019 onwards, strong customer authentication and the regulations on opening payment accounts for third parties came into force throughout the European Commission's *Regulatory Technical Standards* (RTS). PSD II thus brought about significant changes for consumers. The PSD II introduced rules for the use of *payment initiation services* (PISP) to initiate online transfers and for account information services to consult and evaluate current account data of bank customers. The PSD II regulations made it possible for bank customers to authorise an online payment via a payment initiation service on the merchant's website. PISPs can initiate electronic payment transactions on behalf of the customer through their services without being in direct contact with the customer's bank.

⁶¹⁰EUROPEAN COMMISSION, *National transpositions by member state*, France, in: eur-lex.europa.eu, URL: <https://eur-lex.europa.eu/legal-content/EN/NIM/?uri=CELEX:32015L2366> (State: 28.10.2021).

⁶¹¹GOUVERNEMENT LUXEMBOURGEOIS, Mémoriale A612, Loi du 20 juillet 2018 portant: 1° *transposition de la directive (UE) 2015/2366 du Parlement européen et du Conseil du 25 novembre 2015 concernant les services de paiement dans le marché intérieur, modifiant les directives 2002/65/CE, 2009/110/CE et 2013/36/UE et le règlement (UE) n° 1093/2010, et abrogeant la directive 2007/64/CE; et 2° modification de la loi modifiée du 10 novembre 2009 relative aux services de paiement.*

Furthermore, the PSD II regulations allowed bank customers to use the services of an *account information service provider* (AISP) to get a complete overview of the balances and transactions on all their current accounts at different banks. Nevertheless, third party providers need the customer's authorisation to access their current account data. The PSD II legal framework gave payment initiation service providers and account information service providers the opportunity to offer their services in Europe based on a legal framework.⁶¹²

This gave consumers the option of using other alternative cashless payment providers, but if you take a closer look, this was also in the interest of banks. The embedding of AISP and PISP in PSD II created a legal framework for so-called *open banking*. With the implementation of the PSD II, banks were obliged to set up interfaces through which third-party providers could access credit card or deposit account data. In addition, PSD II brought the obligation for European Banks to implement the so-called *strong customer authentication* (SCA). With the beginning of the second phase of PSD II, customers had to confirm a combination of two independent authentication factors for online and card payments. Furthermore, the protection against misuse and fraud for card payments was increased. The maximum amount for which a cardholder could be held liable, regardless of the nature of the loss of their debit or credit card, was reduced from 150 to 50 Euro. Furthermore, credit card users would be protected by the fact that authorised payments had to be charged back to the payer's account within one bank working day. PSD II also had an impact on retailers. By opening account interfaces to third-party providers, payment methods from PISPs and AISPs were now also available to retailers. This enabled merchants to offer a wider range of online payment options.⁶¹³ However, banks and credit card organisations were not happy about these measures, as they feared losing their role as gatekeepers over customer data as a result. But there were also banks which saw this as an opportunity to become active in these economic areas of the cashless payment market. As just discussed, traditional banks must provide interfaces for third-party providers. This means that they were no longer the exclusive gatekeepers of their customers' data.⁶¹⁴

⁶¹²DEUTSCHE BUNDESBANK, PSD2, (State: 28.10.2021).

⁶¹³SÖBBING, Thomas, *Fundamentale Rechtsfragen des Digitalen Bankings*, Frankfurt, Fachmedien Recht und Wirtschaft, 2021, pp. 20-53.

⁶¹⁴Unknown author, *Neue Zahlungsrichtlinie PSD2*, in: manager-magazin, URL: <https://www.manager-magazin.de/unternehmen/banken/psd2-zahlungsdienst-richtlinie-setzt-trend-zu-kostenfreier-online-zahlung-a-1188623.html>(State: 28.10.2021).

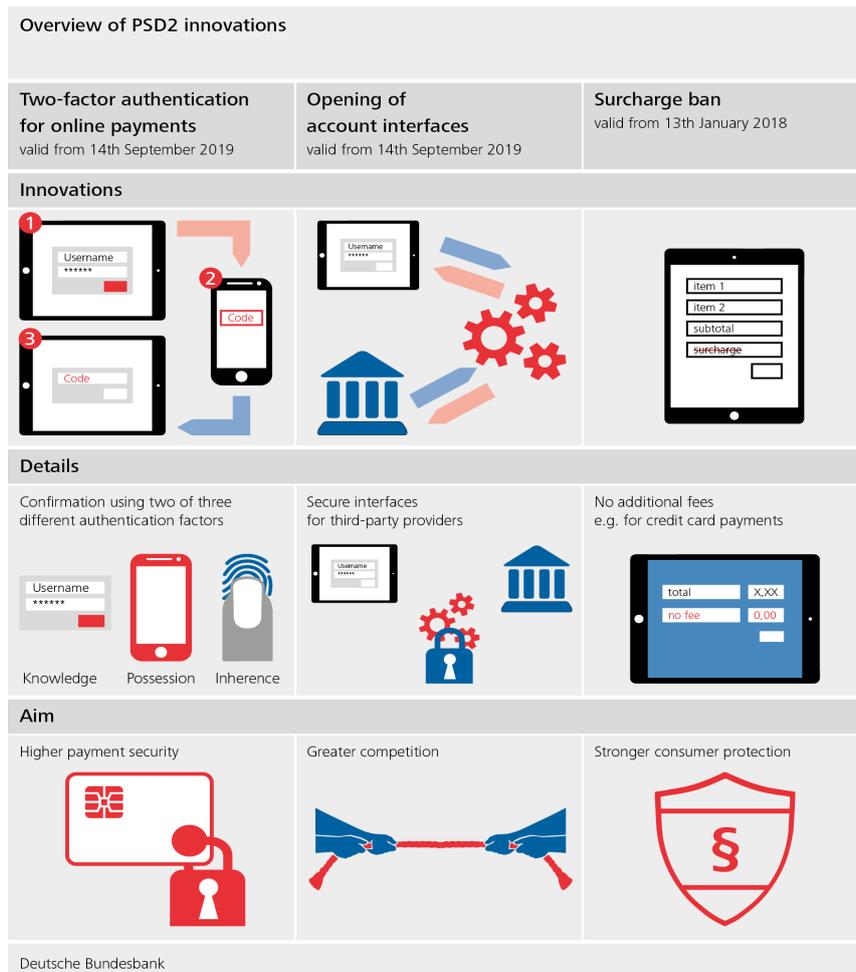


Figure 55 – Overview of PSD II innovations.⁶¹⁵

3.3.5. The digitisation of the credit card: A story of American and Chinese tech giants and their digital payment methods

The PSD II was intended to promote competition and innovation in the digital cashless payment market through a legal basis, but it did not bring the desired success. The main reason behind it were the requirements imposed by SEPA and PSD II. The banking industry was primarily concerned that the PSD II had opened the gates to data giants and could lead to a further fragmentation or natural monopolies in the cashless payment market. According to European

⁶¹⁵DEUTSCHE BUNDESBANK, PSD2, Definition of Deutsche Bundesbank of Strong customer authentication (SCA), “To improve security in payment transactions, the revision of the Directive on payment services in the internal market (second Payment Services Directive, PSD2) introduced the obligation to ensure “strong customer authentication”. This occurs when a payer accesses their account online, initiates an electronic payment, or carries out an action through a remote channel which may imply a risk of payment fraud or other misuse. Strong customer authentication prescribes that authentication should occur using a combination of two factors from the categories “knowledge” (e.g. password, code, PIN), “possession” (e.g. token, smartphone) and “inherence” (e.g. fingerprint, voice recognition). The new requirements must be implemented by 14 September 2019.” in: Bundesbank, URL: <https://www.bundesbank.de/en/tasks/payment-systems/psd2/psd2-glossary-775962> (State: 28.10.2021).

banks, non-European data giants could be therefore the first actors to bring an interoperable digital credit card for NFC equipped smartphones to the market and thus offer a suitable solution before traditional banks and credit card organisations. The banks agreed that the PSD II could end the fragmentation of the European cashless payment market, but the European Union would oversee that it would primarily strengthen data giants overall market dominance.⁶¹⁶ The definition of data giants or so-called digital giants has not yet been defined. In general, the current literature refers to data giants regarding American or Chinese tech giants such as Facebook, Amazon, Google, Apple, Baidu or Tencent.⁶¹⁷ To understand why traditional banks and credit card organisations were not pleased that the PSD II opened the doors of the European payments market for third party providers, it is necessary to know that the digital cashless payments market turned into a battleground with the emergence of AIPS, PIPS, telecom operators and tech giants. As previously discussed, the European cashless payment market was divided between banks on one side and Visa and MasterCard on the other. The entry of companies such as Orange, Vodafone, Google, Amazon, and Facebook intensified competition in the European payments market. These companies set themselves the goal of creating the most user-friendly, secure, cheapest, and global payment method for the digital space.⁶¹⁸ The entry of these data giants into cashless payment transactions was stimulated by the fact that new mobile phone standards emerged in the 2000s and made it possible to connect the internet to mobile phones. For example, the 3G mobile phone technology not only laid the foundation for the establishment of smartphones, but also the basis for revolutionising the global cashless payment market. In 2010, the mobile phone standard *Long Term Evolution* (LTE) was introduced as part of 3G. This made it possible for the first time to browse the Internet at high speed on a smartphone.⁶¹⁹ Between 2010 and 2015, several tech giants began to introduce their own payment methods. In 2011, Google was the first to introduce its Google Wallet. Since 2014 at the latest, Facebook, Ebay, Amazon, Paypal and Apple also started working on their own cashless payment methods.⁶²⁰ In September 2014, Apple CEO Tim Cook presented Apple's vision of cashless payments. Tim Cook pointed out that iPhone represented

⁶¹⁶SÖBBING, Thomas, *Fundamentale Rechtsfragen des Digitalen Bankings*, Frankfurt, Fachmedien Recht und Wirtschaft, 2021, pp. 20-53.

⁶¹⁷STERNAL, Martin, *Mergers and acquisitions by digital technology giants, three perspectives on value creation*, Betriebswirtschaftslehre 10, Baden-Baden, Nomos, 2020, p. 28.

⁶¹⁸CHAPEERON, Isabelle, *La guerre des porte-monnaie virtuels*, in: Le Monde.fr, URL: https://www.lemonde.fr/economie/article/2014/04/20/la-guerre-des-porte-monnaie-virtuels_4404469_3234.html (State: 28.10.2021).

⁶¹⁹DIE BUNDESREGIERUNG, *Deutschland spricht über 5G*, in: bundesregierung, URL: <https://www.bundesregierung.de/breg-de/suche/deutschland-spricht-ueber-5g-1832800> (State: 28.10.2021).

⁶²⁰CHAPEERON, Isabelle, *La guerre des porte-monnaie virtuels*, (State: 28.10.2021).

the payment device of the future, as physical credit and debit cards were an outdated and insecure method of payment. With their payment service Apple Pay the tech giant wanted to introduce a secure means of payment. Apple Pay is a digital wallet based on NFC technology and fingerprint payment authorisation.⁶²¹ An electronic wallet allows encrypted storage of credit card details, which saves the wallet holder from having to manually re-enter their credit card details every time they make an online or payment at the point of sale.⁶²²



Figure 56- Archive Luxemburger Wort - Digital wallet of Apple Pay at a POS in 2019.

Tech giants marketed their products as secure and fast payment methods. Here, it must be emphasised that the data giants found out that digital cashless payments represented a method to building an intensive relationship with their customers and to validate their own marketing strategies. In fact, the digital wallets made it possible for tech giants to collect the payment data from their users. The collected data of payment transactions allowed data giants to create an accurate profile of a consumer's buying behaviour. As a result, tech companies were able to engage in targeted marketing. However, until the introduction of PSD II in 2015, banks were the gatekeepers of their customers' payment data. In other words, the battle for bank customers' payment data changed the cashless payment market worldwide. The emergence of third-party payment providers not only increased competition for banks and credit card organisations, but also raised fears in the German and French credit industry that thousands of jobs within the payments industry were under threat. In France alone, 90,000 people worked in the payments

⁶²¹GIEBMANN, Sebastian, *Money, Credit, and Digital Payment 1971/2014: From the Credit Card to Apple Pay*, in: *Administration & Society*, 2018, pp. 1259-1279.

⁶²²BLUEMER, Gerrit, Electronic Wallet, in: TILBORG, Henk, *Encyclopedia of Cryptography and Security*, Springer, Boston, MA, https://doi.org/10.1007/0-387-23483-7_127 (State: 28.10.2021).

industry around 2015.⁶²³ The French company *Gemalto* alone employed more than 10,000 people. At that time, *Gemalto* was considered the world market leader in the field of smart cards. With the invention of the *carte à puce*, and its production by *Gemalto*, it obtained 40 per cent share of the global smart card market at a time when only banks and credit card organisations were fighting over payment transactions. But also, German chip producers such as *Oberthur*, *Sagem Orga* and *Giesecke & Devrient* feared the upcoming of digital wallets. Thus, the fear was established that mobile payment solutions could also lead to the loss of entire sectors of the financial economy in Europe.⁶²⁴ These fears were not unfounded considering that in 2014 the number of consumers using their smartphone or mobile phone for shopping was already 450 million worldwide. In 2016, it was expected that by 2019, two billion consumers would be paying exclusively by mobile phone would be 2 billion. MasterCard and Visa therefore began to work intensively on mobile payment methods. MasterCard conducted a test phase in the Netherlands between 2015 and 2016 in which customers used a mobile payment method in which a user could identify themselves with their biometric data. MasterCard worked on replacing the password and pin with fingerprints and facial recognition. This is not surprising, as Chinese payment providers also started to work on a global mobile payment standard in that period. In 2015, 68.8 percent of the Chinese population already used the payment service We Chat Pay from Tencent, the Chinese equivalent of Facebook, at least once to make a payment via smartphone. The statement of Sandra Alzetta, head of contactless payment department at Visa Europe in 2016 underlines the awareness of the financial industry of the potential that was seen in mobile payments worldwide:

*“From the consumer’s point of view, the smartphone is becoming a must-have and functions such as transaction history and account balance are immediately available. We expect that by 2020, more than half of all transactions on the Visa network will be made from a smartphone or tablet. The lights are coming on for increasingly connected consumers. Smartphone sales are expected to reach 2.05 billion in 2020, up from 1.4 billion in 2015 and 1.6 billion in 2016, according to an April report by Ovum, but the widespread adoption of increasingly powerful smartphones with larger screens is improving the mobile commerce experience.”*⁶²⁵

⁶²³CHAPEERON, Isabelle, *La guerre des porte-monnaie virtuels*, (State: 28.10.2021).

⁶²⁴DUCOURTIEUX, Cécile, *Le français Gemalto, leader mondiale de la carte à puce, est jugé responsable*, in: Le Monde.fr, URL: https://www.lemonde.fr/economie/article/2010/01/07/le-francais-gemalto-leader-mondial-de-la-carte-a-puce-est-juge-responsable_1288631_3234.html (State: 28.10.2021).

⁶²⁵GRANDIN DE L’EPREVIER, *L’envol du paiement par smartphone*, in: Le Monde.fr, URL: https://www.lemonde.fr/economie/article/2016/09/18/apres-le-liquide-c-est-au-tour-de-la-carte-bancaire-d-etre-menacee-par-le-smartphone_4999657_3234.html (State: 28.10.2021).

As a result, it is not surprising that Visa, MasterCard, as well as part of the French, German, and Luxembourgish banking community, started to offer Apple Pay between 2016 and 2019. In a highly competitive digital payment market, new alliances between banks, credit card organisations and tech giants began to flourish to counter providers such as We Chat Pay or Alipay. Furthermore, banks did not want to be left behind in a changing European payments market. For example, the *Banque Populaire Caisse d'Épargne* (BPCE) was the first French banking group to offer Apple Pay services to its customers in July 2016. *Crédit Mutuel Arkéa*, the online bank Fortuneo, *Société Générale*, Boursorama and *Crédit du Nord* followed at the end of 2017.⁶²⁶ The first bank in Luxembourg to offer Apple's payment service was the *Banque Générale du Luxembourg BNP Paribas* (BGL BNP Paribas) in 2019.⁶²⁷ The head of *BGL BNP Paribas* justified its choice for Apple Pay as follows:

“In Europe, the share of smartphone payments is steadily increasing and there is huge potential for development in the mobile payments market, given the growing penetration of mobile devices and increasing usage figures. BGL BNP Paribas is actively contributing to the development of mobile payment solutions in Luxembourg. BGL BNP Paribas customers can now use Apple Pay for contactless payments with their V PAY, Visa and Mastercard cards for their daily purchases.

*Security and data protection are at the heart of Apple Pay. When using Apple Pay with a credit or debit card, actual card numbers are not stored on the device or on Apple's servers. Instead, a unique device account number is assigned, encrypted, and stored securely in the device's security element. Each transaction is authorised with a unique dynamic security code.”*⁶²⁸

In 2018, the German savings banks were the first to offer Apple Pay. In addition, they were among the first German banks to enable their customers to digitise their debit cards alongside their credit cards.⁶²⁹ French, Luxembourgish and German banks began to cooperate with the digital giant at a late stage considering that Apple Pay had existed since 2014. The main reason behind it was that Apple demanded a commission on all payments made with Apple Pay and thereby reducing the interchange fees that the merchant's bank pays to the consumer's bank.

⁶²⁶CHOCRON, Véronique, *Les banques françaises finissent par céder à Apple Pay*, in: Le Monde.fr, URL: https://www.lemonde.fr/economie/article/2018/08/20/les-banques-francaises-finissent-par-ceder-a-apple-pay_5344111_3234.html (State: 28.10.2021).

⁶²⁷Unknown author, *Apple Pay started in Luxemburg*, (State: 28.10.2021).

⁶²⁸Banque Générale du Luxembourg BNP PARIBAS, *Communication de presse, Apple Pay jetzt für Kunden von BGL BNP PARIBAS*, in: bnpparibas, URL: <https://www.bnpparibas.lu/de/2019/05/21/apple-pay-jetzt-fuer-kunden-von-bgl-bnp-paribas/> (State: 28.10.2021).

⁶²⁹Unknown author, *Apple Pay: Auch bei dieser Bank jetzt mit der Girocard*, in: computerbild, URL: <https://www.computerbild.de/artikel/cb-News-Finanzen-Apple-Pay-Girocard-1822direct-30649613.html> (State: 28.10.2021).

Furthermore, banks had to contractually commit to allocating significant advertising budgets to Apple Pay. This was one of Apple's main conditions for enabling a bank to offer Apple Pay. For example, the BPCE had to block 19 million euros for the required advertising measures.⁶³⁰ Another factor that led to the formation of new alliances in the payment market was that beside We Chat Pay, Alipay entered the European market at the end of the 2010s. The Chinese payment platform Alipay announced that it would expand the number of payment terminals accepting its payment method to ten million between 2019 and 2024 in Europe. The CEO of Alipay, Eric Jing, emphasised that the company's goal was to simplify payment for Alipay users and merchants in Europe. The background to this was that Europe had become one of the most popular travel destinations for Chinese tourists. In 2018, twelve million Chinese tourists spent their holidays in Europe. This was primarily because the travel behaviour of Chinese tourists changed. In the past decades, Chinese tourists preferred to travel through Europe in large groups by bus. However, individual travel to Europe became popular in China in recent years. Therefore, Alipay wanted to offer its services in Europe. Alipay advertised to merchants that sales would increase significantly if a shop offered its services, as their app would also show its users in which shops, they could pay with their service. Consequently, merchants should place the Alipay sign in their shop window primarily as a marketing tool to attract Chinese tourists.⁶³¹ In conclusion, the European payment market changed significantly, especially with the advent of online commerce, near field communication and LTE.

3.3.6. Conclusion

Since 1957, the European Union has set itself the goal of creating a single European market. The main objective was to create a fully integrated European single market that would allow European Member States to generate prosperity. To achieve this goal, it was agreed to facilitate the free movement of goods, persons, services, and capital within the European Union. The European Commission set out in its 1985 White Paper how it intended to achieve this by the early 1990s at the latest. It became clear that the regulation of the highly fragmented European payment market was one of the greatest challenges for the European Union to achieve its goals. Until then, it was the member states themselves that were responsible for regulating their respective national payment markets. With the Credit Transfer Directive 97/5/EC of 27 January

⁶³⁰CHOCRON, Véronique, *Les banques françaises finissent par céder à Apple Pay*, (State: 28.10.2021).

⁶³¹VOLKERY, Carsten, *Zahlungsplattform, Zehn Millionen Händler, Chinesischer Zahlungsriese Alipay will in Europa wachsen*, in: handelsblatt, URL: <https://www.handelsblatt.com/finanzen/banken-versicherungen/banken/zahlungsplattform-zehn-millionen-haendler-chinesischer-zahlungsriese-alipay-will-in-europa-wachsen/25229992.html> (State: 28.10.2021).

1997, the European Union issued the first directive that all European Member States were to transpose into national law. The Credit Transfer Directive was intended to simplify cross-border credit transfers and thus help to achieve the goal of more homogeneous cashless payment transactions in Europe. In the early 2000s, the European Union's idea of creating a Single European Payments Area solidified. With the growth of online commerce, the European financial integration and the credit card as one of the main means of payment on the internet, the creation of a single payment area became inevitable. It should be mentioned that until then, the fragmentation of the physical European payments market was the main problem for the European banking industry. To achieve the goal of creating the SEPA, the European Commission, the ECB, and the EPC worked closely together since 2002. It should be noted that the EPC played a leading role in the development of technical standards for payment cards. However, the main objective was to create a legal framework for cashless payments in Europe. By creating a uniform framework, differences between domestic payments and cross-border payments should be eliminated. As a result, the *SEPA Card Standardisation Volumes* and the *SEPA Card Framework* (SCF) were created in December 2008 to provide a framework for the standardisation of card payments. With the adoption of the SEPA Card Standardisation Framework, a final commitment to the EMV chip was made. The EMV chip should ensure the interoperability of all payment cards in Europe. In this context, however, the EMV chip can primarily be seen as an instrument to counteract the still highly fragmented European payment market. With the emergence of the Internet in the mid-1990s, a digital payment market emerged in Europe where the same fragmentation could be observed as in the physical European payment market. To strengthen and promote the digital and physical payment space, the European Union introduced the PSD I in 2007. Thus, a uniform European contract payment traffic supervisory law was to be created. However, the PSD I failed to achieve its goal of strengthening the free movement of services and capital and turned Europe into a patchwork of national regulations. Furthermore, due to the high requirements for financial institutions imposed by the SCF and later PSD I, a world of Visa and MasterCard established itself in the physical European payments market. However, the emergence of mobile payments in the form of digital wallets such as Apple Pay in the mid-2010s changed the digital payment market in Europe.

In 2012, the European Union revealed in its Green Paper, *towards an integrated European market for card, Internet and mobile payments*, that it would focus on mobile payments in the

coming decades in order to counteract the fragmentation of both payment areas and even to merge them. PSD II thus revised the failed PSD I and created a new legal framework for the era of a hybrid European payments market. Consequently, it is not surprising that a legal framework for open banking was created, especially through PSD II. This gave consumers the option of using other alternative providers for cashless payments, but on closer inspection this was also in the interest of the banks. In the end, however, with the emergence of the European digital payments market, the European Union was forced to create a new legal framework with PSD II, as Chinese payment providers entered the European payments market alongside US payment providers, who were all on the hunt to develop a global digital cashless retail payment method and conquer new markets. The European Union, with its implementation of banking standards such as EMV or double authentication, shows that it is betting on banks and credit card organisations in this race to create a European digital means of mass payment. It became increasingly clear that mobile payments or digital credit cards would help overcome the fragmentation of the physical and digital payment market. Since it was not until PSD II that surcharging, the capping of MIFs or double authentication were enshrined not in European law until PSD II, one cannot speak of regulating the payment market as a response to the fears of consumers or merchants. Considering that the European Union once had a functioning cashless means of payment in the form of the Eurocheque, which was internationally recognised, one can calmly say that this problem was home-made and that in the end the end consumer as well as the merchants were the main victims. In the 1970s, it was US credit card companies that turned the payment market upside down. Since the mid-2010s, providers such as Alipay, We Chat Pay, Google and Facebook have been entering the European payment market and increasing competition. In the end, it becomes clear that the regulation of the European payment market was a compromised marketing strategy towards an integrated European Single and Digital Market to reduce the strong fragmentation of the European single market. The European Union tried to react to the fears of consumers and merchants, but the PSD II served to strengthen credit card payments and the trend towards mobile payments. Which digital means of payment will ultimately prevail remains unclear. What can be said definitively is that Europeans will ultimately rely on the most secure, fastest, cheapest, and most interoperable systems, even if this means that irreversible natural monopolies will arise, as in the case of debit and credit cards in the physical world. How the European market will develop is impossible to say. The only thing that can be said is that physical debit and credit cards are

continuously being digitised. The PSD II will therefore not be the last payment services directive.

Conclusion of the chapter

Banks, banking associations and credit card organisations in France, Luxembourg and Germany were intensively engaged in public relations about cashless means of payment between the 1960s and 2015 and that public relations became an integral part of their communication policy and marketing activities. However, this also shows that banks have adapted their public relations over time especially with the beginnings of banks' public relations in the digital space. Finally, it becomes clear in this part of the thesis that engineers have been significantly involved in and influenced the public relations of banks and banking associations - the analysis of the actors involved thus clarifies how they have shaped or influenced the public relations of banks in relation to credit and debit cards. The banks and banking associations learned over time that especially when selling credit cards, it was important to create, build and maintain trust among consumers of non-cash means of payment. Because only if the cardholder considers a payment method is secure and fast, will the sales for banks increase. The consumer uses his credit card more if he feels it is safe and fast. As a result, banks realised that security concepts can lead to an increase in the sales figures of credit cards. Thus, the element of security established itself alongside the element of travel and financial flexibility in credit card advertisement especially after the emergence of the Internet.

The debates and fears surrounding credit and payment cards forced the European Union to regulate the European payments market. As a result, the European Union, in cooperation with the EPC and the ECB under the SCF, implemented the EMV standard in 2008. With PSD II in 2015, the European Union capped multilateral interchange fees, banned surcharging, and introduced double authentication. However, these directives primarily served the goal of moving closer to an integrated single market, digital market and maintaining market share in the European cashless payments market against emerging players of the digital age. The PSD II was introduced to provide the European Digital and Physical Payments Area with a legal framework. It was also intended to give a boost to open banking, as mobile payments were seen to counter the fragmentation of the payments market. The emergence of the European digital payments market forced the European Union to create a new legal framework with PSD II, as Chinese payment providers entered the European payments market alongside US payment

providers. The new competitors, credit card organisations as well as banks all tried to introduce and develop their own global digital cashless payment method. However, the European Union, with the introduction of banking standards such as EMV or double authentication, relied on the European banks and US credit card organisations to create a European digital retail payment method. Thus, the regulation of the European payment market turned out to be a compromised marketing strategy towards an integrated European single market and digital market to reduce the high fragmentation of the European single market. To be more precise, consumer concerns were perceived but increasing competition between 1980 and 2015 raised greater concerns among the European Union, credit card organisations and banks.

To sum up, the historical reconstruction of the visible dimension of bank marketing contributed to shed an interesting light on the history of cashless payments in Europe. It could be demonstrated how European society developed from a cheque-less to a cardless society. Engineers and later programmers played a leading role in this development, as they were the only actors who possessed technical know-how regarding the functioning of cashless payment methods. Thus, we find ourselves in a society where credit institutions offer and promote a wide range of physical, digital and biometric credit cards, which are supposed to offer and convey the feeling of security to the cardholder when travelling and in the digital space. Financial institutions are trying to meet the needs of all participants in the cashless payment market, which underlines the development of today's cashless payment market which will become neither cashless nor cardless. Banks, FinTech's and data giants worldwide are therefore looking for a digital means of mass payment that could also overcome the fragmentation of the global digital and physical cashless payment market.

Conclusion

Banking history was first seen from an insider's perspective, based on the perspective of the banks or their actions. The traditional narrative often omitted the socially critical view of their actions. The focus of this investigation concentrated on credit cards and related advertisement as historical research objects from 1968 to 2015. The following question arose from these observations: How and under what conditions did bank digital strategies evolve to make their bank cards more attractive to their customer and to the public at large? What are the elements that shaped the bank communications, whether internally, at the national and EU level, or towards the customers? Finally, are there different national paths among the three countries? These research questions were discussed based on a vast variety of archival material such as advertisement, annual reports, audio-visuals, press and oral interviews with bank experts. Research within bank and newspaper archives helped to portray different perspectives on the European cashless payments market and its actors.

4.1. Communication and advertising of credit cards as a complex and multi-faceted process

The first part of the dissertation analyses the internal policies and strategies of banks in favour of credit card and cashless payment methods such as cheques. Here, a special focus was placed on the marketing strategies of Visa, MasterCard, Eurocard as well as Eurocheque between 1968 and 2015. Consequently, the communication, marketing strategies and internal meetings of the banks as well as the developments of their policies constitute the core of the first part. It shows that banking cooperation were set up at national and international level, such as the *Groupement des Cartes Bancaires*, the *Bancomat system* or the *Gesellschaft für Zahlungssysteme* (GZS). As a result, banks developed and expanded ATM and point-of-sale networks from the 1970s to increase transaction volumes of cashless payment cards and especially the acceptance of debit and credit cards. The first ATMs and POS networks were put into operation in Luxembourg, Germany and France between the 1970s and 1980s.

In the second part of this thesis, the debates and fears surrounding credit and payment cards were presented as factors influencing the communication and marketing strategy of banks. In addition, this part also provided insight into the debates and fears around credit cards, such as multilateral interchange fees and ATM/credit card fraud. By analysing the role of engineers within the financial institutions, it was possible to demonstrate that they had a significant

influence on the internal and visual dimension of banking communication strategies regarding cashless payment systems. French engineers of the *Groupement des Cartes Bancaires* set global standards in the field of product optimisation as early as the 1980s and changed European banks communication strategies regarding cashless payment methods profoundly.

In the last part of this thesis, the communication policies of the French, Luxembourgish and German banks in the Press and media in general were reconstructed. The historical analysis in this part of the dissertation focused on marketing campaigns, public relations and the introduction of technological standards at the supranational level. The analysis of the marketing campaigns of credit card providers and financial institutions showed that marketing strategies and media were used to promote cashless means of payment. The analysis of banks' marketing strategies also revealed that the needs within European society, particularly in relation to banking products and services changed over the investigated period. This becomes especially clear when considering that US credit card organisations marketed their credit cards in Europe for decades as a means of travel and nowadays as the fastest, safest, and easiest digital cashless payment method. It became clear that also engineers and programmers had also a strong influence on the public relations of banks beside product optimisation. Additionally, the regulations regarding the European cashless payment market and the European digital market were investigated. It was demonstrated that consumer concerns were perceived by the European Union at latest during the end of the 1980s, but that increasing international competition in the European cashless payment market between 1980 and 2015 raised greater concerns, as American and Chinese credit card organisations or data giants had begun to dominate the market. Consequently, this part of the dissertation showed as well that the implementation of European directives was used to counter fears of debit-and credit card fraud or identity theft in the digital space, but simultaneously represented a marketing strategy to encourage old alliances between European banks, American credit card organisations and data giants, such as seen in the case of Apple Pay. Furthermore, the regulations served, among other things, to merely maintain market shares of the European cashless payment market against emerging players in the digital age.

In conclusion, the visual and non-visual dimension of the credit card and cashless payment between 1968 and 2015 was historically reconstructed and discussed. In addition, concrete case studies were used to illustrate which actors, software and hardware contributed to the

acceptance of cashless means of payment over cash. More precisely, this dissertation follows the timeline in three stages from a “*cheque-less*” to a “*cardless society*” by analysing the communication strategies of banks regarding credit cards and cashless payment. Therefore, one could speak of the implementation of credit cards as a complex and multi-faceted process. However, the most important thing to note here is that banks marketed debit and credit cards on two different levels, first internally and then with a visible dimension for consumers, the public and potential clients. In this context, the visible dimension refers to advertisement, the product itself, or bank public relations, in other words, all marketing and communication strategies that are perceptible to the consumer. The following panorama on Luxembourgish, French and German banks communications strategies to promote cashless means of payment provides a clearer response to the research questions of this dissertation.

In 1968 in Frankfurt, most European banks opted for the Eurocheque. (In contrast), most French banks implemented credit cards and used the Eurocheque only as a *système de dépannage* alongside their own cheques. It can be said that there were partly different ways how French, German and Luxembourgish banks promoted their digital payment methods early on. If one considers alone that each country had completely different starting situations that prevailed in the cashless payment market at the beginning of the research period. In Luxembourg and Germany, cashless methods of payment were not widespread at the end of the 1960s. In France, on the other hand, cheques dominated as a cashless payment method. In addition, the banking industry in France had to contend with an enormous flood of paper caused by the cheque. So, they decided early on in favour of Visa in 1974 with the *Carte Bleue Internationale*. German and Luxembourgish banks opted years later for MasterCard and Eurocard, as complementary financial service beside Eurocheque. However, this indicates that the European cashless payments market has always been highly competitive and fragmented. The Eurocheque was a way of offering a European travel money, as well as a defence against US credit card providers.

In the 1980s, Luxembourg, Germany and France realised that whoever controlled cashless payments would control retail banking. This became particularly clear when American Express complained in the 1980s that MasterCard, Visa and Eurocard were forming a cartel because their payment network did not customer had further need towards credit card accept credit cards from other credit card providers as their own. Banks developed an understanding that they were

the gatekeepers of customer data because cardholder accounts were linked to the debit or credit card. To be more precise, they have insights to the personal data and expenses of their customers. This could especially benefit credit card organisations and banks in the digital age. In the 1980s, there was no talk of banks as gatekeepers, but there was an awareness of the added value of customer data. The *Groupement des Cartes Bancaires*, GZS, or Cetrel took care of the sale and promotion of credit cards. One of the main internal strategies of banks to distribute debit and credit cards was to install ATMs and point of sales, especially in urban areas. Intensive efforts were made to achieve a certain interoperability among their systems. To be able to finance these networks, banks and credit card organisations relied on *merchant charge fees* (MSC), which for years were justified by the fact that MSCs were necessary to finance these networks. Banks and credit card organisations offered credit cards as travel money with a complete travel protection. Although Tourism increased after the Second World War, one could not yet speak of mass tourism as we know it today. In Europe credit cards were directly advertised with the same advertising elements as in the US, with an image of women that would be considered hostile to women from today's point of view. The young male working population was the main target group of the banks. Since the 1990s, more and more women were increasingly portrayed in European credit card advertising campaigns, although they always played a subordinate role. It was only with the advent of the Internet after 1995 that the target group broke open and young working women and men were equally addressed, especially with the notion of the financial flexibility of credit cards. However, the image of the woman as mother always dominated. It should be noted that Visa has appealed to a less conservative target group, as they have always seen themselves as a method of mass payment. This however does not mean that they did not use the same conservative images in their credit card advertising. Eurocard and MasterCard, which only in the 1980s decided to become a mass payment method, had the reputation in Europe of being a payment method for the upper class and travelling businessmen.

From 1995 onwards with the establishment of the Internet and e-commerce, credit cards began to be promoted as a secure means of mass payment on the Internet. After 2010 and the spread of LTE, digital credit cards began to be promoted, as exemplified by the Apple Pay digital wallet in 2014. French, German and Luxembourgish banks rely entirely on a digital marketing strategy. For example, the *Groupement des Cartes Bancaires*, Cetrel or the GZS developed their own landing page into an information platform as a permanent contact point in the event

of technical problems with their credit cards such as fraud. In doing so, they focused on a financial education policy in the real and digital space regarding the correct use of credit and debit cards. Over time, a multi-channel strategy was developed in relation to the marketing of credit cards in the digital space. Consequently, all social media platforms were flooded with credit card advertisements. Here, credit cards were mainly promoted as a secure high-speed mass payment solution in the digital space. Over time, people's needs and the requirements towards a modern cashless method of payment changed. This leads to the question: What are the elements that shaped the bank communication, whether it be internally, at the national and EU level, or towards the customers? The findings of this dissertation show that the strongest influence on banks' communication strategies was related to changing needs such as tourism and mobility since the 1960s, the fear of credit card fraud at ATMs and POS especially in the 1980s, the debate about multilateral interchange fees, the fear of data theft when paying online and the need for a secure method of payment in a networked and globalised world. These fears and debates about security were always accompanied and portrayed in the Press. This created a negative image of credit cards early on in Europe, which banks and credit card organisations tried to combat and control, especially through public relations. To be more precise, the reporting of the Press served to provide a platform and a framework for these fears. Banks were exposed early on to a certain public scrutiny as seen in the case of the *BNP Paribas* in 1973. Retail banking was still in its infancy in Europe at that time and was only just opening to the public at large. Here it is important to consider that banks had primarily conducted inter-institutional business for decades.

With the advancing digitalisation in banks or inventions such as the *carte à puce* by the French engineer Roland Moreno in 1974 and its generalisation in France in 1993, growing numbers of engineers and programmers started to work for banks and credit card organisations. They worked on the product optimisation of the security standards of credit cards and debit cards and established the understanding that security concepts such as watermarking, chip cards, the EMV standard or 3D Secure help to increase credit card sales. It became clear, especially in the digital age, that customers who considered cashless payment methods as secure increased their transactions with their respective cards. However, optimising security concepts for credit cards was not their only task. Banks specifically used engineers to counter the debates about credit card security. The engineers had the technical know-how to specifically influence the public discourse. This counter-publicity was based on several pillars, from security conferences

to intensive lobbying for the smart card as the international security standard for credit cards. Engineers, programmers and researchers in the financial sector realised that people's need for security when paying online had steadily increased. In the 2000s, tech giants, credit card organisations and banks around the world began to work with their programmers and researchers on what elements besides security would encourage credit cardholders to use their cards even more often. Their findings showed that the element of speed can increase transactions with credit and debit cards. Apple Pay, with their digital wallets, to some extent sells the feeling of safe and fast payment. Moreover, the advent of LTE enabled smartphones changed the cashless payment market in the digital age. After 2010, digital credit cards were promoted as being the easiest, safest and fastest means of payment in everyday life.

The regulation of the European payment market by the MIFs influenced the marketing strategy of credit card organisations to the extent that they had to strongly rethink their pricing policy and lower their fees. As a result, Visa and MasterCard came into conflict with European retailers such as the British retail consortium as early as the 1990s. British merchants were no longer willing to pay high MSCs and accused the American credit card organisations of implementing a monopoly. For years, banks passed the merchant service charge on to merchants and then to consumers through surcharging. However, surcharging was only banned by the European Union in 2015. It is not yet possible to say which effects these regulations will have on the European digital payment market. The only thing that the PSD I and PSD II have not brought the desired increase in competition at the European payment market to overcome its fragmentation. This results also from the ambivalent attitude of the European Union towards MIFs, as it does not ban them. After all, the barriers to entry for the cashless payments market remain high.

Finally, the anchoring of security standards, such as double authentication, shows not only that the PSDI and PSDII were just partly an answer to consumer fears, but also how deeply the idea of security had spread in Europe regarding cashless means of payment. Thus, it becomes clear that the implementation of credit cards is a complex and multi-faceted process, which takes various forms, be it in the digital space or in the real world and can only be captured in more detail by analysing the communication strategies of banks. In the following part of the conclusion, a more detailed look at the communication strategies of Luxemburgish, French and German banks is provided. Additionally, the historical contributions of this research for each

country are undertaken as well as a deeper analysis of the insights gained through the European perspective and comparison.

4.2. National and local strategies across three European countries

Combining traditional and digital historiography has proven to be complementary. Obtaining access to historical sources on bank marketing strategies was often a challenge, especially in France and Germany, where in-house archivists are often hired to act as custodians of institutional history. Therefore, a search request must be made and sent to the bank's archivist even before the research in the bank archives begins. The bank's archivist or historian then pre-selects the documents that the researcher can finally examine. This procedure primarily serves to control the bank's own historiography and to preserve its own corporate identity. But it also serves to protect clients and business partners. The only solution to this challenge is therefore cooperation between the university and the institutes, as the project between BGL and C²DH shows. Moreover, every visitor to a bank archive must sign contracts stating that he or she needs the consent of the respective bank before publishing the documents viewed. Research in bank archives is thus monitored from the moment the research visit begins. This process was observed across Luxembourg, Germany and France. Nevertheless, the Wayback Machine is an effective method of accessing information from that period, despite embargoes on records in bank archives that usually last 20-30 years. Thus, the Wayback Machine was an important tool in addition to traditional archival work, especially to gain insight into a closed world, even if this was limited to the digital traces of the banks. By reconstructing national and local strategies across three European countries, the thesis demonstrates that advertising as a historical research object represent a suitable tool to identify changing needs or standards within a society on a long-term perspective. Furthermore, it became clear that marketing in a digital networked and globalised world represents one of the main strategies of companies to assert their own interests. Advertising as research material demonstrated that the digital space and advertising are inseparable, considering that the integration of advertisement on websites has become indispensable. Therefore, advertising as a historical research object demonstrates that contemporary research can no longer avoid ignoring digital sources or tools. For example, the Wayback Machine was used to reconstruct the websites of financial institutions, especially in their early stages. In addition, the Internet archive can be used to extract documents from various actors since 1995 without having direct or legal access to their physical archives.

As demonstrated in the first part, in Luxembourg, most Luxembourgish banks made the decision to use Eurocheque. This decision had as a side effect that Luxembourgish banks were constantly under the strong influence of the German banking industry as well as the other member states of the Eurocheque association. Until the end of the 1960s, there were no cashless methods of payment in Luxembourg. The first Luxembourgish banking association that provided a European mass payment method was the Eurocheque association Luxembourg. In Germany, the Eurocheque was for many years an alternative to credit cards and a *defence mechanism* against US credit card organisations for many years. However, with the introduction of Visa by *Crédit Européen* and *UCL Banque* in 1980, the influence of the German banking industry decreased. The influence of Visa and the French *Groupement Cartes Bancaires* increased in tandem with their emergence into the Luxembourgish payment market. The banks of the Bancomat system quickly realised that if they did not also promote Visa, they would fall behind their competitors. The *Crédit Européen* and the *UCL Banque* owned large parts of the credit card market at the beginning of the 1980s. Additionally, the implementation of the ATM and POS network of the *Bancomat system* in the 1980s also enabled a wider part of the population in Luxembourg to benefit from debit and credit cards. In particular, the Cetrel and its engineers contributed to the spread of credit cards in Luxembourg. In doing so, they closely followed the approach of the *Groupement des Cartes Bancaires*. Because the Luxembourgish cashless payment market was highly contested from the beginning, so the Luxembourgish society was able to benefit from Eurocard, MasterCard and Visa at an early stage. Visa was more successful in Luxembourg than Mastercard from the very beginning. Luxembourgish banks also had to struggle with the image of Eurocard and its exclusive aura. Until the beginning of the '90s, banks' marketing strategies and campaigns were aimed at a conservative target group was mainly young, male, and employed. The exclusive focus on this target group began to crumble slightly from the 2000s onwards with the emergence of Visa as a mass payment method in Luxembourg as both debit and credit cards. In Luxembourg, as in Germany, the approach of the *Groupement des Cartes Bancaires* in its public relations to gain, build and maintain trust with customers was a strong inspiration until the digital age. These insights could only be gained because this dissertation is a pioneering work for Luxembourg banking history regarding cashless payments as well as retail banking. Therefore, this work is based on a new research framework, expanding beyond traditional methods that until now have primarily focused on the Luxembourgish financial centre. Nevertheless, the approach to the country's economic history to compare Luxembourg with Germany and France has proven to

be profitable. It was thus possible to show that Luxembourg banks drew a great deal of inspiration from France and Germany in retail banking. France was the main source of inspiration for Luxembourgish banks internal marketing strategies regarding credit cards, such as an early cooperation with Visa. From Germany Luxembourgish banks obtained mainly the necessary software and hardware to implement cashless payment in Luxembourg.

The dissertation underlines the assumption that smaller countries which were early adopters of cashless payment technologies especially found their own way of implementing digital payment methods or financial services. This could be illustrated by the Pay-Matic of the *Banque Générale du Luxembourg* and with the implementation of the public key infrastructure (PKI) in 2001. The cash dispenser Pay-Matic was produced in collaboration with a local company and adapted to the needs of Luxembourg banks and their customers in 1968. However, the implementation of the PKI demonstrates that the Luxembourgish State and banks were early adopters in the field of the digitalisation of governmental and financial services since the 2000s to increase trust in digital governmental and financial infrastructures. The tokenisation of Luxembourgish society shows that Luxembourg, as an early adapter of strong authentication in Europe, forged its own path in the spread of digital governmental infrastructures and financial services. These two examples are the most representative of this development and demonstrate that Luxembourgish banks relied on their own manufacturers. Furthermore, they adapted and even used foreign hardware and software to develop more appropriate models for their own country. The *Bancomat system* of POS and ATMs also took its cue from the German banking industry and sourced most of its hardware and software from German manufacturers such as Diebold Nixdorf or Siemens. These were then adapted for the Luxembourgish cashless payment market by Cetrel's programmers and engineers. This ultimately allowed the delivered ATM software to be adapted to the digital infrastructures of the Luxembourgish banks. Although the PKI did not lead to higher identification with banks to the same extent as the ID bank card in Sweden, this dissertation demonstrates that Luxembourgish credit institutions also went their own way and to kept up technologically with their neighbour countries. As a result, for the first time, the story of the beginnings of a cashless society in Luxembourg could be written.

This dissertation deepens our understanding of French financial historiography. The study showed that *Groupement des Cartes Bancaires* has been an essential factor for the spread of

the cashless payment methods since the 1970s. Through their cooperation with Visa, the US credit card provider had an early foothold in one of the largest European cashless payment markets. Only a few French financial institutions joined the Eurocheque, Eurocard or MasterCard. As a result, Eurocard has only been offered by a few French banks. However, it turned out that credit cards and travel payment methods were not promoted by the French government to the same extent as the cheque. Nevertheless, French banks realised early on that debit and credit cards would replace the cheque for economic reasons. Moreover, the engineers of the *Groupement des Cartes Bancaires* recognised in the 1980s that the security of debit and credit cards was an essential element in increasing sales and transaction figures. The flood of cheques was already causing high costs in the 1970s due to processing costs and mountains of paperwork within banks. The knowledge that security is provided due to chip cards spread from France to the whole European continent but was also carried by the *Groupement des Cartes Bancaires* to the US. France was one of the first countries in the world to set standards in cashless payment transactions regarding the promotion of cashless means of payment and their security. At the latest with the emergence of the European market, a strong political will to promote debit and credit cards also set in in France. The *Banque de France* worked on dematerialising the cheque at the latest since the 1990s. Although the volume of cheques in France constantly decreased the cheque remained constantly in use until the 2000s. It was only through national and European promotion that cashless payment cards finally gained widespread acceptance. By analysing engineers, it was possible to shed light on an underrepresented group in the domain of finance. Furthermore, the analysis of the image of women in advertising showed that women were a marginalised group. Until today engineers and women received relatively little attention in the general literature in France. Consequently, the academic discourse and narrative of cashless payments in France takes on greater nuances than the successful narrative of the *carte à puce* currently claimed by the banks or the traditional institutional perspective of French financial history. By combining the analyses of traditional banking structures and disregarded stakeholders who worked within these structures, that new historical insights were gained. In particular, the history of the engineers of the *Groupement des Cartes Bancaires* and their influence on cashless payment methods was described for the first time. This approach not only enriches the French historiography of retail banking, but also raises socio-critical questions for future researchers on how hardware and software influenced and shaped our society.

In the case of Germany, it was possible to demonstrate why credit cards and the banks' dream of a cashless society did not find similar acceptance as it did in France or Luxembourg. Early on, the German banking industry decided to cooperate with MasterCard at the end of the 1960s and thus already unconsciously accepted a slowdown in the spread of credit cards. In the 1980s savings banks therefore pursued a secret plan to offer their own credit card. Due to the inactivity of the entire banking industry on the cashless payment market, the German savings banks wanted to create the S-Card as a credit card. In the End, the entire German banking industry was aware of the threat of the *Deutsche Kreditkarte*. As, the German trade was close about to launch their own payment card, the German banking industry decided to work together again. The fragmentation of the cashless payment market into Eurocheque, Eurocard, S-Card, Europlus and the *Deutsche Kreditkarte* represented a horror scenario for all German financial institutions. They focuss on the Eurocard in hope this would make the Eurocheque superfluous. These disputes nearly provoked a fragmentation of the German cashless payment market in 1987. In other words, the history of the Eurocard up to the first online means of payment could be reconstructed based on the communication strategies of German banks. Here, the work of Sebastian Gießmann on the Eurocard could be complemented and built upon.⁶³²

However, the analysis of the debate on interchange fees demonstrates that this type of pricing policy led to credit cards being less accepted by the population. Service providers played a significant role in this development, as they began to boycott credit card payments out of frustration due to high interchange fees. The case of the *Handelsverband Deutschland* (HDE), which filed a lawsuit against MasterCard and Visa in 2006 in Germany, underlines this eminently, as it subsequently turned out that the high interchange fees of the two credit card organisations had considerably impaired the acceptance of credit cards. Consequently, this work represents pioneering work for Germany and fits into the still young financial historiography regarding the cashless payment market that has been promoted by Martin Schmitt and Sebastian Gießmann in recent years.⁶³³ Both historians demonstrate with their works that a critical analysis of technical artefacts is necessary. The historiography in these three countries show a commonality and requires a rethinking of the methodology applied to the historical analysis of banks' communication strategies or corporate history in general,

⁶³²GIEßMANN, Sebastian, *Ein weiteres gemeinsames Medium zur Banken-Kooperation*, Wiesbaden, Springer VS, 2019, pp. 169-198.

⁶³³SCHMITT, Martin, *Die Digitalisierung der Kreditwirtschaft*, Wallstein, Göttingen, 2021.

especially if the research period includes the emergence of the European digital payments' market.

Output of the European and comparative approach

The chosen geographical scope and temporal framework sheds new light on what is still a young history in terms of the historical analysis of digital banking products and services, and related communication strategies of banks in France, Germany and Luxembourg between 1968 and 2015. As a result, through the historical comparison and the transnational analysis as the primary historical approach, the dissertation was able to demonstrate that the marketing of credit cards and the associated communication strategies did not differ significantly in the geographical context. Nevertheless, (notable) differences between Luxembourg, France and Germany were identified.

French banks were 10 years ahead of their German and Luxembourgish neighbours in terms of technological progress regarding cashless payment methods and the way to promote them. This development occurred because France was an early adapter of credit cards. Germany took a very conservative approach to the spread of cashless payment, especially regarding credit cards. The Eurocheque was the most widespread method of mass payment in Germany until the 1990s. The decision of the German banking industry to opt for the Eurocheque and Eurocard still has repercussions today and slowed down the spread of credit cards.

The comparison has shown that credit cards were not only a medium of cooperation in the banking business but also a catalyst for innovation through cooperation. In this way it was primarily possible to illustrate in this dissertation why digital cashless means of payment found greater acceptance in France and Luxembourg than in Germany. However, it was not only due to the decision of the German banking industry to opt for Eurocheque, Eurocard or MasterCard as business partners in the credit card business but also due to disagreements in the marketing of credit cards. It was not until the 1990s that it became possible to purchase Visa and MasterCard at the same time from a bank in Germany. It was only since the middle of the 1990s that German savings banks started to offer Visa in addition to Eurocard and MasterCard. Furthermore, it must be remembered that the state bank of the GDR did not issue credit cards to its citizens. Although there was a debit card, it was only issued to a small circle of mostly

male customers. It should be noted that foreigners could pay with credit cards when travelling in the GDR. In the end, the *Geldkarte* remained the only digital cashless means of payment in the GDR. In other words, just Western Germans had access to credit cards during the time frame of this study. These findings give a further hint why credit cards did not find the same spread in Germany as in France or Luxembourg as Eastern Germany only gained access to credit cards in the 1990s. In addition, there was always a great fear in Germany of misuse of the personal data stored on debit and credit cards. The BTX hack by the CCC and its mediatisation in 1984 underlines this German fear. The fear of data misuse continued to be fuelled until the year 2000s by reports of credit card misuse on the Internet or at ATMs. The *Hauptverband des Deutschen Einzelhandels* (HDE) dispute between MasterCard and Visa in 2006 showed that the credit card organisations had contributed to the slowdown of the acceptance of credit cards in Germany with their pricing policy regarding multilateral interchange fees.

Other research gaps in the literature could also be addressed, especially regarding the spread of the Eurocheque in Europe and the changing needs of society in general after the Second World War. The Eurocheque experienced a surge in popularity, especially in the 1980s, due to digitalisation, as anyone with a bank account could purchase this payment instrument. It must be pointed out that it does not suffice to attribute the rapid rise and success of the Eurocheque only to the digitalisation of cashless payments within the European banking industry and the changing needs of European society. The analysis of the communication strategies of the Eurocheque association and its flexible technostructures showed that the dissemination and success story of the Eurocheque had already been laid in the 1960s. In particular, the introduction of the Eurocheque logo and the uniform handling of the cheque made the network visible and attractive to Europeans within a few years. The needs of European society changed considerably after the Second World War. European society developed new needs due to rising pensions and salaries. In particular, the need for mobility in a globalised world became established in Europe. However, the need to travel and to have access to a cashless travel payment method was primarily a need of businesspeople at the end of the 1960s. Tourism emerged but not to the extent we know it today. A societal need for mobility emerged in the following two decades. In addition to the need for liquidity when travelling, the need for financial flexibility also became established in the course of time. Thus, it can be said that credit cards did not totally meet the needs of European society until the 1980s. Another interest

of banks to promote credit and debit cards was the increasing competition from credit card companies such as Diners Club and Amexco in the 1950s, later Visa MasterCard in the 1980s and in the digital age Fintechs or data giants such as Paypal, Apple, Amazon or Tencent. In this way, the promotion of debit and credit cards became a strategy to maintain market shares of cashless payments and to preserve the hegemonic position of banks in Europe, as well as to maintain control over European cashless payments market in the context of the European construction. In addition, the costs of processing cheques steadily increased. The *Banque de France*, *Banque Centrale du Luxembourg*, *Deutsche Bundesbank* and *European Central Bank* promoted cashless payment methods intensively since the 1990s. With the emergence of the European single market, the digitalisation of banking and financial services was also driven by a strong political will of the European Union and its member states. The national financial markets in Europe were characterized by entry barriers and different national regulations, practices and currencies during this period. European financial integration aimed to promote competition, reduce transaction costs and create markets that were deeper, more liquid and more efficient than their predecessors. However, more intense competition as well as European financial integration pushed European banks to forge new alliances with their old US opponents in the digital age, especially against Fintechs and data giants. For a long time, it was no longer about building national barriers to control the national payment market within the individual European countries. It was primarily about maintaining European sovereignty over cashless payments. These findings allow us a deeper understanding of how the shift from the regulation to deregulation of European national financial markets occurred in Europe since the late 1990s. To what extent the PSD II is an answer to the fears of consumers in this geopolitical context cannot yet be answered. In general, increased competition leads to a narrowing of interest margins and without a compensating increase in cost efficiency, the profitability of banks will be negatively affected. As a result, banks may try to loosen their credit policies and take more risks to maintain profitability.⁶³⁴ The European Union accepted that Europe developed into a Visa and MasterCard continent. V-Pay and Maestro increasingly replaced the national payment systems in Germany and Luxembourg since the 2000s. However, the European dimension of this thesis has mainly demonstrated that there was a strong fragmentation of the cashless payment market. Furthermore, the analysis showed how European banks once had a competitive digital cashless payment method that disappeared like its predecessor Eurocheque.

⁶³⁴LIEBSCHER, Klaus, *Financial deregulation in the EU – chances and challenges for financial stability*, Speech by Dr. Klaus Liebscher, Governor of the Austrian National Bank, to the 5th Annual CSI Conference - “New Agenda of the WTO: Challenge and Contribution of the European Union”, Innsbruck, 18 November 2005.

Finally, the focus of the analysis was not only on bank communication but also on hardware and software and this dissertation demonstrates that the needs for credit cards have changed over time, especially in the context of card security of credit cards in e-commerce. Consequently, this work joins the current historiography of digital, contemporary, and financial history and argues that there is a need for critical historical analysis of technical artefacts in general. The thesis has shown that hardware and software have an impact on society. Through the introduction of credit cards and later security software, our relationship to money has changed. This is particularly evident in the demands of the consumer towards cashless digital payment methods. This development goes together with the increased use of cashless payment methods in the digital space. Fast and secure payments seem to be more important than ever in a globalised and networked world for the end consumer. This journey from the “*cheque-less society*” to the beginnings of the “*cardless society*” is a first milestone that appeals for further explorations of our constantly changing relationship to money and banking activities. Considering that nowadays financial institutions around the world are pursuing a 24/7 omni-channel marketing strategy in retail banking that seeks to establish a strong emotional bond between the cardholder and his/her cashless means of payment to increase credit and debit card transaction volumes. The last paragraph discusses the definition of Fintech and concludes with an outlook on the actual situation of the European cashless payment market.

4.3. The European cashless payment market and its actors in the digital age

The promotion of Fintechs due to the implementation of the PSD II in 2015 aimed to increase competition and overcome the fragmentation of the European cashless payment market. Consequently, Fintechs or non-profit organisations such as the *Smart Payment Association* (SPA) offered payment cards that comply with the European Union standards. The instant payment card from SPA is available as a physical payment card or digital card in a mobile wallet. The main difference to a traditional payment card is that an instant SEPA-transfer takes place at the POS. For this purpose, the POS establishes an online connection to a third-party provider platform. In different terms, the Instant Payment Card enables an instant direct credit or debit at the POS.⁶³⁵ In this way, it becomes clear that more and more actors became active

⁶³⁵SMART PAYMENT ASSOCIATION, *The Instant Payment Card: Initiating a SEPA Credit Transfer at the Point of Sale*, SPA Paper, April 2020.

in the field of cashless payments in Europe over time. However, the dissertation contributed to better grasp the development of Fintechs.

The Analysis of the PSD I and II revealed that the definition of Fintechs is still unclear today and simply does not yet exist. The majority of these Fintechs offer services such as alternative payments, automated financial portfolio management, blockchain technology, crowd funding, crowd investing, crowd lending, automated investment advice platforms, signalling platforms and automated order execution. The word Fintech is the combination of the following words: financial services and technology. The reason behind is that the definition used today mainly refers to “young companies that offer specialised and particularly customer-oriented financial services with the help of technology-based systems”.⁶³⁶ In this context “young” means companies that emerged between the 2000s and 2015. In the financial world the term Fintech established itself at latest with the emergence of financial actors such as Paypal at the end of the 1990s. Most Fintechs are working nowadays on innovative solutions for financial services, as well as updating software and hardware of financial institutions and various actors of the cashless payment market. The current definition of Fintechs forgets that these companies exist for at least 150 years. The *Exchange Telegraph Company* (Extel) was founded in March 1872. Its business objective was to make financial and economic information from the London Stock Exchange and other markets available to its customers.⁶³⁷ However, Roland Moreno can be considered as a one-man Fintech inventing the *carte à puce* in 1974. He founded *Innovatron* in 1991 promoting the chipcard. Nowadays *Innovatron* works on ticketing systems. These companies demonstrate that the nature of Fintechs and their services and products promoted can change significantly within a very short period. Therefore, defining the term Fintech becomes even more difficult.

However, the current situation in the cashless payments sector illustrates why recent research should focus on Fintechs and data giants regarding the digitalisation of banking and financial products. For a long time, it was widely believed in the financial world that Fintechs would make banks superfluous. By the end of the 2000s, it became clear that data giants posed a greater threat to the European Union, nation states and traditional banks. European banks are

⁶³⁶Bafin, Unternehmensgründer und Fintechs, in: bafin, URL: https://www.bafin.de/DE/Aufsicht/FinTech/fintech_node.html (State: 19.01.2021).

⁶³⁷BEAUCHAMP, Ken, *History of Telegraphy*, History of Technologies Series 26, The Institution of engineering and Technology, London, 2001, p. 100.

mainly afraid of data giants because due to an unclear legal situation of these actors which could lead in the opinion of financial institutions to a loss of control regarding national monetary policies. It must also be mentioned that the legal status of Fintechs is not always clear. To be more precise, banks are subject to state regulation that determines how financial institutions should deal with their assets and deposits. These rules do not yet apply to data giants. The success of Fintechs is primarily not the result of superior technology, but of successful marketing. Therefore, banks meanwhile do not see a threat in Fintechs. These results underline that the digitalisation of the financial sector today is only secondarily about technology. Innovation thus comes second and the control of money first. Barbara Brandl summarises the current situation in cashless payments as follows:

“It is a question of who can generate the fictional expectation of a stable monetary value as an intermediary in the future. While for centuries this was the monopoly of a nation-state regulated nexus of central bank and commercial banks, new players are now trying to take control (Westermaier 2020). The potential to make banks superfluous is therefore not blockchain or the FinTechs, which are accompanied by many expectations, but the large technology companies. Companies like Facebook, Google and Amazon have three prerequisites that could enable them to build a frictionless global financial system: a huge global customer base, access to their personal data and a broad business model that also includes trade (Bank for International Settlements BIS 2019, p. 55 ff.). However, the new players are not interested in creating institutions that take over all the functions of the traditional intermediaries in the financial sector, but rather in achieving a monopoly-like position as far as the financial infrastructure is concerned. For in contrast to the temporal stability of money, the promise of spatial stability is far less risky. Thus, the insurance of the credibility of payment promises is always accompanied by an enormous risk, since the intermediary is liable in case of damage, which was impressively observed in the financial crisis of 2007/08. In contrast, the intermediary that provides infrastructure can potentially skim off the monopoly rent.”⁶³⁸

These recent developments demonstrate that the cashless payments market in Europe was and is still fast-moving and highly competitive. The digitalisation of banking and financial products affects the whole of society, as cashless digital payment methods continue to enjoy increased popularity in the digital age. The historical reconstruction of the European cashless payment market and its actors between 1968 and 2015 demonstrated that every actor of the cashless payment market may have an influence (including customers) on the future of cashless

⁶³⁸BRANDL, Barbara, *Ist Blockchain das Ende der Banken, Zur Bedeutung von Schulden und Banken in kapitalistischen Ökonomien?*, in: *Kölner Zeitschrift für Soziologie und Sozialpsychologie* 72, 2020, pp. 543-565., BIS, Annual Economic Report, June 2019, in: bis.or, URL: <https://www.bis.org/publ/arpdf/ar2019e.pdf> (State:06.10.2022).

payments. Engineers and programmers within financial institutions implemented and promoted security concepts for cashless payment cards to increase the volume of debit and credit card transactions. They contributed decisively to the spread of cashless payments in Europe due to their technical expertise. This allows a more complex picture of the stakeholders involved in banking innovation and to move from an entirely top-down perspective on banks to a more balanced and accurate picture which take the complexity of the cashless payment market and

Sources

List of archives / archival records

Archives in Germany

Sparkassenhistorisches Dokumentationszentrum, Deutscher Sparkassen- und Giroverband e. V.

Documents of the *Sparkassen-Werbedienst* could be viewed under the guidance of Mr Thorsten Wehber. The documents were primarily selected by Mr Wehber himself according to the research topic.

Archivist: Thorsten Wehber

Deutsche Bank

At the archive of the Deutsche Bank, primarily Eurocard and MasterCard advertisement between 1968 until 2015 were consulted.

Archivist: Reinhard Frost

Archival records

A04173 - Bahnsen, Uwe (Begleitw.) Hooven, Eckart van, Meistbegünstigt. Bericht eines Zeitzeugen des Jahrgangs 1925, Frankfurt am Main: Knapp. 2002. 152 S.

A05428 - Bátiz-Lazo, Bernardo, Cash and Dash. How ATMs and Computers Changed Banking, Oxford: Oxford University Press. 2018. 324 S.

B00621 - Deutsche Bank, So nutzen Sie unseren Btx-Konto-Service richtig, Frankfurt am Main: Selbstverlag. 1986. o. S.

B00683 - Deutsche Bank, Geldwäsche. Mitarbeiter-Informationen Pflichten aus den neuen gesetzlichen Vorschriften zur Abwehr von „Geldwäsche“, o.O. Selbstverlag. 1993. 32 S.

B00683/2 - Deutsche Bank, Geldwäcse. Umsetzung der Gesetze zur Bekämpfung der organisierten Kriminalität und des Gewinnaufspürgeretzes Eine Information für alle

Mitarbeiterinnen und Mitarbeiter im Konzern der Deutschen Bank (Inland), o.O. Selbstverlag.
1992. o. S.

B00760 - Deutsche Bank, Abwehr von Geldwäsche - erste Informationen für Ihre Praxis,
Frankfurt am Main. Selbstverlag. 2003. 12 S.

B00818 - Deutsche Bank, Abwehr von Geldwäsche - erste Informationen für Ihre Praxis,
Frankfurt am Main. Selbstverlag. 2003. 12 S.

B00818 - Deutsche Bank, db-Dialog. Unser EDV-Programm für Btx-fähige Personal
Computer, Selbstverlag. 1991 S.27.

F050/0535 - 3 Bargeldloser Zahlungsverkehr Lohn- und Gehaltskonten Scheckkarte
Eurocard - 4 Persönliche Kredite PKK / PAD Hypotheken, 1.1.1967 - 10.6.1981.

SG14/0050/1 - Bankorganisation / Bankautomation / Bürotechnik, 1.1.1962 - 31.10.2008.

SG14/0050/2 - Bankorganisation / Bankautomation / Bürotechnik, 1.1.1962 - 31.10.2008.

SG29/0006/1 - Werbebroschüren für Privatkunden Girokonten / Zahlungsverkehr 1949-1973
(altes Logo), 1.5.1949 - 1.5.1973.

SG29/0006/2 - Werbebroschüren für Privatkunden Girokonten / Zahlungsverkehr / Online-
Banking / Digital Banking ab 1973, 1.1.1961 - 30.4.2019.

SG29/0015 - Werbebroschüren für Privatkunden Eurocheque / Eurocard / Mastercard /
Deutschland Card, 1.5.1971 - 31.3.2017.

V19/0042 - Dr. Eckart van Hooven, Vorträge, Veröffentlichungen, Interviews, November 1962
- Oktober 1976, 1.11.1976 - 30.6.1978.

V19/0044 - Dr. Eckart van Hooven, Vorträge, Veröffentlichungen, Interviews, Juli 1978 -
Dezember 1978, 1.7.1978 - 31.12.1978.

V19/0045 - Dr. Eckart van Hooven, Vorträge, Veröffentlichungen, Interviews, Januar 1979 -
Dezember 1979, 1.1.1979 - 31.12.1979.

V19/0271/1 - Zahlungsverkehr I, Einzelne Unternehmen (Presse) Europlus Mastercard, Merrill Lynch, Spears, Roebuck, Sparkassen, VISA, Einzelne Unternehmen (Schriftstücke), Amexo, Eurocard, Mastercard, Spears Roebuck, Sparkassen, VISA, 1.1.1980 - 14.6.1988.

V19/0273/1 - Zahlungsverkehr III Automation im ZV, Allgemein, Neue Medien, BTX, Cash Management, Chip, GAA, POS, Gebühren/ Dienstleistungspreise Banköffnungszeiten, 26.3.1982 - 29.4.1989.

Z013/1978/068- Deutsche Bank, Eurocard: Ein Bankservice für gehobene Ansprüche, db aktuell. Mitteilungen für die Angehörigen der Deutschen Bank AG, 1978, H.68, S.10-11

Z013/1982/4 - Deutsche Bank, Geldausgabeautomaten, db aktuell. Mitteilungen für die Angehörigen der Deutschen Bank AG, 1982, H.4, S.12-13.

Z013/1986/1 - Deutsche Bank, eurocheque: Auf dem Weg zur Multifunktionskarte, db aktuell. Mitteilungen für die Angehörigen der Deutschen Bank AG, 1986, H.1 (111), S. 6-7.

Z013/1988/5 - Deutsche Bank, Geldautomaten-Service: Für Mitarbeiter rund um die Uhr kostenfrei, db aktuell. Mitteilungen für die Angehörigen der Deutschen Bank AG, 1988, H.5 (127), S. 23.

Z013/1991/04 - Deutsche Bank, Mehr Zeit für individuelle Beratung: Kunden-Terminals im Test - Forum. Mitarbeiter-Zeitschrift der Deutschen Bank, 991, H.4, S. 3.

Z013/1995/04 - Deutsche Bank, Mobile Geldautomaten (MOGA), Forum. Mitarbeiter-Zeitschrift 33 der Deutschen Bank, 1995, H.4, S.

Z030/1978/26 - Deutsche Bank, eurocheque und Eurocard: 2 hochwertige internationale Zahlungsmittel, geld. Kundenzeitung Nr. 26, 1/78, S. der Deutschen Bank 2-5.

Z030/1979/29 - Zwei Jahre Eurocard. Benutzer möchten sie nicht mehr missen, geld. Kundenzeitung Nr. 29, 1/79, S. der Deutschen Bank 8-9.

Z030/1982/37 - Unter einem Dach: eurocheque + Eurocard, geld. Kundenzeitung Nr. 37, 1/82, S. der Deutschen Bank 7.

Z030/1988/05 - Von eurocheque über Eurocard zu Europlus- Geld. Das Deutsche Nr. 5, Winter Bank Magazin, 1988, S. 20-21.

Mitteldeutscher Rundfunk & Deutsches Rundfunk Archiv

There is no central advertising archive in Germany but thanks to email exchanges with the archivist of the *Mitteldeutscher Rundfunk & Deutsches Rundfunk Archiv* some single audiovisuals could be sighted.

Archives in Luxembourg

Banque Générale du Luxembourg BNP Paribas

Access to the archives of the *Banque Générale du Luxembourg BNP Paribas* was gained by working on the virtual exhibition '*BGL: L'histoire d'un siècle*' under the guidance and supervision of Benoît Majerus. The bank's archives were completely disorganised and there was a lack of indexing of the documents.

Banque et Caisse d'Épargne de l'Etat (BCEE)

Access at the Luxembourgish Savings Bank was denied. It should be noted that in Luxembourg, the research conditions for bank historians are extremely difficult, as banks hide behind the *code pénale* to prevent archival research from externals.

Email from the BCEE in 2019:

Sehr geehrter Herr Vetter,

Wir berufen uns hauptsächlich auf die Bestimmungen des Code pénal und der Datenschutzbestimmungen und die diesbezüglichen CSSF-Richtlinien welche uns nicht ermächtigen Ihnen Einsicht in unsere Archiven zu gewähren.
mit freundlichen Grüßen,

Michèle FOHL, Secrétaire du Comité de direction
Service Secrétariat Général

The library of the *Comission de Surveillance du secteur Financier (CSSF)*, Learning Centre at University of Luxembourg (Belval) and *Bibliothèque nationale*

These libraries were primarily used to obtain national and international literature related to the research topic.

Archives nationales de Luxembourg

The investigations at the *Archives nationales de Luxembourg* allowed to understand why Luxembourg has been able to keep pace with its neighbours such as Germany and France in the field of banking and digitalisation. Since the 1980s, a diversification of banks has taken place, attracting to Luxembourg many foreign banks and thus foreign know-how in innovative banking services.

Archival records

AE-AW-1435 - Place financière du Grand-Duché de Luxembourg 1971 - 1978 Dossier.

AE-ALO-171 - Informations économiques et commerciales - informations financières, 1941 – 1985, Dossier.

FIN-07263 - Place financière luxembourgeoise - documentation nationale et internationale sur le secteur financier au Luxembourg et son développement ainsi que statistiques faites par le commissariat au contrôle des banques pendant l'année 1981, 1979 – 1981, Dossier.

FIN-07260 - Promotion de la place financière - diversification et développement du secteur financier au Luxembourg ainsi qu'amélioration de l'infrastructure législative, 1980 – 1982, Dossier.

FIN-18403 - Commissariat au contrôle des banques - correspondants financières avec des banques françaises et belges de la société anonyme Banque centrale, 1958.

Centre national de l'audiovisuel (CNA)

The CNA provided the main corpus of audio-visuals used to reconstruct the emergence of retail banking in Luxembourg as well as the public relation activities of Cetrel.

Contact person: Antoine Jeusette

Luxemburger Wort

Mr Mathieu Lange provided the Elias Sammelmappe 7 for this research which contained all articles from 1960 until 2015 which contained at least two of the following keywords: credit card, Bancomat, MasterCard, Visa, Eurocard.

Archivist: Mathieu Lange

Archives in France

Institut national de l'audiovisuel (Ina)

The research in the Ina served to obtain a detailed panorama of the advertising of credit cards on television in France. More than 100 audio-visual of 30 seconds on average were investigated.

Société Générale

Société Générale prepared the research stay. Here, only the documents that had already been prepared by Mr Farid Armeur before my arrival could be consulted. Thus, during the stay at the *Société Générale*, it was primarily possible to view the annual reports from 1960-2015, the bank's internal newspaper *Sogéchos* and various advertising material.

Archivist: Farid Armeur

Crédit Agricole

The archives of the *Crédit Agricole* were particularly enlightening for the historical reconstruction of the technostuctures of the Eurocheque Association.

Archivist: Pénot Pascal

Archival records

393 AH 77 - Votre argent à la carte ! Carte Crédit Agricole. Crédit Agricole le bon sens près de chez vous. ; HAVAS CONSEIL ; CAUQUIL, O. , 1982.

405 AH 155 - Moyens de paiement - 2010, Développement du paiement par téléphone mobile, expérience à Nice, un succès en Afrique. Panne des cartes bancaires en Allemagne. Fraude des cartes à puce. Succès de la carte bancaire comarquée Crédit Agricole M6. Aqoba: première société agréée comme établissement de paiement. Projet Monnet: offre concurrente à Visa et Mastercard. Les DAB, nouveaux supports publicitaires. Abandon de Monéo, développement du paiement sans contact, une nouvelle génération de cartes bancaires: les carte caritatives.

58 AH 18 - GROUPEMENT CARTE BLEUE, Carte bleue en France: examens des demandes d'adhésion, tarifications, relations avec EUROCHEQUE, campagne publicitaire 1980 ; notes aux membres du Comité de direction, comptes rendus de réunions, (1976-1981) ; Carte bleue Visa Internationale et Europe, chèques de voyage Visa : notes, comptes rendus de réunions, (1979-1981). 1976-1981.

398 AH 330 - 24 novembre 1987: ordre du jour, note sur les marges sur prêts révisables, note sur le rapprochement Eurocard / Eurochèques, note sur l'évolution des réalisations de prêts non bonifiés à moyen terme par rapport aux prévisions des caisses régionales, note sur le financement du politique régionale de capital-risque et sur l'augmentation de capital de Sofipicardie.

393 AH 213 - TM, Crédit Agricole, Eurocard, Mastercard. Bruno Olivier, 1988.

393 AH 233 - Eurocard Mastercard. Tout un monde de services dans votre portefeuille. . . . , 1997.

393 AH 1099 - Eurocard MasterCard. Prenez la carte qui va dans le bon sens. Sélectionnée pour vous par le Crédit Agricole. La carte Eurocard MasterCard au Crédit Agricole: 5 raisons d'aller dans son sens. Votre argent disponible partout, vos achats facilités, vos horizons élargis, vos dépenses contrôlées, votre tranquillité renforcée. Crédit Agricole, le bon sens en action. HDM, édité par la CNCA. 1989

393 AH 466 - Entre nous. Gold MasterCard. Passez de bonnes vacances: votre carte Gold MasterCard veille sur vous !. ; TECHNIPHOTO (imprimeur) ; PUBLICIS HOURRA! (conception), 2007.

58 AH 18 - GROUPEMENT CARTE BLEUE, Carte bleue en France: examens des demandes d'adhésion, tarifications, relations avec EUROCHEQUE, campagne publicitaire 1980; notes aux membres du Comité de direction, comptes rendus de réunions, (1976-1981) ; Carte bleue Visa Internationale et Europe, chèques de voyage Visa : notes, comptes rendus de réunions, (1979-1981). 1976-1981.

393 AH 217 - Votre carte Visa Crédit Agricole., 1989.

BNP Paribas

The archives of the BNP Paribas revealed the role and activities of the engineers of Groupement des Cartes Bancaires.

Archivist: Marie Eve-Razkuzin.

Archival records

BNPP_COMMUNICATION

Offres Jeunes, Esprit libre et guide carte bleue

2000-2019

Cote: **117AH180**

Brochures Jeunes: “Esprit libre 18-25 ans” de octobre 2001; “Guide pratique jeunes actifs” et “Guide pratique apprentis” de 2009, valable jusque 2011 ; “Esprit libre jeunes” de août 2009 ; “Etudiants, votre ouverture de compte chez BNP Paribas” de juillet 2010,

éditée jusque 2016 ; “Esprit libre initiative” de juin 2011 ; “Assurance habitation étudiants” juillet 2018 ; dossier “Votre ouverture de compte” étudiants 18/29 ans (avril 2019). Brochures “Esprit libre” : brochure “Esprit libre premier” de octobre 2000, plaquette de bienvenue avec conditions générales d’août 2008, plaquette Esprit libre infinie avec conditions générales de janvier 2009, plaquette Esprit libre référence avec conditions générales de janvier 2011, “Esprit libre pro” de mars 2012 et décembre 2014. Guide carte : “Guide du commerçant carte bleue *visa*” de 2001 (éditée jusqu’en 2011) ; guide “Bienvenue dans votre banque” de janvier 2001 ; “Guide des services de la banque en ligne” de 2009 (éditée jusqu’en 2016) guides d'utilisation des cartes “Carte *visa* gold business” d’avril 2008 et 2014, “Carte bleue nationale”, “Cartes affaires nationale”, “Carte affaires internationale” et “Carte affaires gold” de janvier et décembre 2009, “Carte *visa* premier” d’avril 2010 et “Carte *visa* business” de 2014 (éditée jusqu’en 2017).

BNP_COMMUNICATION ET MARKETING

Carte *Visa* premier

1992

Cote: **57AH236**

Présentation du 25/11/1992, synthèse du 16/11/1992 relative aux enseignements des études Insight et Novacom, étude quantitative du 07/12/1992 sur l’impact de la campagne *Visa* Premier, étude qualitative d’Insight du 21/08/1992, livret d'accueil pour les adhérents de la carte *Visa* Premier, brochure sous la forme d’une carte *Visa* à l’occasion de l’émission de la 100 000ème carte.

BNP_COMMUNICATION ET MARKETING

Jeux Olympiques (J.O.) de Barcelone de 1992 et d'Atlanta de 1996

1995-1996

Cote: **57AH88**

Parrainage de l’équipe de France d’escrime pour les J.O. de 1992: dossier de presse du 16/10/1990 sur la préparation des J.O. de Barcelone. Parrainage de l’équipe de France d’escrime pour les J.O. de 1996 : dossiers : de presse pour l’organisation des J.O. d’Atlanta, “Kit du supporter” pour le soutien de l’équipe de France olympique, plan

d'action de communication du 06/12/1995 des sociétés Carte Bleue et *Visa*, présentations: sur le bilan de la campagne pour les J.O., sur le détail de l'opération de sponsoring de *Visa* pour les J.O., courriers du 02/04/1996 au 25/07/1996, note d'information du 24/06/1996 à Françoise Monard sur le calendrier des épreuves d'escrime, compte rendu de la réunion du 13/02/1996 sur les possibilités de communication de BNP autour de l'opération "*Visa*, supporter des Jeux olympiques d'Atlanta 1996", brochures publicitaires sur les résultats de l'équipe de France d'escrime, cartes postales des escrimeurs français portant sur leur tenue le logo de BNP, extraits : de L'Expression d'entreprise de 06/1996, de La Lettre BNP de 06/1996, de Dialogue n119 de 1996, revue de presse du 20/07/1995 au 07/08/1996, dossier de presse de la Fédération française d'escrime (FFE) réalisé à l'occasion des J.O., annonce publicitaire parue dans L'Equipe du 29/07/1996 pour féliciter les escrimeurs français après leurs victoires aux J.O., courrier du 29/08/1996 mettant fin au partenariat avec la FFE après les J.O. d'Atlanta. Jeu concours pour les salariés de BNP pour assister aux J.O.: courriers du 31/05/1996 au 10/06/1996, note d'information du 24/05/1996 sur les résultats du concours, règlement du concours, résultats du concours, extrait de Dialogue n119 de 1996. [Comprend 1 exemplaire d'Escrime magazine n°44 de 1995 dont un article est consacré les victoires de l'équipe de France d'escrime aux championnats du monde à Athènes en 1994, extrait de presse du 12/07/1994 sur ces victoires.]

BNP_COMMUNICATION ET MARKETING

Aide à la vente pour le réseau

1993-2000

Cote: **57AH192**

Brochures d'information de la force de vente Marketing direct/communication commerciale [MDCC] de mai 1993 à mai 2000 : carte *Visa* premier, Spécial 18/25 ans, Stratégis, Natio-vie multiplacements pour 1996 et 1997, assurance auto, alimentation PEL, crédits immobiliers, Stratégis assurance-vie, l'offre jeunes, les associations, télématique professionnelle, financements immobiliers professionnels, ouverture du capital de France Télécom, BNP lease, Itinéraire euro, affacturage, relevés multi-choix, Provisio, informatisation des professionnels de santé, carte *Visa* Electron, monétique commerçants, les transferts, montée en gamme des cartes, indemnités de fin de carrière, jeunes de moins de 18 ans, sortie du ni-ni (ni facturation chèques, ni rémunération

comptes). Brochures et dépliants sur divers campagnes de janvier 1995 à août 1999: fiches synthétique d'aide à la vente sur l'assurance-crédit, PEP assurance, télécommerce, relevés multi-choix ; nouvelle communication sur les lieux de vente Entreprises, trophée Fidelisation, supports pour réussir l'action commerciale, Provisio, guide d'utilisation du logotype BNP, relance des automatismes macao-mailing, prospection par recommandation, Clienpolis, animation commerciale Roland Garros, prospection dans le monde des étudiants, carte de paiement, financement et assurance auto, avantage fidélité BNP, crédit réserve, les rendez-vous Trésorerie, fusion SBP. Brochure client "Espace BNP" de juillet 1999.

BNP_DIRECTION GÉNÉRALE

Carte bleue

1992-1993

Cote: **50AH194**

Comptes rendus des réunions du Comité de Direction Carte bleue, des réunions Visas et des réunions projet Centre international bleu "C.I.BLE" (1992-1993) ; études, enquêtes, notes de synthèse et d'information du Groupement carte bleue adressées aux banques membres du Comité de Direction (1992-1993) concernant l'organisation et positionnement de la carte *Visa* au plan mondial, stratégie de paiement PS 2000, perception du marché et attentes des banques sur les cartes business, code de déontologie de la CEE pour les relations entre commerçants et acquéreurs, statut fiscal de *Visa*, plan d'actions à long termes, rapport d'activité 1992, etc. ; plan média campagne publicitaire et communiqués de presse.

PB_PARTICIPATIONS FINANCIÈRES ET INDUSTRIELLES (FILIALES, PARTICIPATIONS INDUSTRIELLES...)

Relations commerciales en France

1971-1973

Cote: **11AH3005**

AMEX: contrat entre AMEX et CITEL du 23/02/1971.

BOAC: contrat d'assistance technique (projet d'étude).

Centre national d'études des télécommunications [CNET]: communiqué de presse

(1969). SPERAC : courrier du 04/09/1970, étude (1970), état des dépenses engagées SNO et Association des réalisateurs de stations de montagne: brochures, notes d'information (1971), calendrier, courriers du 09/06/1971 au 09/12/1971, note de synthèse, liste des membres de l'association. AIR France : courrier du 14/01/1972, avant-projet de réseau commun entre Air France, Air Inter, CITELE, UTA et la Compagnie générale transméditerranéenne [CGTM] (1971), réflexions générales et particulières sur les perspectives d'Air France (1971), situation d'Air France vis-à-vis des hôtels qu'elle a agréés, des hôtels tiers et des hôtels "CITELE", publicité commune Air France/CITELE, compte rendu d'entretien avec le responsable de Greyhound (1970), compte rendu de réunion (1971), notes d'information (1970). Concurrence (International réservations corporation [IRC] et Promotour): note d'information (1969-1971) notamment sur les systèmes de réservation électronique de chambres d'hôtel existant en France, rapport spécial d'IRC, livrets promotionnels de PROMOTOUR et d'IRC, protocoles d'accord, comptes rendus d'entretien, de réunion (1969) et de visite (1969), extrait de presse (1969), courriers du 05/04/1969 au 15/04/1970, notes de services (1969-1971), étude d'un système électronique de réservation à direction internationale, convention "hôtel", brochures, communiqués de presse. Chaînes hôtelières (Concorde, Interhôtel, MAPOTEL, SOFITELE): notes d'information (1972), courriers du 11/09/1971 au 30/12/1971, note de travail, extrait de presse (1971), compte rendu de réunion (1972). Compagnie générale transméditerranéenne [CGTM] : protocole d'accord entre CGTM et CITELE pour la création du système électronique de réservation de places sur le réseau maritime de la CGTM (1972), convention entre CITELE et BUTETO du 20/10/1971, contrat entre CGTM et CITELE Opération du 27/04/1972, note de service (1972), note d'information (1971), courriers du 16/02/1971 au 30/09/1971, analyse d'une solution pour CGTM. Clubs (TCF et Club méditerranée) : courriers du 14/10/1971 au 07/12/1974, état des transactions de réservation (1971), notes de service (1970-1971), courriers du 01/07/1971 au 13/12/1971, compte rendu de visite (1970). EUROCARD : courrier du 11/02/1971, note d'information sur la création d'une "client CITELE. PUBLICIS: courriers du 06/09/1971 au 24/09/1971, avant-projet de campagne publicitaire pour CITELE (1971-1972), projet de convention entre CITELE et le Bureau technique touristique [BUTETO].

La Redoute: rapport de la Commission technique CITEL-Redoute (1971).
Métra: courrier du 10/04/1972.
ORDIVACANCES : présentation de projet.
Omnium technique de voyages [OTV] : courriers du 22/02/1971 au 24/02/1971,
protocole d'accord du 01/10/1970 entre OTV et CITEL.
OMIP : note d'information (1971) sur la prise de participation dans une société
spécialisée dans le traitement de l'information.
PROMODATA : acte de transaction (1972), quittance subrogative, états des créances
(1975), courriers du 16/02/1976 au 24/06/1976
Aéroports de Paris : courrier du 07/10/1971.
SEARCH : courriers du 06/11/1969 au 29/11/1969, présentation du système
électronique et automatique de réservation de chambres d'hôtel par ordinateur.
SETOUR : présentation de la journée d'étude du 25-26/03/1971.
Syndicat national des agences et bureaux de voyages [SNABV] : courriers du
07/03/1969 au 06/12/1971, protocole d'accord, compte rendu de réunion (1971).
Société d'exploitation de données [SED] : courriers du 12/02/1971 au 03/03/1971.

BNP_ETUDES

Positionnement des banques en France et à l'étranger

1987-1995

Cote: **54AH017**

Étude des performances des principales banques françaises (1987-1994) : étude
concernant les banques de dépôt françaises, étude comparative des principales banques
françaises par le Crédit agricole, article de presse concernant la part des commissions
rapportée aux effectifs des différentes banques françaises, note d'information
concernant l'étude comparative des 6 banques, tableaux de comptes, circulaire sur la
rémunération des sièges, note méthodologique, études et comptes rendus de réunion
concernant l'évolution des résultats domestiques des 6 principales banques françaises.
Évolution de la position concurrentielle des principaux réseaux sur 10 ans (1995):
dossier comprenant une synthèse sur la collecte et les crédits, une analyse des 3
composantes de la collecte (dépôts, OPCVM, assurance vie), une analyse des crédits,
une analyse du marché des ménages, une analyse du marché des sociétés, une analyse
des guichets et DAB-GAB. Colloque "Y a-t-il trop de banques en France?" (1995):

dossier décrivant le contenu du colloque, compte rendu du colloque, correspondance. Dossier sur le bilan et les perspectives de l'économie mondiale (1994). Dossier sur les perspectives pour une comparaison européenne de l'activité bancaire pour l'Allemagne, la France et le Royaume-Uni (1994). Dossier sur la rentabilité avant impôt en 1994 des 50 plus grandes banques mondiales par le niveau des fonds propres (the banker) (1995).

BNP_COMMUNICATION ET MARKETING, Nouvelle identité visuelle

1984-1987

Cote: **57AH170**

Photographies des agences sur lesquelles ont été testées la nouvelle identité visuelle et des agences de banques concurrentes (Crédit du Nord, Société générale, Banque populaire,&) ; liste des agences-test ; dossier sur le graphisme et la couleur du logo comprenant notamment des nuanciers, des fac-similés de chéquiers et de papier à entête ; projet de guide d'utilisation des supports publicitaires ; manuel de l'identité visuelle ; extraits de presse et de Dialogue ; études de communication ; présentations de projets architecturaux ; comptes rendus des réunions du 22/08/1984 au 31/07/1987 ; notes d'information du 21/05/1985 au 09/06/1987 ; dossiers sur les modifications des façades des agences Friedland, Villette, Dupleix et Villiers comportant notamment des plans et des comptes rendus de réunions de chantier et sur les tests d'affichage lumineux et d'animation des guichets automatiques bancaires (*GAB*) comprenant notamment des photographies d'affiches ; notes manuscrites.

Notes

L'identité visuelle a été rendue publique lors du tournoi de Roland-Garros de mai 1987.

BNP_COMMUNICATION ET MARKETING

Brochures et books de presse

1969-1994

Cote: **57AH243**

Livre "Tableau économique des 21 régions de France" de 1969 édité par la banque avec sujets transverses et présentation par région ; carte routière de France offert par BNP avec les agences et les *GAB* (1980) ; plaquette "L'art mural" pour une exposition de

février-mars 1986 ; Grand prix de la communication sur le thème de “La vie sur la butte Montmartre” (novembre 1987) ; dossier de presse “Van Gogh et Arles” (juin 1987) ; dossier de presse “Athlétisme 1987 équipes de France” montrant l'implication de la BNP dans cette discipline (1987) ; brochure sur le livre “1789”, collection éditée par BNP (1989) ; dossier de presse “Les découvertes du printemps de Bourges” parrainé par BNP, incluant le programme ; revues “Parrainage” de février 1988 et juillet 1992 reprenant toutes les opérations de communication externe opérées par la BNP les mois précédents ; brochure de presse (format copié sur le Nouvel observateur) “De Cézanne à Matisse” au Musée d'Orsay, sous l'égide de la Fondation Barnes (septembre 1993) ; dossier de la conférence de presse du 14 novembre 1994 pour l'exposition “Du Pérugin à Picasso” dans le cadre de BNP pour l'art.

BNP_COMMUNICATION ET MARKETING

Projet de nouvelle identité visuelle

1987-1990

Cote: **57AH240**

Book de mai 1987 à destination des architectes des bâtiments de France sur le projet de nouvelle identité visuelle présentant les monogrammes, logos, la déclinaison sur les façades et les *GAB*. Book Guide pratique de la direction de la communication de 1990 concernant la déclinaison de la nouvelle identité avec des exemples d'applications, les composants industrialisés, les composants particuliers, les réglementations enseignes.

CB_CETELEM

Marketing appliqué au *point de vente*. Convention de formation simplifiée. Comment motiver sa force de vente. Bilan formation.

1987-1989

Cote: **72AH/315**

PB_ETUDES

Banque sans guichet et carte de crédit

1965-1967

Cote: **3AH365**

Etude de décembre 1967 de la Banque de Paris et des Pays-Bas intitulée “Répartition géographique de la population et du revenu en France” ; article de L’Express du 13/02/1967 intitulé “La Rothschild et les autres” ; annexes du 03/03/1967 au sujet de la banque par correspondance ; tableau des avantages et inconvénients de la banque sans guichet ; liste du 06/04/1967 des *services* que pourrait offrir la banque sans guichet ; note du 10/04/1967 intitulée “Possibilités pour une banque d'affaires de recueillir un volume appréciable de dépôts de particuliers” ; étude du 06/03/1967 sur le placement des ressources des personnes à revenus élevés ; compte-rendu de la réunion du 14/03/1967 sur le projet de banque sans guichet ; rapport préliminaire du 26/04/1967 du groupe réuni en vue d'étudier un projet de banque par correspondance ; note du 15/11/1965 sur la valeur boursière au 31/12/1964 des titres cotés en conservation ; valeur boursière au 31/12/1964 des titres cotés en conservation à la Banque de Paris et des Pays-Bas ; tableau du 16/07/1965 de la valeur boursière des principaux postes en conservation de société clientes ; tableau du 12/11/1965 de la répartition de la fortune actions (valeurs françaises et étrangères) d'après la capitalisation boursière des titres au porteur en SICOVAM, sur la base des cours de Bourse fin 1964 ; liste du 12/11/1965 des 25 adhérents dont les titres déposés en SICOVAM sont les plus élevés ; note du 27/07/1965 sur la répartition des actions françaises (cotées à la Bourse de Paris) entre titres nominatifs ou au porteur et titres au porteur en SICOVAM ; compte-rendu de la réunion du 09/03/1967 du groupe d'études sur le projet de banque sans guichet ; projet de plan du rapport préliminaire sur la banque sans guichet ; liste du 06/04/1967 des *services* que pourrait offrir la banque sans guichet ; note du 06/04/1967 intitulée “Banque sans guichet. Les handicaps” ; version numéro 3 du 21/04/1967 du projet de rapport préliminaire du groupe réuni en vue d'étudier un projet de banque par correspondance ; projet de rapport préliminaire du 12/04/1967 du groupe de travail réuni en vue d'étudier des activités *bancaires* nouvelles ; note du 17/04/1967 intitulée “Projet de banque sans guichets” ; projet de rapport préliminaire du 11/04/1967 du groupe de travail réuni en vue d'étudier des activités *bancaires* nouvelles ; propositions du 29/03/1967 en vue de la rédaction d'un rapport préliminaire du groupe de travail. Comptes rendus de réunions de mars 1967 du groupe d'étude du projet de banque sans guichet; inventaire provisoire du 06/03/1967 des problèmes à étudier ; note et annexes du 03/03/1967 sur la banque par correspondance. Article de presse de mai 1967 intitulé “Bank markets and *services*. Summary of three surveys of bank customers”; extraits de

la thèse de M. David A. Campbell, JR. intitulée “Les opérations de banque par correspondance”; correspondances de 1967 quant au projet; article de presse intitulé “Viewing time & savings deposits”. Instruction de l'Association professionnelle des banques intitulée “Rôle des banques dans le système des “cartes accreditives hôtelières” ; formules de demande de carte accreditive ; liste des banques dont les sièges centraux tiendront les comptes de la Fédération de l'industrie hôtelière et de la Compagnie générale d'assurances ; lettre du 01/08/1967 de la direction générale des Impôts dispensant les traites du droit de timbre ; tarif des cotisations annuelles de carte de crédit de l'Association internationale de l'hôtellerie ; traite ; fiche de renseignements ; compte-rendu d'entretien du 14/04/1967 à la Banque de l'Indochine au sujet de la carte de crédit ; article du Monde du 07/04/1967 intitulé “Les banques s'interrogent sur leur place dans l'économie” ; liste des organismes ou sociétés autorisés à émettre des “avis de prélèvement” compensables ; article des Echos du 21/03/1967 intitulé “Une nouvelle extension des *services bancaires* : la carte de crédit” ; investissements dans le cadre du groupe Algeco.

Internet archives and online resources

Wayback Machine

The Internet Archive was used to reconstruct the first digital appearances of GZS, Cetrel, and *Groupement des Cartes Bancaires* on the Internet.

Der Spiegel, Le Monde and eluxemburgensia.lu

The online archives of these daily newspapers were used to reconstruct the debates on credit cards and cashless payments in France, Luxembourg, and Germany.

Ina.fr

In addition to the visit to the *Institut national de l'audiovisuel* in Paris, the online catalogue of Ina was consulted to analyse and reconstruct credit card advertising on French television.

Online archives of the European Union

To investigate the regulations of the EU regarding credit cards and cashless payments, the online archives of the European Union, the European Commission, the European Central Bank, the European Court of Justice, and the European Parliament were consulted.

List of interviewed bank experts

1. Marc Hemmerling (ABBL - General Counsel Digital Banking, FinTech and Payments)
2. Nicolas Horlait (Director Operations Financial Cooperative Association International)
3. Serge Humpich / privat person who discovered a security breach in the *Carte Bleue* system in the late 1990s.
4. Luisa Lopes (BGL BNP Paribas - Senior Cash Management Sales Executive)
5. Wulf Hartmann (Director at the Federal Association of German Banks (*Bundesverband Deutscher Banken e.V.*) in the Legal Affairs Division.)
6. Mario Feierstein (BGL BNP Paribas – Outsourcing Coordinator)
7. Jean Claude Schneider (former head of marketing at BGL)
8. Holger Schmieding (Chief economist at Berenbank)
9. Jean-Claude Falz (programmer and free agent for Luxembourgish banks and stock markets in Europe)
10. Thomas von Lüpke, (Deputy Director-General at Germany’s Federal Financial Supervisory Authority (BaFin))

Primary sources

Administration des Postes et Télécommunications, *Vidéotex, Guide d'usager, Bedienungsanleitung*, 1991.

Advertisement from the BGL BNP Paribas for V-Pay on Facebook, *Plein les yeux*, 2019.

Archive Banque Générale du Luxembourg BNP Paribas, Accord Internationale Eurochèque, Communauté Luxembourgeoise Eurochèque, Statistique internationale sur les fraudes Eurochèque, Luxembourg, 1984.

Archive Banque Générale du Luxembourg BNP Paribas, Banque Générale du Luxembourg, Directives en vigueur dans le système Eurochèque, Luxembourg, 1980.

Archive Banque Générale du Luxembourg BNP Paribas, Cartes Bancaires au Luxembourg et à la BGL, Annexe 1, European Financial Management Association, Enquête annuelle, Faits et Figures, Eurocard, MasterCard, 1993.

Archive Banque Générale du Luxembourg BNP Paribas, Banque Générale du Luxembourg, Note aux services et aux agences: Concerne: La capacité de la femme mariée N°3, Luxembourg, 1973.

Archive Banque Générale du Luxembourg BNP Paribas, Banque Générale du Luxembourg, Note aux services et aux agences N°17, Note d'organisation concernant l'émission de la carte chèque luxembourgeoise, Luxembourg, 1969.

Archive Banque Générale du Luxembourg BNP Paribas, Note N° 17, *Note aux services et aux agences, concerne: réseau Bancomat*, Luxembourg, 1983.

Archive Banque Générale du Luxembourg BNP Paribas, *Note aux service et agences. Concerne Blocage cartes eurocheques, cartes bancomat*, Luxembourg le 20.12.1989.

Archive Banque Générale du Luxembourg BNP Paribas, Notes aux services et aux agences, Concerne: Lancement commercial des terminaux points de vente (TPV), N°3, Terminaux Points de Vente, Luxembourg, 21.01.1988.

Archive Banque Générale du Luxembourg BNP Paribas, Compagnie Luxembourgeoise de Conseil, Assurance vol/perte cartes et chèques Eurochèques, Luxembourg, 1985.

Archive Banque Générale du Luxembourg BNP Paribas, Direction Commercial RH/ bdu, Note au comité de direction, Nouvelles stratégies Eurocard, Luxembourg, 2.10.1986.

Archive Banques Générale du Luxembourg BNP Paribas, Ed. H. Simonart Bulletin de la Générale de Banque: Les cartes de paiement en compétition, Brussels, Weissenbruch S.A., 1989.

Archive Banque Générale du Luxembourg BNP Paribas, Eurocheque International SC, La carte au nouveau design 70/30, 1990.

Archive Banque Générale du Luxembourg BNP Paribas, Flyer, un nouvel horizon, votre caissier permanent, 1983.

Archive Banque Générale du Luxembourg BNP Paribas, Information sheet about MasterCard Secure Code and Verified by Visa, no date.

Archive Banque Générale du Luxembourg PNB PARIBAS, *Le duo inseparable* [the inseparable pair], campaign, 1986.

Archive Banque Générale du Luxembourg BNP Paribas, LISOIR, Daniel & WEYRICH, Danielle, Cartes bancaires au Grand-Duché de Luxembourg et à la BGL, DL/al, Luxembourg, 1994.

Archive Banque Générale du Luxembourg BNP Paribas, Modernisation technique intérieur, signed by Michel Simon, Dossier Paymatic, 1968.

Archive Banque Générale du Luxembourg BNP Paribas, *photograph of the Pay-Matic at the central station in Luxembourg city in 1968.*

Archive Banque Générale du Luxembourg BNP Paribas, Unknown author, *Chronologie de l'histoire de la BGL*, Luxembourg, 1994.

Archive Banque Générale du Luxembourg BNP Paribas, Unknown author, *Notes aux services et agences*, N°52, *Eurocard*, 1980.

Archive Banque Générale du Luxembourg BNP Paribas, Unknown author, *Notes aux agences, Introduction Bancomat au Luxembourg*, 1983.

Archive Banque Générale du Luxembourg BNP Paribas, Unknown author, *Notes aux services et aux agences* N° 18, PAY-MATIC, *Concerne: Utilisation du distributeur automatique de billets de banque PAY-MATIC à l'Agence Luxembourg-Gare, Luxembourg 1968*.

Archive Banque Générale du Luxembourg BNP Paribas, Unknown author, unknown creation date, letter exchange from the *Banque Générale du Luxembourg* and *Gisecke & Devrient*.

Archive Banque Générale du Luxembourg BNP Paribas, *Reduzierung des griffbereiten Bargeldbestandes an den Kassenschaltern*, 1977.

Archive Banque Générale du Luxembourg BNP Paribas, Systèmes de Paiement RH/lf, Note au comité de direction, Constitution de la société Eurocard Luxembourg, Luxembourg, 1989.

Archive Banque Générale du Luxembourg BNP Paribas, Eurocard International, The international payment system, delivering a complete product line to banks, Pay now, 1990, p. 2.

Archive BNP Paribas, Journal Espace BNP, 26.07.1999.

Archive BNP Paribas, Histoire de la campagne de publicité BNP 1973, in: *Le dialogue*, Mars, 1973.

Archive BNP Paribas, Jean-Marc Bornet, *A l'attention du Comité de Direction*, Groupement Carte Bleue et Groupement des Cartes Bancaires, Paris, 31.08.1993.

Archive BNP Paribas, *La lutte contre la fraude en Europe: à la recherche d'une meilleure synergie*, in: CB actualité la lettre du Groupement des Cartes Bancaires "CB" N° 17 Mai 1993.

Archive BNP Paribas, *Sketchbook of the advertisement L'écrivain promoting Visa premier for the Groupement des Cartes Bancaires* in 1993.

Archive BNP Paribas, Visa international service association, EC code of conduct on relations between merchants and acquirers, Activity alert, 21.05.1993.

Archive BNP Paribas, *Visa et la Puce*, Communiqué de presse du Groupement des Cartes Bancaires, 02.07.93.

Archive Banques Générale du Luxembourg PNB PARIBAS, Videotape *Eurocard*, 1986.

Archive Centre national de l'audiovisuel du Luxembourg, STON080310LE / 002, Magazine - *De Nol op de Kapp*, 10.03.2008.

Archive Centre national de l'audiovisuel de Luxembourg, STON991215LE / 008, Magazine - *Conseil, Sécurité cartes de crédit*, 15.12.1999.

Archive Centre national de l'audiovisuel du Luxembourg, STON970709LE / 008, Magazine - *Kapital*, 09.07.1997.

Archive Crédit Agricole, Advertisement of the *Crédit Agricole* promoting the security of the *carte à puce*, *n'ayez pas peur de la carte à puce*, 1987.

Archive Crédit Agricole, *Note à l'attention des membres du comité de direction du groupement Carte Bleue* par Rolland Bellanger, 03.06.1981, Résumé du Meeting Eurocheque Working group in Dublin, 07 and 08 May 1981.

Archive Deutsche Bank, Author Unknown, German cartel office tangles with Europlus, Retail Banker International, The worldwide consumer financial services bulletin Issue No. 151, December 1987.

Archive Deutsche Bank, Beitrag für die Bank, Von Eurocheque über Eurocard zu Europlus, schl/ps, Frankfurt, 1987.

Archive Deutsche Bank, *Cheque of the Société Nationale des Chemins de Fer Français in 1968*.

Archive Deutsche Bank, Eckhart van Hooven, Fernsehsendung von Radio Bremen am 29. Juni 1985 mit Beiträgen über BTX.

Archive Deutsche Bank, *Eurocard erfolgreich verkaufen, Eurocard sales guide for employees*, 1985.

Archive Deutsche Bank, *Eurocard mit Deutsche Bank Schriftzug. Einführungskampagne, Entscheidung im GZS Aufsichtsrat* am 7.10.1988.

Archive Deutsche Bank, Experten Einschätzung der Deutschen Bank in Hinblick zum bargeldlosen Zahlungsverkehr, Überblick über die Situation im Zahlungsverkehr europäischer Banken und Überlegungen zu möglichen Kooperationen, in: Folder cashless payment & credit cards, Frankfurt, 24.09.1976.

Archive Deutsche Bank, International Eurocheque Secretariat, Eurocheque 1968-1978, Brussels, 1978.

Archive Deutsche Bank, Kreditkarten im Überblick, Anlage zur GZS-Information, 1/85, May 1985.

Archive Deutsche Bank, sale advisor & poster of Eurocard, *Für ihre Amerikareise, Ein besonderes Eurocard Angebot*, 1978.

Archive Deutscher Sparkassen und Giroverband e.V., *Advertisement for their credit cards, Bezahlen ist einfach*, 2016.

Archive Sparkassen und Giroverband Bonn e.V., *Advertisement of the Eurocard, D-2-00114, Anzeige Eurocard*, der Spiegel, 12.03.1979.

Archive Sparkassen und Giroverband e. V., *Die Einführung der Chipkarte*, in: *S-Markt, Das Praxismagazin für Verkauf und Marktkommunikation*, 3. Jahrgang, Nr 6, Dezember 95 Januar 96, pp.12-16.

Archives historiques de la commission européenne, collection reliée des documents "com", COM (85) 310, Vol. 1985/0130, Commission of the European Communities, *Completing the internal Market*, COM (85) 310 final, Brussels, 14.06.1985.

AUTORITE DE LA CONCURRENCE, L'Autorité de la concurrence obtient du Groupement des Cartes Bancaires une baisse substantielle des deux principales commissions liées aux paiements et aux retraits, in: autoritedelaconcurrence, URL:

<https://www.autoritedelaconcurrence.fr/fr/communiqués-de-presse/cartes-bancaires>

(24.09.2021).

Banque Générale du Luxembourg BNP Paribas, *Communication de presse, Apple Pay jetzt für Kunden von BGL BNP PARIBAS*, in: bnpparibas, URL:

<https://www.bnpparibas.lu/de/2019/05/21/apple-pay-jetzt-fuer-kunden-von-bgl-bnp-paribas/>

(State: 28.10.2021).

Banque Générale du Luxembourg BNP PARIBAS, PRESS RELEASE, *BGL BNP Paribas launches iPhone Web Banking app for Apple Watch**, Luxembourg, 23 April 2015.

Banque UCL, *La banque UCL sur Internet... Surfez avec nous!*, in: Revue n°1, 3.1.1996, Luxembourg, p. 64.

BIS, Annual Economic Report, June 2019, in: bis.or, URL:

<https://www.bis.org/publ/arpdf/ar2019e.pdf> (State:06.10.2022).

Bundesanstalt für Finanzdienstleistungsaufsicht, Pressemitteilung, PSD II: *BaFin ermöglicht Erleichterungen bei Kundenauthentifizierung Bundesanstalt für Finanzdienstleistungsaufsicht*, 21.08.2019.

BUNDESKARTELLAMT, Tätigkeitsbericht des Bundeskartellamtes 2015/2016, in: bundeskartellamt, URL:

http://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Taetigkeitsberichte/Bundeskartellamt%20-%20Taetigkeitsbericht%202015_2016_Dokumentenband.pdf?__blob=publicationFile&v=4

(State: 24.09.2021).

CREDIT AGRICOLE, *Carte Kangourou: carte de crédit: jeune femme au telephone*, in: ina.fr

, URL: <https://www.ina.fr/video/PUB3249886043/carte-kangourou-carte-de-credit-jeune-femme-au-telephone-video.html> (State:28.04.2021).

CREDIT EUROPEEN, *La carte Visa enfin accessible au Luxembourg!* in: Luxemburger Wort, Publicité, 26.07.1980, p. 16.

DEUTSCHE BANK, Monatsbericht März 2002, in: Bundesbank, URL: <https://www.bundesbank.de/resource/blob/692054/bf061a24e00f4f560e383f567585343b/mL/2002-03-monatsbericht-data.pdf> (State: 21.07.2021).

DEUTSCHE BUNDESBANK, PSD2, in: bundesbank, URL: <https://www.bundesbank.de/de/aufgaben/unbarer-zahlungsverkehr/psd2/psd2-775434> (State: 28.10.2021).

Deutscher Sparkassen und Giroverband e. V., *Pressemitteilung, Apple Pay*, 13.07.2021., in: dsgv, URL: https://www.dsgv.de/newsroom/presse/210713_PM_Apple_Pay_und_Girocard_27.html (State:14.10.2021).

DIE BUNDESREGIERUNG, Deutschland spricht über 5G, in: bundesregierung, URL: <https://www.bundesregierung.de/breg-de/suche/deutschland-spricht-ueber-5g-1832800> (State: 28.10.2021).

DIRECTIVE 2007/64/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 13 November 2007 on payment services in the internal market amending Directives 97/7/EC, 2002/65/EC, 2005/60/EC, and 2006/48/EC and repealing Directive 97/5/EC.

Eurocard Advertisement, *Revue* n°20, 19.05.1988, pp. 46-47.

EUROCARD BELGIUM-LUXEMBOURG, *Eurocard jetzt auch in Luxemburg*, in: Luxemburger Wort, 20.11.1980, p. 13.

EUROCARD, *Certaines cartes...vous font rêver*, in: *Revue*, N°48, 29.11.1989, p. 49.

EUROCARD, EUROCARD MASTERCARD: *Carte de crédit*, in: ina.fr, URL: <https://www.ina.fr/video/PUB3774386005/eurocard-mastercard-carte-de-credit-video.html> (State:28.04.2021).

EUROCARD, *J'aime mon Eurocard...j'y gagne!*, in: *Revue*, N°49, 07.12.1988, p. 33.

EUROCARD, *Sans Eurocard, c'était bye-bye les États-Unis*, in: d'Lëtzebuerger Land, N° 24, 17.06.1983, p. 12.

EUROPAY INTERNATIONAL, *Eurocheckgarantie entfällt ab 2002*, in: Presstext, URL:<https://www.pressetext.com/news/19990615020>(State: 21.07.2021).

EUROPEAN CENTRAL BANK, Executive summary, Integration of the European retail payments markets, in: ecb.europa.eu, URL: https://www.ecb.europa.eu/pub/pubbydate/2019/html/ecb.cardpaymentsineu_currentlandscap_eandfutureprospects201904~30d4de2fc4.en.html (24.09.2021).

EUROPEAN CENTRAL BANK, Second report on card fraud, in: ecb.europa.eu, URL: <https://www.ecb.europa.eu/pub/pdf/cardfraud/cardfraudreport201307en.pdf> (State:14.10.21).

EUROPEAN CENTRAL BANK, *Sixth report on card fraud*, in: ecb.europa.eu, URL: <https://www.ecb.europa.eu/pub/cardfraud/html/ecb.cardfraudreport202008~521edb602b.en.html#toc3> (State:14.10.21).

EUROPEAN CENTRAL BANK, *The Eurosystem's view of a "SEPA for cards"*, Frankfurt am Main, November 2006.

EUROPEAN COMMISSION, Communication from the Commission to the European Parliament, the Council, the European economic and social committee and the committee of the regions, A digital single market strategy for Europe, COM (2015), Brussels, 06.05.2015.

EUROPEAN COMMISSION, *Green Paper Towards an integrated European market for card, internet and mobile payments*, COM (2011) 941 final, Brussels, 11.01.2012.

EUROPEAN COMMISSION, *National transpositions by member state*, France, in: eur-lex.europa.eu, URL: <https://eur-lex.europa.eu/legal-content/EN/NIM/?uri=CELEX:32015L2366> (State: 28.10.2021).

EUROPEAN COMMISSION, Payment service directive, in: ec.europa.eu, URL: https://ec.europa.eu/commission/presscorner/detail/en/MEMO_15_5793 (State: 28.10.2021).

EUROPEAN COMMISSION, The Autorité de la concurrence obtains significant Reduction of main multilateral interchange fees charged by MasterCard and Visa on Domestic Card

Transactions, in ec.europa, URL: https://ec.europa.eu/competition/ecn/brief/05_2013/card_fr.pdf (24.09.2021).

EUROPEAN PAYMENTS COUNCIL, List of EPC members, in: europeanpaymentscouncil.eu, URL: <https://www.europeanpaymentscouncil.eu/about-us/epc-members/list-epc-members> (State: 28.10.2021).

EUROKARTENSYSTEME GMBH, Eurocard wird 2003 MasterCard, in: presseportal, URL: <https://www.presseportal.de/pm/38715/410329> (State: 02.08.2021).

EUROPEAN UNION, Regulation (EU) 2015/751 of the European Parliament and of the council of 29 April 2015 on interchange fees for card-based payment transactions, in: eur-lex.europa, URL: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32015R0751&rid=5> (State: 19.10.2022).

EUROPÄISCHE KOMMISSION, Von MasterCard geltend gemachte Geschäftsgeheimnisse, Erläuterungen zu den Änderungen (Nichtvertrauliche Fassung), in: ec.europa, URL: https://ec.europa.eu/competition/antitrust/cases/dec_docs/34579/34579_1888_2.pdf (24.09.2021).

EUROPÄISCHE WIRTSCHAFTSGEMEINSCHAFT, Treaty of Rome, Article 85, in: <https://eur-lex.europa.eu/legal-content/DE/TXT/PDF/?uri=CELEX:11957E/TXT&from=en> (State: 02.08.2021).

FLON, H., *Rapport sur la question de la mécanisation à la Banque Générale du Luxembourg*, Luxembourg, le 10 July 1959.

Fonds National de la Recherche, Luxembourg, Annual report 2019, in: public.lu, URL: <https://download.data.public.lu/resources/fnr-annual-reports/20201127-114444/200625-fnr-5038-20-rapport-annuel-2019-r6-single.pdf> (State: 23.02.2021).

GENERAL COURT OF THE EUROPEAN UNION, Press Release No 69/12, in: curia.europa, URL: <https://curia.europa.eu/jcms/upload/docs/application/pdf/2012-05/cp120069en.pdf> (24.09.2021).

GIE CARTE BLEUE, CARTE BLEUE: *Carte de crédit*, in: ina.fr, URL: <https://www.ina.fr/video/PUB3491033031/carte-bleue-carte-de-credit-video.html> (State:28.04.2021).

GROUPEMENT CARTE BLEUE, *Carte Bleue: carte de crédit*, in: ina.fr, URL: <https://www.ina.fr/video/PUB3212580084/carte-bleue-carte-de-credit-video.html> (State:28.04.2021).

GROUPEMENT CARTE BLEUE, *Carte Bleue: carte de crédit: client*, in: ina.fr, URL: <https://www.ina.fr/video/PUB3252496072/carte-bleue-carte-de-credit-client-video.html> (State:28.04.2021).

GROUPEMENT CARTE BLEUE, *Carte Bleue Restaurant: carte de crédit*, URL: <https://www.ina.fr/video/PUB3249386059/carte-bleue-restaurant-carte-de-credit-video.html> (State:28.04.2021).

Groupement des Cartes Bancaires, Communiqué de presse, *L'Europe de la carte bancaire en marche, grâce à l'adoption du standard de carte à puce EMV*, Paris, 20.04.2005.

Groupement des Cartes Bancaires, *Gold MASTERCARD TF1 / 52 SUR LA UNE: CARTE DE CREDIT*, in: ina.fr, URL: <https://www.ina.fr/video/PUB3774430055/gold-mastercard-tf1-52-sur-la-une-carte-de-credit-video.html> (State:28.04.2021).

HANDELSVERBAND DEUTSCHLAND, Beschwerde gegen Visa und MasterCard beim Kartellamt, in: einzelhandel, URL: <https://einzelhandel.de/themeninhalte/zahlungssysteme/528-themen/zahlungssystemeundkartenzahlung/9138-beschwerdegegenvisaundmastercardbeikartellamt> (24.09.2021).

HANDELSVERBAND Deutschland, Zusammenfassung der beim Bundeskartellamt eingereichten Beschwerde gegen Interbankenentgelte bei nationalen Kreditkartentransaktionen, in: einzelhandel, URL: <https://einzelhandel.de/images/importedImages/44826/Zusammenfassung-Interbankenentgelt.pdf> (24.09.2021).

LIEBSCHER, Klaus, *Financial deregulation in the EU – chances and challenges for financial stability*, Speech by Dr. Klaus Liebscher, Governor of the Austrian National Bank, to the 5th Annual CSI Conference - “New Agenda of the WTO: Challenge and Contribution of the European Union”, Innsbruck, 18 November 2005.

LISTEL, *Annuaire des services teletel*, n°1 Décembre, Les Éditions Télématiques de France, 1985.

MASTERCARD, *Es gibt Dinge, die kann man nicht kaufen für alles andere gibt es Mastercard*, Universal, McCann, 2003.

Mikro Image & Groupement des Cartes Bancaires, *Carte Bleue Visa: Les plaisirs de la vie garage version 30 secondes*, in: ina.fr, URL: <https://www.ina.fr/video/PUB3103741016/carte-bleue-visa-les-plaisirs-de-la-vie-garage-version-30-secondes-video.html> (State:28.04.2021).

MITTELDEUTSCHER RUNDFUNK Archiv, *Geldautomaten in der DDR*, in: MDR Zeitreise, Fernsehbeitrag am 20.11.2018.

National Institute for Statistics and Economic Studies - Luxembourg, *Liste des principaux employeurs au 1er Janvier 2003-2020*, in: statistiques.public, URL:https://statistiques.public.lu/stat/TableViewer/tableViewHTML.aspx?ReportId=13298&IF_Language=fra&MainTheme=4&FldrName=1 (State:15.02.2021).

National Institute for Statistics and Economic Studies - Luxembourg, *Luxemburg in Zahlen 2020*, in: statistiques.public, URL: <https://statistiques.public.lu/catalogue-publications/luxembourg-en-chiffres/2020/luxemburg-zahlen.pdf> (State:15.02.2021).

Press report, der Spiegel, *20 years of SPIEGEL ONLINE - 20 years of online journalism: On 25 October 1994, SPIEGEL became the world's first magazine to go online*, 21 October 2014.

Raiffeisen-Volksbank eG, *Ihre Bildkarte*, in: meine-rvb, URL: <https://www.meine-rvb.de/privatkunden/girokonto-kreditkarten/girokonto/bildkarte-neu.html> (State: 28.02.2021).

ROLAND, Moreno, *Demande de brevet d invention N°74 10191 Procédé et dispositif de commande électronique*, in: worldwide.espacenet, URL:

<https://worldwide.espacenet.com/patent/search/family/009136779/publication/FR2266222A1?q=FR%202266222> (State: 13.12.2021).

RUEPPEL, A. Rainer, IT-Sicherheit-Strategischer Faktor in der Finanzwirtschaft, in: Telecommunications 23 Münchner Kreis, Telekommunikation für Banken und Versicherungen, Finanzdienstleistungen im Wandel, Vorträge der am 19. Juni 1995 in München abgehaltenen Fachkonferenz, EWERDWALBESLOH. G. (ed.), Berlin Heidelberg, Springer-verlag, 1996, p. 149-161.

SCHUH, Scott & STAVINS, Joanna, *How do speed and security influence consumers' payment behavior*, Working Paper for the European Central Bank, No 1871, December 2015.

SEGRE, Claudio, Report of a group of experts appointed by the EEC Commission, *The development of a European capital market*, Publications of the European Community, Brussels & Luxembourg, 1966.

Unknown author, *Anleitung-DDR-Geldautomat*, in: mdr, URL: <https://www.mdr.de/zeitreise/geldautomaten-in-der-ddr-100.html> (State:28.04.2021).

VISA, *Die Freiheit nehm' ich mir*, Grey, Düsseldorf, 1992.

VISA, *Die Freiheit nehm' ich mir*, Grey, Düsseldorf, 1996.

VISA, *Mon e-Carte Bleue, ma carte virtuelle, Avec elle, je règle mes achats sur Internet sans avoir à communiquer mon numéro de carte Visa*, <https://www.visa.fr/pay-with-visa/ma-carte-visa/e-carte-bleue.html> (State: 14.10.2021).

WORLDLINE, *Registration Document & Financial Report 2017*, in: worldline.com, URL: <https://labrador.cld.bz/WORLDLINE-REGISTRATION-DOCUMENT-2017/14/#zoom=z> (State: 15.02.2021).

Newspaper and magazine articles

Archive Banques Générale du Luxembourg BNP Paribas, H. Simonart (ed.), Bulletin de la Générale de Banque: Les cartes de paiement en competition, 1989, pp. 24-28.

Archive Deutsche Bank, *Kopie für Herrn Dr. van Hooven*, in: *Folder cashless payment & credit cards, The Wall Street Journal, Visa and MasterCard hunt harder for new cardholders Journal*, 07.04.1988.

Archive Deutsche Bank, copy of the article, *Visa mit neuer Deutschland Strategie*, in: *Börsenzeitung*, 10 June 1987.

Archive Deutsche Bank, VON DER ROPP, Nina, *Ein Opfer für die Gemeinsamkeit*, in: *Handelsblatt*, 9 September 1987.

Archive Société Générale, *Les défis monétiques*, in: *SoGéchos*, n°114, October 2000, p. 18.

Archive Luxemburger Wort, Sammelmappe Elias 7, Adam, Andreas, *Avant de partir dans un pays à risque en termes de fraude Pas de carte de crédit à activer*, 04.01.2014.

Archive Luxemburger Wort, Sammelmappe Elias 7, Adam, Andreas, *Reaktionen auf den Bericht der Europäischen Zentralbank zum Kartenbetrug*, *Wirtschaft und Finanzen - Économie et Finance*, 19.07.2013.

Archive Luxemburger Wort, Sammelmappe Elias 7, Luxemburger Wort, Deutscher Einzelhandel, *Kartellbeschwerde gegen Visa und MasterCard*, Ressort: *Wirtschaft und Finanzen - Économie et Finance* 20.01.2006.

Archive Luxemburger Wort, Sammelmappe Elias 7, Luxemburger Wort, Deutsche Presse-Agentur Brüssel kippt MasterCard-Gebühren Preise im Handel sollen sinken / Auswirkungen auf Visa erwartet, Ressort: *Wirtschaft und Finanzen*, 20.12.2007.

Archive Luxemburger Wort, Sammelmappe Elias 7, Luxemburger Wort, EuroSignCard S.A. möchte Schwerpunkte in der Sicherheitstechnologie setzen, *Online Sicherheitstechnologie made in Luxembourg EuroSignCard S.A. tritt in die operative Phase*, *Wirtschaft und Finanzen - Économie et Finance*, 08.07.2000.

Archive Luxemburger Wort, Sammelmappe Elias 7, Luxemburger Wort, *Frau an Geldautomaten überfallen*, *Landeschronik*, 10.11.2001.

Archive Luxemburger Wort, Sammelmappe Elias 7, Langner, Anne, *Kampf der Banken gegen Betrüger Im Automaten zittert die Karte 400 luxemburgische Automaten*, *Wirtschaft und*

Finanzen - *Économie et Finance*, dossier - *banques et technologies de l'information*, 05.05.2006.

Archive Luxemburger Wort, Sammelmappe Elias 7, Lagner, Anne, *Luxtrust-Plattform bietet sicheren Datenverkehr*, PKI-Projekt nimmt Fahrt auf, Kombination für private und öffentliche Dienste scheint erfolgreich, Anfragen aus dem Ausland, *Wirtschaft und Finanzen - Économie et Finance*, 23.09.2006.

Archive Luxemburger Wort, Sammelmappe Elias 7, Leyers, Pierre, *Sicherheit bei elektronischen Transaktionen*, Es wird Ernst mit der PKI, Konsortium u-trust, das aus Cetrel, Clearstream, Hitec und eBRC besteht, gewann Ausschreibung, *Wirtschaft und Finanzen - Économie et Finance*, 21.07.2006.

Archive Luxemburger Wort, Sammelmappe Elias 7, Luxemburger Wort, *Les commerces luxembourgeois entrent dans la danse du succès de Maestro*, Ressort Handel, Luxembourg, 02.07.1998.

Archive Luxemburger Wort, Sammelmappe Elias 7, Luxemburger Wort, *MasterCard muss büßen*, EU-Wettbewerbshüter verhängen empfindliche Strafe gegen den US-Kreditkartenanbieter, Ressort, *Wirtschaft und Finanzen*, 28.01.2020.

Archive Luxemburger Wort, Sammelmappe - Elias 7, PICARD, Jean-Jaques, Cetrel, *Das Zahlen mit Plastik setzt sich immer mehr durch*, in: Luxemburger Wort, Ressort: *Wirtschaft und Finanzen - Économie et Finance*, 26.03.1998.

Archive Luxemburger Wort, Sammelmappe - Elias 7, PICARD, Jean-Jaques, Cetrel, *Das Zahlen mit Plastik setzt sich immer mehr durch*, in: Luxemburger Wort, Ressort: *Wirtschaft und Finanzen - Économie et Finance*, 26.03.1998.

Archive Luxemburger Wort, Sammelmappe Elias 7, Thiel Michel, „Ab jetzt unterschreiben Sie mit ihrem Finger“ Landes Chronik, Letzebuerg - Stad a Land, 21.04.2004.

Archive Luxemburger Wort, Sammelmappe Elias 7, TRUTTMANN, Marianne, *EU verzichtet auf Verfahren gegen MasterCard Kreditkartenkonzern sagt Gebührensenkung ab 1. Juli dieses Jahres zu*, in Luxemburger Wort, Ressort, *Économie et Finance* 02.04.2009.

Archive Luxemburger Wort, Sammelmappe Elias 7, Luxemburger Wort, Visa et MasterCard, Ressort: Varia /Lokales, 24.11.2004.

Archive Luxemburger Wort, Sammelmappe Elias 7, Waldbillig, Serge, *Le Cetrel veut rendre le minicash plus attrayant*, Commerce & Gastronomie, 26.05.2001.

Archive Luxemburger Wort, Sammelmappe - Elias 7, WOLFF, Ronny, Cetrel, Elektronische Geldbörsen wie Minicash haben einen schweren Stand: Kreditkarten sind praktischer, in: Luxemburger Wort, Ressort: Wirtschaft und Finanzen – Économie et Finance, 25.11.2010.

ASSOCIATION DES BANQUES ET BANQUIERS LUXEMBOURGEOISE, Crédit automatique durch Eurocheque, in: d’Lëtzebuenger Land, 21.04.1972, p. 11.

ASSOCIATION DES BANQUES ET BANQUIERS LUXEMBOURGEOISE, Eurocard, in: d’Lëtzebuenger Land, 05.10.1979, p. 14.

ASSOCIATION DES BANQUES ET BANQUIERS LUXEMBOURGEOISE, Eurocard in Luxemburg, in: d’Lëtzebuenger Land, 28.11.1980, p. 11.

ASSOCIATION DES BANQUES ET BANQUIERS LUXEMBOURGEOISE, Introduction Eurochèque, in: d’Lëtzebuenger Land, 21.04.1972, p. 10.

Banque Générale du Luxembourg, Geldausgabe-Automat, in: d’Lëtzebuenger Land, 27.09.1968, p. 8.

BLONDEL, Aurélie, *Paiements en ligne, les fraudes vont-elles vraiment baisser avec la double authentification*, in: Le Monde.fr, URL: https://www.lemonde.fr/argent/article/2021/07/20/paiements-en-ligne-les-fraudes-vont-elles-vraiment-baisser-avec-la-double-authentification_6088837_1657007.html, (State:14.10.2021).

CHAPEERON, Isabelle, *La guerre des porte-monnaie virtuels*, in: Le Monde.fr, URL: https://www.lemonde.fr/economie/article/2014/04/20/la-guerre-des-porte-monnaie-virtuels_4404469_3234.html (State: 28.10.2021).

CHOCRON, Véronique, *Les banques françaises finissent par céder à Apple Pay*, in: Le Monde.fr, URL: https://www.lemonde.fr/economie/article/2018/08/20/les-banques-francaises-finissent-par-ceder-a-apple-pay_5344111_3234.html (State: 28.10.2021).

COURTINE, Robert, Point de Vue: Pour les restaurateurs la carte de crédit manque de fraîcheur, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1975/11/01/point-de-vue-pour-les-restaurateurs-la-carte-de-credit-manque-de-fraicheur_3101464_1819218.html (24.09.2021).

COURTINE, Robert, Le restaurateur n'est pas un banquier, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1975/11/29/le-restaurateur-n-est-pas-un-banquier_2583742_1819218.html (24.09.2021).

DAMLAMIAN; Jean-Jaques & DE MAUBLANC, Henri, MORENO, Roland, *Paiements en ligne: la sécurité en toute simplicité*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/2001/02/10/paiements-en-ligne-la-securite-en-toute-simplicité_4152534_1819218.html (State: 14.10.2021).

DEMEULENAERE, Luc, Celles-ci sont admises comme accreditifs du chèque dans toute l'Europe, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1968/11/05/celles-ci-sont-admises-comme-accreditifs-du-cheque-dans-toute-l-europe_2488976_1819218.html (State: 21.07.2021).

DER SPIEGEL, *Ohne Geld verreisen*, in: spiegel, URL: <https://www.spiegel.de/politik/ohne-geld-verreisen-a-2ce8e0a2-0002-0001-0000-000041759300> (State:21.07.2021).

DUCOURTIEUX, Cécile, *Le français Gemalto, leader mondiale de la carte à puce, est jugé responsable*, in: Le Monde.fr, URL: https://www.lemonde.fr/economie/article/2010/01/07/le-francais-gemalto-leader-mondial-de-la-carte-a-puce-est-juge-responsable_1288631_3234.html (State: 28.10.2021).

DRIF, ANNE, Cartes bancaires : l'Autorité de la Concurrence exige des banques de baisser leurs frais, in: lesechos, URL: <https://www.lesechos.fr/2011/07/cartes-bancaires-lautorite-de-la-concurrence-exige-des-banques-de-baisser-leurs-frais-410801> (24.09.2021).

ENGLER, Rolf, *Zur Automation im Kreditgewerbe*, in: *Zeitschrift für die Bediensteten der Deutschen Bundesbank N°26*, Deutsche Bundesbank, Frankfurt am Main, 1967, p. 2.

EPINAY, Bénédicte, *Chèques en bois: pas d'accord entre pompistes et banquiers*, in: lesechos, URL: <https://www.lesechos.fr/1991/04/cheques-en-bois-pas-daccord-entre-pompistes-et-banquiers-945231> (24.09.2021).

FORTIN, Daniel, *La Banque Directe démarre en flannant*, in: lexpansion.lexpress, URL: https://lexpansion.lexpress.fr/actualite-economique/la-banque-directe-demarre-en-flanant_1408326.html (State: 15.02.2021).

F. PÖTZL, Norbert, *Deutschlands erster Bankomat*, in: spiegel.de, URL: <https://www.spiegel.de/geschichte/1968-in-tuebingen-deutschlands-erster-geldautomat-a-1208937.html>(State:15.02.2021).

GRANDIN DE L'EPREVIER, *L'envol du paiement par smartphone*, in: Le Monde.fr, URL: https://www.lemonde.fr/economie/article/2016/09/18/apres-le-liquide-c-est-au-tour-de-la-carte-bancaire-d-etre-menacee-par-le-smartphone_4999657_3234.html (State: 28.10.2021).

J. MO., *La peur de la fraude leur donne des idées*, in: Le Monde.fr, URL: https://www.lemonde.fr/economie/article/2005/06/11/la-peur-de-la-fraude-leur-donne-des-idees_661137_3234.html (State: 14.10.2021).

KRÜGER, Ralf E., *Frankreich begräbt sein Textnetz*, in: spiegel.de, URL: <https://www.spiegel.de/netzwelt/gadgets/frankreich-verabschiedet-sich-von-internet-vorgaenger-minitel-a-840766.html>(State: 21.06.2021).

LABBEE, Christophe & RECASENS, Olivia, *Cartes de crédit, les risques du Net*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1998/10/25/cartes-de-credit-les-risques-du-net_3691516_1819218.html (State: 14.10.2021).

MARTI, Serge, *Fraudes pascales sur les distributeurs de billets*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1986/04/03/fraudes-pascales-sut-les-distributeurs-de-billets_2918866_1819218.html (State:14.10.2021).

MARTI, Serge, Un marché de 10 à 15 milliards de francs, in: Le Monde.fr, URL:https://www.lemonde.fr/archives/article/1985/06/26/un-marche-de-10-a-15-milliards-de-francs_2755203_1819218.html (State: 02.08.2021).

MATZET, Jean, Online-Banking, in: Luxemburger Wort, n°102-2001, Archive Luxemburger Wort, Sammelmappe Elias 7, dossier - banques et technologies de l'information, 04.05.2001.

MAUSSIN, Catherine, Les banques françaises épinglées sur l'eurochèque, in: Libération, URL:https://www.liberation.fr/vous/1995/03/10/les-banques-francaises-epinglees-sur-l-eurocheque_127536/(State: 21.07.2021).

MORIO, Joel, Courtiers et banques en ligne cassent les prix ,in: Le Monde, URL: https://www.lemonde.fr/archives/article/2001/04/15/courtiers-et-banques-en-ligne-cassent-les-prix_4170284_1819218.html (State: 15.02.2021).

OTT, Frederike & REIßMANN, Ole, Sparkassen starten gigantische Tausch-Offensive, in: spiegel.de, URL: <https://www.spiegel.de/wirtschaft/unternehmen/kreditkartenbetrug-sparkassen-starten-gigantische-tausch-offensive-a-662075.html> (State:14.10.2021).

PATALONG, Frank, *So tickt der Schwarzmarkt*, in: spiegel.de, URL: <https://www.spiegel.de/netzwelt/web/datendiebstahl-so-tickt-der-schwarzmarkt-a-595101.html> (State:14.10.2021).

PESCATORE, Claude, *Le client face aux produits bancaires*, in: d'Lëtzebuenger Land, 07.03.1986, p. 13.

PIX, Manfred, *Sparkassengeschichte und Corporate Identity*, in: *Bankhistorisches Archiv - Zeitschrift zur Bankengeschichte* 17/2, 1991, pp. 59-81.

QUATREPOINT, Jean-Marie, La carte de paiement universel se substituera-t-elle au cheque? in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1978/05/23/la-carte-de-paiement-universel-se-substituera-t-elle-au-cheque_2978383_1819218.html(State:21.07.2021).

RENARD, François, Armistice dans la guerre des cartes de crédit, les commerçants obtiennent des banques la liberté des tarifs, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1985/10/01/armistice-dans-la-guerre-des-cartes-de-credit-les-commerçants-obtiennent-des-banques-la-liberte-des-tarifs_3046240_1819218.html (24.09.2021).

RENARD, François, Au Crédit Agricole vers l'unification des réseaux de cartes de paiement, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1983/06/08/au-credit-agricole-vers-l-unification-des-reseaux-de-cartes-de-paiement_3076824_1819218.html (State: 02.08.2021).

RENARD, François, Compromis à l'automne, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1985/07/29/compromis-a-l-automne_2737947_1819218.html (24.09.2021).

RENARD, François, Eurochèque contre American Express, Visa et les autres, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1981/03/12/eurocheque-contre-american-express-visa-et-les-autres_2713821_1819218.html (State: 03.08.2021).

RENARD, François, La nouvelle *carte à mémoire* va prendre son essor dans les banques, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1984/01/12/la-nouvelle-carte-a-memoire-va-prendre-son-essor-dans-les-banques_3002435_1819218.html (State: 22.11.2021).

RENARD, François, Le groupement carte bleue et le crédit agricole ont signé un accord de principe pour l'unification de leurs cartes de paiement, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1984/01/31/le-groupement-carte-bleue-et-le-credit-agricole-ont-signe-un-accord-de-principe-pour-l-unification-de-leurs-cartes-de-paiement_3000808_1819218.html(State: 21.07.2021).

RENARD, François, *Une carte bancaire unique*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1984/07/31/une-carte-bancaire-unique_3026265_1819218.html (State: 22.11.2021).

RENAUD, Ninon, Le DAB, ancêtre de la banque mobile, in: lesechos, URL: <https://www.lesechos.fr/2016/08/le-dab-ancetre-de-la-banque-mobile-1112334> (State:14.10.2021).

RICHEBOIS, Véronique, BNP: votre argent les intéresse, in: lesechos, URL: <https://www.lesechos.fr/2010/08/bnp-votre-argent-les-interesse-1086965> (State: 22.11.2021).

SANTI, Pascale, Marylise Lebranchu minimise les fraudes aux cartes bancaires, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/2000/04/06/marylise-lebranchu-minimise-les-fraudes-aux-cartes-bancaires_3620822_1819218.html (State: 14.10.2021).

SCHALK, Marion, Lost in Tan, in: zeit, URL: <https://www.zeit.de/wirtschaft/2019-08/psd2-online-banking-eu-regeln-sicherheit> (State:14.10.2021).

SEITH, Anne & KRÖGER, Millionen Pannen-Kreditkarten, in: spiegel.de, URL: <https://www.spiegel.de/wirtschaft/soziales/millionen-pannen-kreditkarten-klebefilm-trick-hebelt-2010-fehler-aus-a-670433.html> (State:14.10.2021).

Unknown author, 200 000 cartes à mémoire, in: Le Monde.fr, URL:https://www.lemonde.fr/archives/article/1985/11/04/200-000-cartes-a-memoire_2753263_1819218.html (State: 22.11.2021).

SEITH, Anne, Nepper, Schlepper, Datenfänger, in: spiegel.de, URL: <https://www.spiegel.de/wirtschaft/service/kreditkartenbetrug-nepper-schlepper-datenfaenger-a-657804.html> (State:14.10.2021).

Unknown author, *A Grenoble un réseau de voleurs de cartes bancaires démantelé*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1989/10/24/a-grenoble-un-reseau-de-voleurs-de-cartes-bancaires-demantele_4126845_1819218.html (State:14.10.2021).

Unknown author, Adoptée par les Banques populaires, La Carte Bleue est rejetée par le Crédit Mutuel au profit d'Eurocard, in: Le Monde.fr, URL:[https://www.lemonde.fr/archives/article/1982/12/17/adoptee-par-les-banques-](https://www.lemonde.fr/archives/article/1982/12/17/adoptee-par-les-banques)

[populaires-la-carte-bleue-est-rejetee-par-le-credit-mutuel-au-profit-d-eurocard_2906412_1819218.html](https://www.computerbild.de/artikel/cb-News-Financen-Apple-Pay-Girocard-1822direct-30649613.html)(State: 03.08.2021).

Unknown author, Apple Pay: Auch bei dieser Bank jetzt mit der Girocard, in: computerbild, URL:<https://www.computerbild.de/artikel/cb-News-Financen-Apple-Pay-Girocard-1822direct-30649613.html> (State: 28.10.2021).

Unknown author, Après vingt-cinq ans d'existence la carte bleue change d'aspect, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1992/09/17/apres-vingt-cinq-ans-d-existence-la-carte-bleue-visa-change-d-aspect_3901203_1819218.html (State: 02.08.2021).

Unknown author, *Automation als Grundlage neuer wirtschaftlicher Entwicklungen*, in: *Wirtschaftsberichte N°28*, Bankverein Wien, Wien 1957, pp. 3-7.

Unknown author, *Axime prend le contrôle de Sligos et devient le <<poids lourd>> de l'informatique bancaire*, in: Lesechos.fr, URL: <https://www.lesechos.fr/1996/10/axime-prend-le-controle-de-sligos-et-devient-le-poids-lourd-de-linformatique-bancaire-843810> (State:15.02.2021).

Unknown author, Bargeldloses Bezahlen. Aus Cetrel wird Six, in: wort.lu, URL: <https://www.wort.lu/de/business/bargeldloses-bezahlen-aus-cetrel-wird-six-567be4f60da165c55dc500e0> (State:15.02.2021).

Unknown author, Billet d'argent plastique, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1990/03/22/b-i-l-l-e-t-l-argent-plastique_3959395_1819218.html (State:15.02.2021).

Unknown author, *Bitte entnehmen*, in: spiegel.de, URL: <https://www.spiegel.de/politik/bitte-entnehmen-a-a05a803c-0002-0001-0000-000013516233> (State:14.10.2021).

Unknown author, Cartes bancaires: dépassent pour la première fois les chèques, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/2002/04/21/cartes-bancaires-depassent-pour-la-premiere-fois-les-cheques_4238922_1819218.html (State: 02.08.2021).

Unknown author, Cartes bancaires: forte progression du nombre de détenteurs, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/2002/03/24/cartes-bancaires-forte-progression-du-nombre-de-detenteurs_4238584_1819218.html(State: 02.08.2021).

Unknown author, *Claude Pescatore gestorben*, in: lessentiel, URL: <http://www.lessentiel.lu/de/news/story/Claude-Pescatore-gestorben-15565151> (State:06.12.2021).

Unknown author, *Dans le dictionnaire de l'Académie française La Télécarte immortalisée*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1990/05/23/dans-le-dictionnaire-de-l-academie-francaise-la-telecarte-immortalisee_3992405_1819218.html (State: 13.12.2021).

Unknown author, *Datenskandal bei der LBB*, in: spiegel.de, URL: <https://www.spiegel.de/wirtschaft/datenskandal-bei-der-lbb-betraege-bis-zu-5000-euro-illegal-abgebucht-a-596393.html> (State:14.10.2021).

Unknown author, *Démantèlement du forum illégal In Fraud à suite d'une vaste opération mondiale*, in: Le Monde.fr, URL:https://www.lemonde.fr/pixels/article/2018/02/07/demantelement-du-forum-illegal-infraud-treize-arrestations-dont-une-en-france_5253424_4408996.html (State: 14.10.2021).

Unknown author, DIGEST, Eurocard-Präsenz, in: d'Lëtzebuerger Land, 25.10.1985, p. 27.

Unknown author, *Distributeur de billets: un fil contre le vol*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1990/02/21/distributeurs-de-billets-un-fil-contre-le-vol_3957117_1819218.html (State:15.02.2021).

Unknown author, *Disparition du „fer à repasser“La carte à puce obligatoire chez les commerçants*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1993/01/08/disparition-du-fer-a-repasser-la-carte-a-puce-obligatoire-chez-les-commerçants_3927312_1819218.html(State:14.10.2021).

Unknown author, Ei gelegt, in: spiegel.de, URL: <https://www.spiegel.de/wirtschaft/ei-gelegt-a-611c6fae-0002-0001-0000-000013517463> (State: 02.08.2021).

Unknown author, *En raison du développement de la carte à puce la fraude par carte bancaire a réculé*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1993/05/11/en-raison-du-developpement-de-la-carte-a-puce-la-fraude-par-carte-bancaire-a-recule-de-22-en-1992_3541852_1819218.html (State: 22.11.2021).

Unknown author, Einheitsgebühr fällt, in: manager-magazin, URL: <https://www.manager-magazin.de/finanzen/artikel/a-963314.html> (24.09.2021).

Unknown author, Einzelhandel macht Druck bei Kreditkarten, in: handelsblatt, URL: <https://www.handelsblatt.com/unternehmen/handel-konsumgueter/einzelhandel-kritisiert-zu-hohe-gebuehren-kartellamt-macht-druck-bei-kreditkartengebuehren/2602670-all.html> (24.09.2021).

Unknown author, Europe, Les banques vont reconnaître toutes les cartes de crédit, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1987/10/17/europe-les-banques-vont-reconnaitre-toutes-les-cartes-de-credit_4072771_1819218.html(State: 02.08.2021).

Unknown author, *Eurocard, Kreditkartenbetrug ist Alltag im Netz*, <https://www.spiegel.de/netzwelt/tech/eurocard-kreditkartenbetrug-ist-alltag-im-netz-a-83868.html> (State:14.10.2021).

Unknown author, *Eurochèque*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1969/05/02/eurocheque_2426328_1819218.html (State: 21.07.2021).

Unknown author, Eurocheck, in: d’Lëtzebuurger Land,13.06.1974, p. 3.

Unknown author, *Hacken statt knacken – Bankraub à la carte*, in: spiegel.de, URL: <https://www.spiegel.de/politik/hacken-statt-knacken-bankraub-a-la-carte-a-7dccc46-0002-0001-0000-000013520651> (State:14.10.2021).

Unknown author, Harter Streit um Karten-Provisionen, in: spiegel.de, URL: <http://www.spiegel.de/spiegel/print/d-13512075.html> (24.09.2021).

Unknown author, IBM acquerit la licence de la carte à puce française, in: Le Monde.fr, URL:

https://www.lemonde.fr/archives/article/1988/09/07/ibm-acquierte-la-licence-de-la-carte-a-puce-francaise_4089389_1819218.html (State: 13.12.2021).

Unknown author, *Internet favorise la banque directe en Europe*, in: Le Monde, URL: https://www.lemonde.fr/archives/article/1999/09/11/internet-favorise-la-banque-directe-en-europe_22167_1819218.html (State: 15.02.2021).

Unknown author, Karte in Gold, d'Lëtzebuenger Land, 05.06.1987, p. 11.

Unknown author, Kartenliebhaber, in: d'Lëtzebuenger Land, 04.09.1992, p. 9.

Unknown author, *Karstadt Quelle-Bank warnt Kunden vor Datenklau*, in: spiegel.de, URL: <https://www.spiegel.de/wirtschaft/unternehmen/kreditkarten-betrug-karstadtquelle-bank-warnt-kunden-vor-datenklau-a-656097.html>(State:14.10.2021).

Unknown author, Kreditinstitute einigen sich auf gemeinsames Plastikgeld, in: spiegel.de, URL: <https://www.spiegel.de/wirtschaft/kreditinstitute-einigen-sich-auf-gemeinsames-plastikgeld-a-02600577-0002-0001-0000-000013526539> (State: 02.08.2021).

Unknown author, Kreditkarten, Schlimmer als Drogen, in: spiegel.de, URL: <https://www.spiegel.de/politik/schlimmer-als-drogen-a-215aa9cb-0002-0001-0000-000040348589> (State: 23.09.2021).

Unknown author, *Kreditkartenbetrug hat stark zugenommen*, in: spiegel.de, URL: <https://www.spiegel.de/wirtschaft/kriminalitaet-kreditkartenbetrug-hat-stark-zugenommen-a-135319.html>(State:14.10.2021).

Unknown author, *La carte à mémoire française à l'assaut du Japon*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1985/09/21/la-carte-a-memoire-francaise-a-l-assaut-du-japon_2740879_1819218.html (State: 13.12.2021).

Unknown author, La concurrence des cartes et des chèques, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1988/02/23/la-concurrence-des-cartes-et-des-cheques_4069456_1819218.html (State:15.02.2021).

Unknown author, La guerre des cartes de credits et des chèques de voyage, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1978/12/19/la-guerre-des-cartes-de-credit-et-des-cheques-de-voyage_2985375_1819218.html (State: 21.07.2021).

Unknown author, *La protection par le cryptage*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1997/08/30/la-protection-par-le-cryptage_3773861_1819218.html (State: 14.10.2021).

Unknown author, Le Crédit Agricole souffre des restrictions monétaires, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1977/06/29/le-credit-agricole-souffre-des-restrictions-monetaires_2867936_1819218.html (State: 03.08.2021).

Unknown author, Le conseil de la concurrence valide les tarifs de la carte bancaire, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1990/11/04/le-conseil-de-la-concurrence-valide-les-tarifs-de-la-carte-bancaire_3986589_1819218.html (24.09.2021).

Unknown author, Les Allemands découvrent la carte de crédit, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1991/10/04/les-allemands-decouvrent-la-carte-de-credit-jusqu-a-present-ils-preferaient-payer-en-liquide-ou-par-cheque-la-carte-connaissait-aujourd-hui-outr-rhin-un-veritable-boom-mais-elle-est-d_4040228_1819218.html (State: 02.08.2021).

Unknown author, *Les banques françaises vont généraliser la carte à puce*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1990/04/08/les-banques-francaises-vont-generaliser-la-carte-a-puce_3956899_1819218.html (State: 13.12.2021).

Unknown author, Les Billets seront distribués automatiquement à la B.N.P, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1968/09/26/les-billets-seront-distribues-automatiquement-a-la-b-n-p_2481126_1819218.html (State:15.02.2021).

Unknown author, Les distributeurs automatiques de billets vont se multiplier, in Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1971/11/24/les-distributeurs-automatiques-de-billets-vont-se-multiplier_2449772_1819218.html (State:15.02.2021).

Unknown author, *Les distributeurs de billets sous surveillance vidéo*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1994/07/27/les-distributeurs-de-billets-sous-surveillance-video_3820358_1819218.html (State:14.10.2021).

Unknown author, *Lancement d'une carte bleue internationale*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1974/03/27/lancement-d-une-carte-bleue-internationale_2515344_1819218.html (State: 22.11.2021).

Unknown author, *Lancement d'une carte bleue internationale*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1974/03/27/lancement-d-une-carte-bleue-internationale_2515344_1819218.html (State: 21.07.2021).

Unknown author, *Main-basse sur le client*, in: d'Lëtzebuenger Land, Nr. 30, 28.07.1995, p. 7.

Unknown author, *Mort de Roland Moreno, inventeur de la carte à puce*, in: Le Monde.fr, URL: https://www.lemonde.fr/disparitions/article/2012/04/29/mort-de-roland-moreno-inventeur-de-la-carte-a-puce_1692889_3382.html (State: 13.12.2021).

Unknown author, *Müder Start für Bildschirmtext*, in: spiegel.de, URL: <https://www.spiegel.de/wirtschaft/mueder-start-fuer-bildschirmtext-a-c5184452-0002-0001-0000-000014323985> (State:14.10.2021).

Unknown author, *Neuer Service*, in: d'Lëtzebuenger Land, 22.12.1989, p. 23.

Unknown author, *Neue Zahlungsrichtlinie PSD2*, in: manager-magazin, URL: <https://www.manager-magazin.de/unternehmen/banken/psd2-zahlungsdienst-richtlinie-setzt-trend-zu-kostenfreier-online-zahlung-a-1188623.html>(State: 28.10.2021).

Unknown author, *Un dialogue difficile entre commerçants et banquiers*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1976/05/18/un-dialogue-difficile-entre-commercants-et-banquiers_2944294_1819218.html (24.09.2021).

Unknown author, *Un nouveau système de paiement pourra être utilisé dans quinze pays: l'eurochèque*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1968/10/22/un-nouveau-systeme-de-paiement-pourra-etre-utilise-dans-quinze-pays-l-eurocheque_2494786_1819218.html (State:21.07.2021).

Unknown author, *Un week-end noir devant les distributeurs de billets*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1993/06/29/un-week-end-noir-devant-les-distributeurs-de-billets-la-grande-panne-du-reseau-des-cartes-bancaires_3954943_1819218.html (State:14.10.2021).

Unknown author, Une enquête sur les particuliers et les moyens de paiement, Les banques européennes menacées, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1987/07/03/une-enquete-sur-les-particuliers-et-les-moyens-de-paiement-les-banques-europeennes-menacees_4044608_1819218.html(State: 02.08.2021).

Unknown author, *Une invention testée à Saint-Brieuc Parcmètres à puces*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1988/09/10/une-invention-testee-a-saint-brieuc-parcmètres-a-puces_4090817_1819218.html (State: 13.12.2021).

Unknown author, *Pirates*, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1995/10/31/pirates_3888058_1819218.html (State: 14.10.2021).

Unknown author, *Plus 88, Gelb 520, Rot 16*, in: spiegel.de, URL: <https://www.spiegel.de/politik/plus-88-gelb-520-rot-16-a-64b5dbdf-0002-0001-0000-000013497224> (State:14.10.2021).

Unknown author, Pompistes et banquiers recherchent un accord sur le règlement des factures de carburant, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1991/01/03/pompistes-et-banquiers-recherchent-un-accord-sur-le-reglement-des-factures-de-carburant_4017440_1819218.html (24.09.2021).

Unknown author, Quatre banques françaises adhèrent au réseau Eurocard-MasterCard, in: Le Monde.fr, URL: https://www.lemonde.fr/archives/article/1990/06/01/quatre-banques-francaises-adherent-au-reseau-eurocard-mastercard_3996338_1819218.html(State: 02.08.2021).

Unknown author, *Rechtes Fossil*, in: spiegel.de, URL: <https://www.spiegel.de/wirtschaft/rechtes-fossil-a-aca24dbe-0002-0001-0000-000040749010> (State:28.04.2021).

Unknown author, *Schöner Traum*, in: spiegel.de, URL: <http://www.spiegel.de/spiegel/print/d-13524643.html> (24.09.2021).

Unknown author, *Tankstellen, Alles im Minus*, in: spiegel.de, URL: <http://www.spiegel.de/spiegel/print/d-13498073.html> (24.09.2021).

Unknown author, *Zank an der Zapfsäule*, in: d'Lëtzebuerger Land, Nr. 45, 06.11.1992, p. 7.

VOLKERY, Carsten, *Zahlungsplattform, Zehn Millionen Händler, Chinesischer Zahlungsriese Alipay will in Europa wachsen*, in: handelsblatt, URL: <https://www.handelsblatt.com/finanzen/banken-versicherungen/banken/zahlungsplattform-zehn-millionen-haendler-chinesischer-zahlungsriese-alipay-will-in-europa-wachsen/25229992.html> (State: 28.10.2021).

WIESNER, Leonie, *Das sollten Sie über virtuelle Kreditkarten wissen*, in: focus, URL: https://www.focus.de/finanzen/banken/kreditkarten/virtuelle-kreditkarte-so-funktioniert-die-online-kreditkarte_id_8740597.html (State:14.10.2021).

Printed sources

BÜSCHGEN E., Hans, *Bankbetrieblehre, Bankgeschäfte und Bankmanagement*, Wiesbaden, Springer Fachmedien, Gabler, 1998.

GLOGOWSKI, Erhard & MUNCH, Manfred (ed.), *Neue Finanzdienstleistungen*, Wiesbaden, Gabler Verlag, 1990.

KONERT, Bertram, *Sozio-ökonomische Aspekte und Perspektiven des Electronic Banking in der Bundesrepublik Deutschland, Technische, ökonomische und soziale Determinanten und Wirkungen*, Köln, Verlag Hänsel-Hohenhausen, 1993.

MASTERCARD & VISA, *SET Secure electronic transaction specification, Book 1: Business Description, Version 1.0, May 31, 1997*.

PALYI, Melchior & QUITTNER, Paul, Weltkreditbriefe, in: *Handwörterbuch des Bankwesens*, Berlin, Springer-Verlag, 1933, p. 79.

PESCATORE, Claude, *30 ans de révolution bancaire: la monnaie électronique remplace la monnaie scripturale*, Notes Economiques et Financieres, Luxembourg, Credit Européen, 1985.

RUIF, Bruno, *Smart Cards as Carrier of Personal data, and Documents*, in: BRENNER, Walter & KOLBE, Lutz (ed.), *The information superhighway and private households case studies of business impacts*, Freiberg, Physica Verlag A Springer Verlag company, 1996, pp. 65-74.

SÜCHTING, Joachim & VAN HOOVEN, Eckart, *Handbuch des Bankmarketing*, Wiesbaden, Gabler, 1987.

WEISS, Ulrich, Gemeinsames Bankmarketing im Zahlungsverkehr mit der privaten Kundschaft, in: SÜCHTING, Joachim & VAN HOOVEN, Eckart, *Handbuch des Bankmarketing*, Wiesbaden, Gabler, 1987, pp. 335-351.

WEIß, Gerhard & GEORGIEFF, Peter (ed.), *Automation im Geldverkehr, Wirtschaftliche und soziale Auswirkungen*, Köln, Westdeutscher Verlag, 1999.

Born Digital sources (Internet Archive)

Webpage Banque de France, in: banque-france.fr, URL: <https://web.archive.org/web/19970331161718/http://www.banque-france.fr/banque/missions/2b.htm> archived on 31.03.1997 archived by Internet Archive, (State: 11.05.2022).

Webpage Banque de France, in: banque-france.fr, URL: <https://web.archive.org/web/19970331161718/http://www.banque-france.fr/banque/missions/2b.htm> archived on 31.03.1997 by Internet Archive, (State: 11.05.2022).

Webpage Banque Générale du Luxembourg, bgl.lu, URL: <http://web.archive.org/web/20010531154029/http://www5.bgl.lu/> archived on 19.04.1998 by Internet Archive, (State:31.05.2001).

Webpage Banque Générale du Luxembourg, bgl.lu, archived on 19.04.1998 by Internet Archive, URL: http://web.archive.org/web/19980419100410/http://www.bgl.lu/prod_ser/index.htm (State:15.02.2021).

Webpage Banque Générale du Luxembourg, bgl.lu, archived on 22.05.1998 by Internet Archive, URL: http://web.archive.org/web/19980419100553/http://www.bgl.lu/prod_ser/services/pribank/sitemap_17.html (State:15.02.2021).

Webpage Banque Générale du Luxembourg, bgl.lu, archived on 12.04.2010 by Internet Archive, URL: <https://web.archive.org/web/20100412185737/http://www.bgl.lu/fr/banque/homepage.htm> (State:15.02.2021).

Webpage Banque Générale du Luxembourg, bgl.lu, archived on 07.05.2012 by Internet Archive, URL: <https://web.archive.org/web/20120507132105/http://www.bgl.lu/fr/banque/pages/jeunes/etudiants-2.htm>, (State:15.02.2021).

Webpage Cetrel, www.cetrel.lu, archived on 06.06.2004 by Internet Archive, URL <https://web.archive.org/web/20040606130429/http://www.cetrel.lu/index2.html>(State:06.12.2021), (State:15.02.2021).

Webpage Deutsche Bank, group.deutsche-bank.de, URL: <http://web.archive.org/web/20180307072339/https://www.deutsche-bank.de/pk.html> archived on 07.03.2018 by Internet Archive, (State:15.02.2021).

Webpage Eurokartensysteme, www.eurokartensysteme.de, archived on 18.06.2002 by Internet Archive <https://web.archive.org/web/20020718223226/http://www.eurokartensysteme.de/> (State:06.12.2021).

Webpage Eurokartensysteme, www.eurokartensysteme.de, archived on 09.06.2002 by Internet Archive <https://web.archive.org/web/20020609095239/http://www.eurokartensysteme.de/ecommerce/sicherheit/safeneasy/> (State:06.12.2021).

Webpage Eurokartensysteme, www.eurokartensysteme.de, archived on 18.06.2002 by Internet Archive <https://web.archive.org/web/20070717194406/https://www.kartensicherheit.de/ww/de/pub/index.php> (State:06.12.2021).

Webpage Eurokartensysteme, www.eurokartensysteme.de, archived on 18.06.2002 by Internet Archive <https://web.archive.org/web/20210509172034/https://www.eurokartensysteme.de/sicherheitsmanagement/die-sicherheitskonferenz.html> (State:06.12.2021).

Webpage Eurokartensysteme, www.eurokartensysteme.de, archived on 09.05.2021 by Internet Archive <https://web.archive.org/web/20210509172034/https://www.eurokartensysteme.de/sicherheitsmanagement/die-sicherheitskonferenz.html> (State:06.12.2021).

Webpage *Groupement des Cartes Bancaires*, cartes-bancaires.com, archived on 18.02.1999 by Internet Archive, URL: <https://web.archive.org/web/19990218164513/http://www.cartes-bancaires.com/html/prat/index.html> (State: 22.11.2021).

Webpage *Groupement des Cartes Bancaires*, cartes-bancaires.com, archived on 06.02.2006 by Internet Archive, URL: <https://web.archive.org/web/20060206030322/http://www.cartes-bancaires.com/> (State: 22.11.2021).

Webpage Groupement des Cartes Bancaires, cartes-bancaires.com, archived on 26.08.2006 by Internet Archive, URL: <https://web.archive.org/web/20060826105012/http://www.cartes-bancaires.com/FR/info/communiqués/2005/com200405.pdf> (State: 22.11.2021).

Webpage Groupement des Cartes bancaires, cartes-bancaires.com, archived on 15.10.2012 by Internet Archive, URL: <https://web.archive.org/web/20121015232850/http://www.cartes-bancaires.com/spip.php?article96> (State: 22.11.2021).

Webpage Universität Mannheim, uni-mannheim.de, archived on 09.02.1999 by Internet Archive, URL: <https://web.archive.org/web/20160305083848/http://trumpf-3.rz.uni-mannheim.de/www/sem96s/webrum.uni-mannheim.de/bwl/zenner/seminar/set.htm> (State:14.10.2021).

Webpage Netbank, netbank.com, archived on 17.06.2003 by Internet Archive, URL: <https://web.archive.org/web/20030717200414/http://www.netbank.com/> (State:15.02.2021).

Webpage Société Générale, societegenerale.com, archived on 07.06.2000 by Internet Archive, URL:<https://web.archive.org/web/20000620222343/http://logitelnet.socgen.com:80/ia01.html> ,(State:15.02.2021).

Webpage Société Générale, societegenerale.com, archived on 08.02.2001 by Internet Archive, URL: https://web.archive.org/web/20010208120552/http://sogenactif.com/faq_frame.htm (State:15.02.2021).

Webpage Société Générale, societegenerale.com, archived on 24.01.2001 by Internet Archive, URL: <https://web.archive.org/web/20010424140622/http://www.societegenerale.fr/> (State:15.02.2021).

Webpage Société Générale, societegenerale.com, archived on 07.04.2001 by Internet Archive, URL: https://web.archive.org/web/20010407205244/http://www.professionnels.societegenerale.fr/html/fr/pro/agr/agr_f.htm , (State:15.02.2021).

Webpage Société Générale, societegenerale.com, archived on 09.01.2009 by Internet Archive, URL: <https://web.archive.org/web/20090109091903/https://www.societegenerale.fr/> (State:15.02.2021).

Webpage Société Générale, societegenerale.com, archived on 18.01.2019 by Internet Archive, URL: <https://web.archive.org/web/20190118083300/https://particuliers.societegenerale.fr/> (State:15.02.2021).

Webpage Société Générale, societegenerale.com, archived on 10.07.2019 by Internet Archive, URL: <https://web.archive.org/web/20190710131035/https://particuliers.societegenerale.fr/> (State:15.02.2021).

Webpage Wayback Machine, *Stats Société Générale*, in: web.archive.org, URL: <http://web.archive.org/details/http://societegenerale.fr/> (State:14.03.2021).

Bibliography

Literature

ALT, Rainer & Thomas, Puschmann, *Digitalisierung der Finanzindustrie, Grundlagen der Fintech Evolution*, Berlin, Springer-Verlag, 2016.

ARNDT, M. Matthias, *Das Interbankenverhältnis im Überweisungsrecht, Vom Weiterleitungsmodell zum SEPA Credit Transfer*, Bank- und Kapitalrecht 10, Transfer scheme rulebook, Göttingen, V&R unipress, 2012.

BRANDL, Barbara, *Ist Blockchain das Ende der Banken, Zur Bedeutung von Schulden und Banken in kapitalistischen Ökonomien?*, in: *Kölner Zeitschrift für Soziologie und Sozialpsychologie* 72, 2020, pp. 543-565.

BÁTIZ-LAZO, Bernardo, *Cash and Dash. How ATM's and computers changed banking*, Oxford, Oxford University Press, 2018.

BÁTIZ-LAZO, Bernardo & EFTHYMIIOU, Leonidas (ed.), *The book of payments, Historical and Contemporary Views on the cashless Society*, London, Palgrave Macmillan, 2016.

BÁTIZ-LAZO, Bernardo, *Emergence and Evolution of ATM Networks in the UK, 1967-2000*, 2010, published online as open access document, <https://doi.org/10.1080/00076790802602164>.

BÁTIZ-LAZO, Bernardo & MAIXE-ALTES, J. Carles & THOMES, Paul (ed.), *Technological Innovation in retail Finance*, New York, International Historical Perspectives, 2011.

BÁTIZ-LAZO, Bernardo & DEL ANGEL, Gustavo Adolfo, *The Ascent of Plastic Money: International Adoption of the Bank Credit Card, 1950-1975*, in: *Business History Review* 92/3, 2018, pp. 509-533.

BEAUCHAMP, Ken, *History of Telegraphy*, History of Technologie Series 26, London, The Institution of engineering and Technology, 2001.

BLUEMER, Gerrit, *Electronic Wallet*, in: TILBORG, Henk, *Encyclopaedia of Cryptography and Security*, Springer, Boston, MA, https://doi.org/10.1007/0-387-23483-7_127 (State: 28.10.2021).

BORCHARDT, Hans-Jürgen, *Dezentrales Marketing und Crowdsourcing*, Warum und wie sich das Marketing neu erfinden muss, Erlangen, Publicis, 2012.

BOOZ, Sophie, *Die Entwicklung der Geldautomaten unter dem Fokus der sinnlichen Interaktion*, in: SCHÖNRICH, Hagen, *Tagungsbericht der Veranstaltung: Die Sinnlichkeit der*

Technick, in: hsozkult, URL: <http://hsozkult.geschichte.hu-berlin.de/index.asp?id=4917&view=pdf&pn=tagungsberichte&type=tagungsberichte> (State: 15.02.2021).

BONHAGE, Barbara, Eurocheque, Creating a 'common Currency' European Infrastructure for the cashless Mass Payments Systems, in: *Materializing Europe*, BADENOCH, Alexander & FICKERS, Andreas, *Transnational Infrastructures and the Project of Europe*, Hampshire, Palgrave Macmillan, 2010, pp.182-197.

BOUYALA, Régis, *Les paiements à l'heure de l'Europe et de l'e- et m-paiement*, e-book, Paris, RB Éditions, 2013.

BÖHMER, Thomas, *Der Einsatz von Kreditkarten zur Abrechnung von Leistungen aus dem Internet*, e-book, Diplomica Verlag, 2004.

BÖSCH, Frank, *Wege in die digitale Gesellschaft: Computernutzung in der Bundesrepublik 1955-1990*, Göttingen, Wallstein, 2018.

BRÜGGER, Niels & MILIGAN, IAN (ed.), *The SAGE handbook of web history*, London, SAGE Publications Ltd, 2019.

BURDEK, Bernhard E., *Apple Macintosh, Design Classics S.*, Michigan, Verlag form, 1997.

COHEN, Lizbeth, *A consumers' republic. The politics of mass consumption in post-war America*, New York, First Vintage Books Edition, 2003.

DANNENBERG, Marius, *E-Payment und E-Billing, Elektronische Bezahlssysteme für Mobilfunk und Internet*, Wiesbaden, Gabler Verlag, 2004.

EWALD, Judt & WALDOCK, Jeffrey (ed.), *Plastic Money Terminology*, Frankfurt, Fritz Knapp Verlag, 1998.

EFFOSSE, Sabine, *El cheque en Francia: el lento ascenso de un medio de pago de masas (1918-1975)*, in: MAIXE-ALTES, Joan Carles & DEL ANGEL, Guillermo & BÁTIZ-LAZO, Bernardo, *Retail payments in historical perspective*, in: *Revista de la Historia de la Economía y de la Empresa*, XI, 2017, pp. 77-94.

EFFOSSE, Sabine, *Le crédit à la consommation en France, 1947-1965: De la Stigmatisation à la réglementation*, Neuauflage [Online]. Paris: Institut de la gestion publique et du développement économique, 2014, (Erstellungsdatum: 31 mai 2022). DOI: <https://doi.org/10.4000/books.igpde.3150>.

EFFOSSE, Sabine & GAILLARD, Isabelle, *l'Europe et le crédit à la consommation*, in: *Entreprises et histoire* (n° 59), *Consommer à crédit en Europe au XXe siècle*, 2010, pp. 5-11.

ELSALAMONY, Hany A., *Bank Direct Marketing Analysis of Data Mining Technique*, in: *International Journal of Computer Applications* (0975-8887), Volume 85-No 7, Math Dept, Faculty of Science, Helwan University Cairo, Egypt, January 2014.

ENGELBERT, Frank, *Electronic Business Strategien im Bankensektor*, e-book, Diplomica Verlag, 2000.

ENSMENGER, Nathan, *Power to the people: toward a social history of computing*, in: *IEEE Annals of the History of Computing* 26:1, 2004, pp. 95-96.

EVANS S., David & SCHMALENSEE, Richard, *Paying with Plastic, The Digital Revolution in buying and borrowing*, Cambridge MA, The MIT Press, 2005.

FLICHY, Patrice, *L'innovation technique. Récents développements en sciences sociales. Vers une nouvelle théorie de l'innovation*, Paris, La Découverte, 2003.

FRANZ, Norbert, *Der Finanzplatz Luxemburg als Ergebnis wirtschaftlichen Bedarfs, politischen Willens und europäischer Integration*, in: Christoph Maria Merki Ed., *Europas Finanzzentren, Geschichte und Bedeutung im 20 Jahrhundert*, Frankfurt am Main, Campus Verlag, 2005, pp. 149-166.

FRYMAN, Lowell, LAMPSHIRE, Gregory, MEERS, Dan, *Proven methods for governed data and analytic quality*, in: Morgan Kaufmann, *The Data and Analytics Playbook*, Cambridge, Elsevier, 2017, p. 9.

GALL, Lothar, *Der Bankier Hermann Josef Abs: Eine Biografie*, München, C.H. Beck Verlag, 2004.

GARELLO, PIERRE, *Understanding Multilateral Interchange Fees (MIF), and why it would be a mistake to regulate them*, in: research gate, URL: https://www.researchgate.net/publication/272301683_Understanding_Multilateral_Interchange_Fees_MIF_and_Why_it_Would_Be_a_Mistake_to_Regulate_Them (State: 23.09.2021).

GIEßMANN, Sebastian, *Ein weiteres gemeinsames Medium zur Banken-Kooperation, Der Fall der Eurocard*, in: *Materialität der Kooperation*, hg. v. Sebastian Gießmann, Tobias Röhl und Ronja Trischler, Wiesbaden, Springer VS, 2019, pp. 169-198.

GIEßMANN, Sebastian, *Money, Credit, and Digital Payment 1971/2014: From the Credit Card to Apple Pay*, in: *Administration and Society* 50/9, pp. 1259-1279.

GILCHER-HOLTEY, Ingrid, *Die 68er Bewegung*, München, C.H. Beck Verlag, 2001.

HADDING, Walther & J. HOPT, Klaus & SCHMANSKY, Herbert (ed.), *Kartengesteuerter Zahlungsverkehr Außergerichtliche Streitschlichtung, Bankrechtstag 1998*, Berlin, De Gruyter, 1999.

HOCHBERGER, Bernd, *Financial Planning: Eine Finanzdienstleistung für private Haushalte des Retail-Segmentes*, Wiesbaden, Deutscher Universitäts-Verlag, 2003.

GRISSET, Pascal & BENJAMIN, Thierry, *Histoire de la modélisation des réseaux techniques*, in: *Flux*, vol. 85-86, no. 3, 2011, pp. 4-7.

GÜL ERDOGAN, Julia, *Avantgarde der Computernutzung: Hackerkulturen der Bundesrepublik und DDR*, Göttingen, Wallstein Verlag, 2021.

HANSMANN, Uwe & NICKLOUS, Martin & SCHÄCK, Thomas, & SCHNEIDER, Achim & SELIGER, Frank, *Smart Card Application Development Using Java*, Berlin, Heidelberg, Springer-Verlag, 2002.

HAYASHI, Fumiko & MANIFF, Jesse Leigh, *Public Authority Involvement in payment Card Markets*, in: kansascityfed, URL: https://www.kansascityfed.org/documents/6660/PublicAuthorityInvolvementPaymentCardMarkets_VariousCountries_August2020Update.pdf (24.09.2021).

HEERMANN, W. Peter, *Geld und Geldgeschäfte*, Tübingen, J.C.B. Mohr, 2003.

HILGERT, Romain, *Zeitungen in Luxemburg, 1704-2004* in: luxembourg.public URL: <http://luxembourg.public.lu/de/publications/e/journaux-luxembourg/journaux-luxembourg-2004-DE.pdf> (State: 14.11.2020).

HOWARTH, David, *The Commission Defends the European Consumer*, in: *Journal of Common Market Studies*, 46 (s1), 2008, pp. 91-107.

HOWARTH, David, ASIMAKOPOULOS, Ioannis, *‘Stillborn Banking Union: Explaining Ineffective European Union Bank Resolution Rules’*, in: *Journal of Common Market Studies*, 2022, pp. 264-282.

HUCH, Stefan, *Die Transformation des europäischen Kartengeschäfts, Auswirkungen der Liberalisierung und Harmonisierung des EU-Zahlungsverkehrs*, Berlin, Springer Gabler, 2013.

HUSZ, Orsi, *Bank Identity: Banks, ID Cards, and the Emergence of a Financial Identification Society in Sweden*, in: cambridge, URL: https://www.cambridge.org/core/services/aop-cambridge-core/content/view/0D5AF7AE7F3D989ECF542DB5A461C278/S146722271700043Xa.pdf/bank_identity_banks_id_cards_and_the_emergence_of_a_financial_identification_society_in_sweden.pdf (State: 16.06.2020).

HYMAN, Louis, *Debtor Nation. The History of America in Red Ink*, Princeton, Princeton University Press, 2012.

IRIYE, Akira, *Die Entstehung einer transnationalen Welt*, in: IRIYE, Akira & OSTERHAMMEL, Jürgen (ed.), *Geschichte der Welt 1945 bis heute: die globalisierte Welt*, München, C.H.Beck, 2013, pp. 672-796.

JANSSEN, Dominic, *Die Zahlungsdienstrichtlinie (PSD I) und ihre aufsichtsrechtliche Umsetzung im vereinigten Königreich und Deutschland, Untersuchungen über das Spar-, Giro- und Kreditwesen / B, Abteilung B, Rechtswissenschaft, Band 206*, Berlin, Duncker & Humblot, 2017.

KECK, Markus & HAHN, Marco, *Wesen und Besonderheit des Retail Banking*, in: *Integration der Vertriebswege*, Wiesbaden, Gabler Verlag, 2006, pp. 23-27.

KNAKE, Sebastian, Die Geschichte des Konsumentenkredits in internationaler Perspektive, in: LOGEMANN, Jan (ed.), *Konsum im 19. und 20. Jahrhundert*, Handbücher zur Wirtschaftsgeschichte, Oldenbourg Berlin Boston, De Gruyter, 2021. pp. 391-433.

KOCH, Peter, *Versicherungswörterbuch*, Wiesbaden, Gabler, 2013.

KRAUSS, Clemens, *Geldpolitik im Umbruch, Die Zentralbanken Frankreichs und der Bundesrepublik Deutschland in den 1970er Jahren*, Oldenbourg, De Gruyter, 2021.

KRUMNOV, Jürgen & GRAMLICH, Ludwig (ed.), Europay International SA, in: *Gabler Bank Lexikon*, Wiesbaden, Gabler, 2000, p. 486.

LACOURSIERE, Marc, Monnaie électronique, Droit Analyse de la trajectoire historique de la monnaie électronique, in: *Les cahiers de droit*, Vol.48, no 3, Québec, Services documentaires Multimedia, 2004, pp. 373-448.

LANGER, Josef & ROLAND, Michael, *Anwendungen und Technik von Near Field Communication (NFC)*, Heidelberg, Springer, 2010.

LIPPE, Gerhard & ESEMANN, Jörn & TÄNZER, Thomas (ed.), *Das Wissen für Bankkaufleute*, Wiesbaden, Gabler, 2001.

LOGEMANN, Jan (ed.), *Konsum im 19. und 20. Jahrhundert*, Handbücher zur Wirtschaftsgeschichte, Oldenbourg Berlin Boston, De Gruyter, 2021.

LOOSVELT, Derek, *Vault Guide to the top financial services employers*, New York, Vault Inc, 2006.

LYNN, Theo & G. MOONEY, John & ROSATI, Pierangelo & CUMMINS, Mark (ed.), *Disrupting Finance, Fintechs and Strategy in the 21st Century*, Palgrave Studies in Digital Business & Enabling Technologies, Malibu, Palgrave Macmillan, 2019.

MAIXE-ALTES, Joan Carles, ICT the Nordic Way and European Retail Banking, in: Gram C., Rasmussen P., Østergaard S., History of Nordic Computing, in: *Information and Communication Technology*, vol 447. Cham, Springer https://doi.org/10.1007/978-3-319-17145-6_27.

MAIXE-ALTES, J. Carles, *Retail trade and payment innovations in the digital era. A cross-industry and multi-country approach*, *Business History*, DOI: 10.1080/00076791.2018.1471062.

MAJERUS, Benoît, *This is not a scandal in Luxembourg*, in: *Entreprises et histoire*, 101, 2020, pp. 75-87, <https://doi.org/10.3917/eh.101.0075>.

MAJERUS, Benoît & ZENNER, Benjamin *Too small to be of interest, too large to grasp? Histories of the Luxembourg financial centre*, in: *European Review of History: Revue européenne d'histoire*, 2020. DOI: 10.1080/13507486.2020.1751587.

MARINKOVIC, Veljko & OBRADOVIC, Vladimir, *Customers' emotional reactions in the banking industry*, in: *International Journal of bank Marketing*, Vol. 33, No 3, 2015, pp. 243-260.

MAURER, Bill & SCHWARTZ, Lana, *Paid. Tales of Dongles, Checks, and Other Money Stuff*, London, Cambridge MA, The MIT Press, 2017.

MAYES, KEITH & MARKANTONAKIS, Konstantinos (ed.), *Smart Cards, Tokens, Security and Applications*, Cham, Springer International Publishing, 2018.

MICHAUD, André, Contribution à l'histoire de la Société TRANSAC. 1970-1982, in *7e Colloque sur l'histoire de l'informatique et des télécommunications*, edited by Jacques André and Pierre Mounier-Kuhn, 24-37. Rennes-Cesson, INRIA / Université de Rennes, 2004.

MUSIANI, Francesca, PALOQUE-BERGÈS, Camille, SCHAFER, Valérie, THIERRY, G, Benjamin, *Qu'est-ce qu'une archive du Web?*, Marseille, in: *OpenEdition Press*, 2019, <https://books.openedition.org/oep/8713>.

O'REGAN, Gerard, *Giants of Computing A Compendium of Select, pivotal pioneers*, Heidelberg, Springer, 2013.

PAULY, Michel, *Geschichte Luxemburgs*, München, C.H. Beck, 2011.

RAAB, Gerhard, Kartengestützte Zahlungssystem und Konsumentenverhalten, Eine theoretische und empirische Untersuchung, in: *Beiträge zur Verhaltensforschung*, Heft 34, Berlin, Duncker & Humblot, 1996.

RAUBER, Andreas & LIEGMANN, HANS: *Web-Archivierung zur Langzeitarchivierung von Internet-Dokumenten*, in: *nestorhandbuch*, URL: http://nestor.sub.uni-goettingen.de/handbuch/artikel/nestor_handbuch_artikel_293.pdf (State: 14.11.2020).

REINHART, G. & ZÄH, M.F. (ed.), *Marktchance Individualisierung*, Berlin, Springer Verlag, 2003.

RITZER, George, *Expressing America: A Critique of the Global Credit Card Society*, in: scholarworks.umass, URL: https://scholarworks.umass.edu/cgi/viewcontent.cgi?article=1001&context=resec_faculty_publications (State: 25.03.2019).

SANTER, Jacques, *Vom Agrar- und Industriestaat zum Finanz- und Medienmekka. Das Luxemburger Modell als Paradigma für Innovation durch Integration*, in: KIRT, Romain & MEISCH, Adrien (ed.), *Innovation-Integration. Festschrift für Pierre Werner. Mélanges pour Pierre Werner*, Luxembourg, Editions St. Paul, 1993, pp. 19-31.

SCHAFFER, Valérie & THIERRY, G. Benjamin, *Le Minitel, l'enfance numérique de la France*, Paris, Nuvis, 2012.

SCHMALENBACH, Philipp, *Die Digitalisierung des Zahlwesens*, Berlin, De Gruyter, 2019.

SCHMITT, Martin, *Der Wert des Kunden, Computerisierung in bundesdeutschen Sparkassen am Beispiel der Privatkreditvergabe*, in: Bösch, Frank; Sabrow, Martin, *ZeitRäume*, Göttingen, Potsdamer Almanach des Zentrums für Zeithistorische Forschung, 2017, pp. 119-134.

SCHMITT, Martin, *Die Digitalisierung der Kreditwirtschaft, Computereinsatz in den Sparkassen der Bundesrepublik und der DDR 1957-1991*, Reihe: Medien und Gesellschaftswandel im 20. Jahrhundert, Bd. 15, Göttingen, Wallstein, 2021.

SCHWARZ, Friedhelm, *Die Deutsche Bank, Riese auf tönernen Füßen*, Frankfurt, CAMPUS, 2003.

SMART PAYMENT ASSOCIATION, *The Instant Payment Card: Initiating a SEPA Credit Transfer at the Point of Sale*, SPA Paper, April 2020.

STEARNS L., David, *Electronic Value Exchange, Origins of the VISA Electronic Payment System*, New York, Springer, 2011.

STERNAL, Martin, *Mergers and acquisitions by digital technology giants, three perspectives on value creation*, Betriebswirtschaftlehre 10, Baden-Baden, Nomos, 2020.

STROBORN, Karsten, *Sicherheit elektronischer Bezahlssysteme in Deutschland unter spezieller Berücksichtigung bankaufsichtlicher Besonderheiten*, Dissertation, Karlsruhe, Universität Fridericiana, 2004.

SWARTZ, Lana, *Gendered Transactions. Identity Payment at Midcentury*, in: *Women's Studies Quarterly* 41, 1-2, 2014.

SÖBBING, Thomas, *Fundamentale Rechtsfragen des Digitalen Bankings*, Frankfurt, Fachmedien Recht und Wirtschaft, 2021.

THIVEAUD, Jean-Marie, *Les évolutions du système bancaire français de l'entre-deux-guerres à nos jours: Spécialisation, déspecialisation, concentration, concurrence*, in: *Revue d'économie financière*, 39, 1997, pp. 27-74.

TJADEN, Gregor, *Erfolgsfaktoren Virtueller Unternehmen, Eine theoretische und empirische Untersuchung*, edited by Roland Berger Strategy Consultants, Wiesbaden, DUV Gabler Edition Wissenschaft, 2003.

TONNENMACHER, Jan, *Kommunikationspolitik in Deutschland*, Konstanz, UVK Verlagsgesellschaft GmbH, 2003.

TRAUSCH, Gilbert, *Luxemburg als Dritter zwischen Deutschland und Frankreich*, in: BAECHLER, Christian & Müller, Klaus-Jürgen (ed.), *Les tiers dans les relations franco-allemandes, Dritte in den deutsch-französischen Beziehungen*, München, Oldenbourg Verlag, 1996, pp. 105-119.

VON HIPPEL, Eric, *Free innovation*, Cambridge MA, The MIT Press, 2017.

WANDHÖFER, Ruth, *EU Payments Integration, The tale of SEPA, PSD and other milestones along the road*, New York, Palgrave Macmillan, 2010.

WEHENKEL, Antoine, *Chronique de la famille Pescatore, Une Histoire Généalogique et Culturelle*, Luxembourg, Association Luxembourgeoise de Généalogie et d'Héraldique, a.s.b.l., 2002.

WILLIAMS, Bob, *Intelligent transport systems standards*, London, Artech House, 2008.

WINTERS, Jane, Digital History, in: TAMM, Marek & BURKE, Peter (ed.): *Debating new approaches to history*, London, Bloomsbury Publishing Pic, 2019, pp. 277-294.

WRIGHT, Julian, *Pricing in debit and credit card schemes*, in: *Economic Letters*, Volume 80, Issue 3, September 2003, pp. 305-309.

WÖHE, Günther, *Einführung in die allgemeine Betriebswirtschaftslehre*, 25. Überarbeitete und erweiterte Auflage, München, Vahlen, 2013.

Literature and articles published by financial institutions

BANQUE DE FRANCE, *Histoire, Organisation, Rôle*, Paris, 1997.

BNP Paribas, Dossiers, La carte Bleue, une success story française, in: bnpparibas.fr, URL:<https://histoire.bnpparibas/dossier/la-carte-bleue-une-success-story-francaise/> (State:15.02.2021).

BNP PARIBAS, *La BNP diffuse sa campagne publicitaire "Votre argent m'intéresse"*, in: histoire.bnpparibas, URL:<https://histoire.bnpparibas/images/la-bnp-diffuse-sa-campagne-publicitaire-votre-argent-minteresse-dans-le-metro-parisien/> (State: 22.11.2021).

BONIN, Hubert, *Banque et identité commerciale, La Société générale, 1864-2014*, Presses universitaires du Septentrion, Paris, 2014.

Deutsche Bank, Der Papst des Eurocheques war Einer von uns, in: db.com, URL:https://www.db.com/newsroom_news/2019/der-papst-des-eurocheques-war-einer-von-uns-de-11479.htm (State:15.02.2021).

Ed., GASTON-BRETON, Tristan & KAPFERER, Patricia, *Carte Bleue la petite carte qui change la vie*, Paris, Cherche Midi, 2004.

FROST, Reinhard, *Wünsche werden Wirklichkeit. Die Deutsche Bank und ihr Privatkundengeschäft*, Piper, München, Zürich, 2009.

TRAUSCH, Gilbert, Belgique-Luxembourg, *Les relations belgo-luxembourgeoises et la Banque Générale du Luxembourg 1919-1994*, Banque Générale du Luxembourg, Luxembourg, 1995.

MASTERCARD, Markengeschichte, in: brand.mastercard, URL: <https://brand.mastercard.com/brandcenter-de/more-about-our-brands/brand-history.html> (State: 02.08.2021).

MOUNIER-KUHN, Pierre, *50 ans d'informatique chez BNP Paribas*, BNP Paribas, 2013.

SPARDA BANK HAMBURG eG, *110 Jahre Sparda Bank Hamburg, Von der Eisenbahn auf die Daten Autobahn, Hamburg*, 2013.

Unknown author, *La carte à puce, l'invention française qui a révolutionné les paiements (2/2), L'Adoption*, in: histoire.bnpparibas, URL: <https://histoire.bnpparibas/la-carte-a-puce-linvention-francaise-qui-a-revolutionne-les-paiements-22-ladoption/> (State: 11.02.2020).

VISA, *Visa and the Olympic Games, 30 years of history together*, in: vis.no, URL: <https://www.visa.no/dam/VCOM/global/visa-everywhere/documents/visa-and-the-olympic-games-timeline.pdf> (State:28.04.2021).

WEHBER, Thorsten, *Happy Birthday, Geldautomat 1968 bis heute. Ein geschichtlicher Rückblick*, in: *Sonderbeilage der Zeitschrift Sparkasse*, Nr.31, Ed. ZERRAHN, Signe, Stuttgart, Deutscher Sparkassen- und Giroverband e.V., 2008, pp. 6-9.

Online resources and articles

ALT, RAINER, *Bitcoin*, in: gabler-bankenlexikon, URL: <https://www.gabler-banklexikon.de/definition/bitcoin-99843> (State:14.10.2021).

Bafin, Unternehmensgründer und Fintechs, in: bafin, URL: https://www.bafin.de/DE/Aufsicht/FinTech/fintech_node.html (State: 19.01.2021).

Banken Verband, Das müssen Sie zu Kredit- und Debitkarten wissen!, in bankenverband.de, URL:<https://bankenverband.de/blog/kredit-debitkarten-weltweit-im-einsatz/> (State:15.02.2021).

BANQUE DE FRANCE, *Fraude à la carte bancaire, par usurpation de l'identité*, in: banque-france, URL: <https://www.banque-france.fr/fraude-la-carte-bancaire-par-usurpation-de-lidentite-banque-de-france> (State:14.10.2021).

BANQUE CENTRALE DU LUXEMBOURG, Retail Payments, in: bcl, URL: https://www.bcl.lu/en/payment-systems/systemes_paiement/paiement_masse/paiements_de_masse/index.html (State:11.05.22).

Banque de Luxembourg, *Mehr Sicherheit für Ihre Online-Zahlungen mit „3D-Secure*, in: banquedeluxembourg, URL:<https://www.banquedeluxembourg.com/de/bank/bl/blog/-/blogpost/mehr-sicherheit-f-c3-bcr-ihre-online-zahlungen-mit-e2-80-9e3d-c2-a0secure-#page-01> (State:14.10.2021).

Banque Générale du Luxembourg BNP Paribas, Apple Pay advertisement posted on the 02.09.2019 on their Facebook Channel BGL BNP PARIBAS, URL: https://m.facebook.com/watch/?v=480632135824100&_rdr (State:14.10.2021).

Bibliothèque Nationale du Luxembourg, *About us*, in: eluxemburgensia, URL: <https://eluxemburgensia.lu/en> (State: 14.11.2020).

Banques Populaire, *Découvrez Apple Pay*, in: banquepopulaire, URL: <https://www.banquepopulaire.fr/conseils/apple-pay/> (State:14.10.2021).

BUNDESMINISTERIUM FÜR UMWELT, NATURSCHUTZ; UND NUKLEARE SICHERHEIT, Europa-2020-Strategie, in: bmu, URL: <https://www.bmu.de/themen/europa-internationales/europa/europa-2020-strategie> (State: 28.10.2021).

BUNDESZENTRALE FÜR POLITISCHE BILDUNG, *Binnenmarkt*, in: bpb, URL: <https://www.bpb.de/nachschlagen/lexika/das-europalexikon/176716/binnenmarkt> (State: 28.10.2021).

BUREAU EUROPEEN DES UNIONS DE CONSOMMATEUR, Multilateral interchange fees, in: beuc, URL: https://www.beuc.eu/publications/beuc-x-2013-025_multilateral_interchange_fees_factsheet.pdf (24.09.2021).

Luxembourg Centre for Contemporary and Digital History, *Letterbox – Briefkastenfirmen sichtbar machen, Digitale Geschichte als Werkzeug zur Enthüllung globaler Netzwerke und lokaler Infrastrukturen*, in: c2dh.uni.lu, URL: <https://www.c2dh.uni.lu/de/projects/letterbox-briefkastenfirmen-sichtbar-machen-digitale-geschichte-als-werkzeug-zur> (State: 07.06.2021).

DENNIS, Michael Aaron, *Cybercrime*, in: britannica, URL: <https://www.britannica.com/topic/cybercrime/ATM-fraud> (State:14.10.21).

DEUTSCHE BUNDESBANK, *Kartenzahlungen (Sepa for Cards)*, in: bundesbank, URL: <https://www.bundesbank.de/de/aufgaben/unbarer-zahlungsverkehr/serviceangebot/sepa/inhalte/kartenzahlungen-sepa-for-cards--603058> (State: 28.10.2021).

DIE DEUTSCHE KREDITWIRTSCHAFT, *European payment council*, in: die-dk, URL:<https://die-dk.de/zahlungsverkehr/sepa/organisation/european-payments-council-epc/> (State: 28.10.2021).

EHI RETAIL INSTITUTES, *Online Payment 2019, Zahlungsarten im E-Commerce, Strategien, Herausforderungen und Perspektiven*, in: ehi-shop, URL: https://www.ehi-shop.de/image/data/PDF_Leseproben/EHI-Studie_OnlinePayment_2019_Leseprobe.pdf (State:14.10.2021).

EUROKARTENSYSTEME & DEUTSCHE KREDITWIRTSCHAFT, *Card-not-present-Fraud*, in: kartensicherheit, URL: <https://www.kartensicherheit.de/oeffentlich/newsletter/alle-artikel/artikel-2018/kartensicherheit-de-erklaert-card-not-present-fraud.html> (State:14.10.21).

EUROPÄISCHE KOMMISSION, *Kommission akzeptiert Verpflichtungen von MasterCard und Visa zur Senkung der Interbankenentgelt*, in: ec.europa, URL: https://ec.europa.eu/germany/news/20190429-mastercard-und-visa_de (24.09.2021).

EUROPEAN PAYMENTS COUNCIL, The EPC and the SEPA process, in: European payment council, URL: <https://www.europeanpaymentscouncil.eu/about-us/epc-and-sepa-process> (State: 02.08.2021).

EUROPEAN COMMISSION, Antitrust: Commission makes Visa Europe's commitments binding, in: ec.europa, URL: https://ec.europa.eu/commission/presscorner/detail/en/MEMO_14_138 (State: 23.09.2021).

EUROPEAN COMMISSION, Antitrust, Commission prohibits MasterCard's intra-EEA Multilateral Interchange Fees, in: ec.europa.eu, URL: https://ec.europa.eu/commission/presscorner/detail/en/IP_07_1959 (24.09.2021).

EUROPEAN COMMISSION, Antitrust: Commission fines MasterCard 570 million Euro for obstructing merchants' access to cross-border card payment services, in: ec.europa, URL: https://ec.europa.eu/commission/presscorner/detail/en/IP_19_582 (24.09.2021).

FEDERATION INTERNATIONALE DE FOOTBALL ASSOCIATION, *MasterCard – Official Partner of the 2006 FIFA World Cup™*, in: fifa.com, URL: <https://www.fifa.com/who-we-are/news/mastercard-official-partner-the-2006-fifa-world-cuptm-86799> (State:28.04.2021).

FRATI, Camille, “*L’histoire de la place n’est pas seulement économique*”, in: paperjam, URL: <https://paperjam.lu/article/questions-lhistoire-de-la-place-nest-pas-seulement-economique?fbclid=IwAR3whOFBxdbkoeir6sIrMn3es86HYkZYEHZ8XkiznSwu7VwIlgNplLTyhWM> (State: 22.02.2021).

GESCHREY, Erhard, *Euro Kartensysteme GmbH*, in: gabler-banklexikon, URL: <https://www.gabler-banklexikon.de/definition/euro-kartensysteme-gmbh-57661> (State:06.12.2021).

GYR, Ueli, The history of tourism: *Structures on the path to modernity*, in: ieg-ego, URL: http://ieg-ego.eu/de/threads/europa-unterwegs/tourismus/ueli-gyr-geschichte-des-tourismus#section_5 (State:21.07.2021).

GÜNTHER, Edeltraud, *öffentliche Exponiertheit*, in: gabler-banklexikon, URL: <https://wirtschaftslexikon.gabler.de/definition/oeffentliche-exponiertheit-52427> (State: 22.11.2021).

HASENTEUFEL, Jessica, Preis- und Konditionenpolitik, in: gabler-banklexikon, URL: <https://www.gabler-banklexikon.de/definition/preis-und-konditionenpolitik-60620> (24.09.2021).

HASTENTEUFEL, Jessica, Öffentlichkeitsarbeit, in: gabler-banklexikon, URL: <https://www.gabler-banklexikon.de/definition/oeffentlichkeitsarbeit-70554> (State: 22.11.2021).

Heinz-Nixdorf-Museums Forum, *Die drei Jahrzehnte des Minitels*, in: blog.hnf.de, URL: <https://blog.hnf.de/die-drei-jahrzehnte-des-minitel/> (State:15.02.2021).

HINZ-WESSELS, Anette, Arbeitslosigkeit, in: Lebendiges Museum Online, Stiftung Haus der Geschichte der Bundesrepublik, URL: <https://www.hdg.de/lemo/kapitel/geteiltes-deutschland-krisismanagement/bundesrepublik-im-umbruch/arbeitslosigkeit.html> (State: 28.10.2021).

HÖFER, Andreas, Euro Travellers Cheque, in: gabler-banklexikon, URL: <https://www.gabler-banklexikon.de/definition/euro-travellers-cheque-57721> (State: 03.08.2021).

IKEN, Matthias, *Eckhart van Hooven: Ein deutsches Leben*, in: welt, URL: <https://www.welt.de/print-wams/article109747/Eckart-van-Hooven-Ein-deutsches-Leben.html> (State:06.12.2021).

Innovatron, *A user-driven technology*, in: innovatron, URL: <https://www.innovatron.fr/technology.html> (State: 13.12.2021).

JANSON, Matthias, Plastikgeld auf dem Vormarsch, in: de.statista, URL: <https://de.statista.com/infografik/20842/ausgegebene-kreditkarten-ausgewaehlter-marken-weltweit/> (State: 02.08.2021).

KUßMAUL, Heinz, Bankensystem in der ehemaligen DDR, in: gabler-bankenlexikon, URL: <https://www.gabler-banklexikon.de/definition/bankensystem-der-ehemaligen-ddr-55980> (State:25.03.2019).

LAND: *Historique* in: land URL: http://www.land.lu/online/www/menu_content/history/FRE/index.html (State: 14.11.2020).

MURRAY, Amelia, The story behind the world's first cashpoint, in: telegraph.co.uk, URL: <https://www.telegraph.co.uk/personal-banking/current-accounts/story-behind-worlds-first-cashpoint/> (State:15.02.2021).

PLESSIS, Alain, *Histoires des banques en France*, in: presentica, URL: <https://www.presentica.com/doc/11063560/histoire-des-banques-en-france-pdf-document> (State:21.07.2021).

POST, *Ouverture du Postomat à Ettelbruck* 1982, in: 175joerpost.lu, URL: <https://www.175joerpost.lu/collection?lang=fr&search=Postomat> (State:15.02.2021).

R., Carina, Gläserner Mensch, in: informatik.uni-oldenburg, URL: http://www.informatik.uni-oldenburg.de/~iug17/gm/content/text_DefinitionGlaesernerMensch.html (State:06.12.2021).

SCHÖNING, Stephan, Non Banks, in: wirtschaftslexikon.gabler, URL: <https://wirtschaftslexikon.gabler.de/definition/non-banks-41158> (State: 05.10.2022).

SCHÖNING, Stephan, Universalbanken, in: wirtschaftslexikon.gabler, URL: <https://wirtschaftslexikon.gabler.de/definition/universalbanken-50307> (State:14.10.2021).

SCHÖNING, Stephan, Zentraler Kreditausschuss, in: wirtschaftslexikon.gabler.de, URL: <https://wirtschaftslexikon.gabler.de/definition/zentraler-kreditausschuss-zka-48170> (State: 15.02.2021).

Société Générale, Crédit à la consommation Espresso, in: particuliers.societegenerale.fr, URL: <https://particuliers.societegenerale.fr/comptes-banque/pre-credit-consommation/credit-conso-expresso> (State:15.02.2021).

Société Générale, *Notre Histoire*, in: societegenerale.com, URL: <https://www.societegenerale.com/fr/connaitre-notre-entreprise/identite/150-ans-d-histoire/l-esprit-d-innovation/pionnier-de-la-banque-en-ligne> (State:15.02.2021).

SUHR, Frauke, *Mit Karte, bitte!*, in: de.statista, URL: <https://de.statista.com/infografik/22921/anzahl-der-kartenzahlungen-je-einwohner-in-der-eu/> (State: 11.02.2020).

SWISS PAYMENT ASSOCIATION, Händlerkommission, in: Swiss-payment-association, URL: <https://www.swiss-payment-association.ch/kreditkarten/kreditkartensystem/finanzierung-haendlerkommission/> (State: 24.09.2021).

T3n, *Senior Programmer händeringend gesucht – für 60 Jahre alte Programmiersprache*, in: t3n.de, URL: https://t3n.de/news/senior-programmer-haenderingend-1271123/?utm_source=rss&utm_medium=feed&utm_campaign=news (State 15.02.2021).

Unknown author, *Helmut Gröttrup: Raketen und Halbleiter*, in: blog.hnf, URL: <https://blog.hnf.de/helmut-groettrup-raketen-und-halbleiter/> (State: 13.12.2021).

Unknown author, *Kreditkarten, MasterCard, Visa Card und Amex*, in: welt.de, URL: <https://www.welt.de/finanzen/vergleich/article127904169/Kreditkarten-Mastercard-Visa-Card-und-Amex.html> (State: 02.08.2021).

Unknown author, Thomson & Thompson, in: tintin, URL: <https://www.tintin.com/en/characters/thomson-and-thompson> (State:16.05.22).

UMERSBACH, Bruno, *Gesamtbevölkerungszahlen von Luxemburg bis 2027*, in: de.statista, URL: <https://de.statista.com/statistik/daten/studie/19307/umfrage/gesamtbevoelkerung-von-luxemburg/> (State: 05.10.2022).

WINTERMEYER, Lawrence, *Crypto Cards are giving Bitcoin Purchase Power*, in: forbes, URL: <https://www.forbes.com/sites/lawrencewintermeyer/2021/12/26/crypto-cards-are-giving-bitcoin-purchase-power/?sh=280be7967ee0> (State:14.10.2021).

Zentraler Kreditausschuss, *Was ist der Zentrale Kreditausschuss*, in: zentraler-kreditausschuss, URL: <https://www.zentraler-kreditausschuss.de/was-ist-der-zka/> (State: 15.02.2021).

List of abbreviations

A.

ABBL - Association des Banques et Banquiers Luxembourgeoise

AIPS - Account information service provider

ARBED - Aciéries Réunies de Burbach-Eich-Dudelange

ATM - Automated teller machine

B.

B2C - Back-2-consumer

BAG - Bundesarbeitsgemeinschaft der Mittel- und Großbetriebe des Einzelhandels

Bafin - Bundesanstalt für Finanzdienstleistungsaufsicht

BCEE - Banque et Caisse d'Épargne de l'Etat, Luxembourg

BCL - Banque Centrale du Luxembourg

BGB - Bürgerliches Gesetzbuch

BGL - Banque Générale du Luxembourg

BGL BNP Paribas - Banque Générale du Luxembourg BNP Paribas

BIFs - Bilateral interchange fees

BIL - Banque Internationale à Luxembourg

BkartA - Bundeskartellamt

BNL - Bibliothèque Nationale du Luxembourg

BNP Paribas - BNP

BPCE - Banque Populaire Caisse d'Épargne

BRC - British Retail Consortium

BRCI - Brigade centrale de répression de la criminalité informatique

BTE - Bundesverband des Deutschen Textileinzelhandels

BTX - Bildschirmtext

C.

C²DH - Luxembourg Centre for Contemporary and Digital History

CCC - Chaos Computer Club

Cetrel - Centre de transferts électronique
CIT - Compagnie générale d'électricité
CNA - Centre national de l'audiovisuel
CNC - Conseil national du commerce
Cobol - Common Business Oriented Language

D.

DK - Deutsche Kreditwirtschaft
DSGV - Deutscher Sparkassen und Giroverband e. V.

E.

ECB - European Central Bank
EFMA - European Financial Marketing Association
EMZ - Elektronischer Massenzahlungsverkehr
ENESS - Eurocard Net Settlement System
EPC - European Payments Council
EPSS - Europay Payment Systems Service
ETCI - Euro Traveller Cheque International
EU - European Union
Extel - Exchange Telegraph Company

F.

FNR - Fonds National de la Recherche, Luxembourg
FSAP - Financial Services Action Plan

G.

GDR - German Democratic Republic
Gidab - Groupement inter-institutions des distributeurs automatiques de billets
GloLux - Luxembourgish Financial Centre in a global perspective
GZS - Gesellschaft für Zahlungssysteme

H.

HDE - Handelsverband Deutschland

I.

IFA - Internationale Funkausstellung Frankfurt

IHA - Hotelverband Deutschland

IML - Institut Monétaire Luxembourgeois

INA - Institut national de l'audiovisuel

IOS - Investors Overseas Services

K.

KWG – Kreditwesengesetz

L.

LBB - Berliner Landesbank

LIPS-Net - Luxembourg Interbank Payment System Netting System

LTE - Long Term Evolution

M.

MDR - Mitteldeutscher Rundfunk

MIFs - Multilateral interchange fees

MSC - Merchant service charge

N.

NFC - Near Field Communication

O.

OECD - Organisation for Economic Co-operation and Development

P.

PISP - Payment initiation services

PKI - Public Key Infrastructure

POS – Point of sale

PSD I - Payment Service Directive I

PSD II - Payment Service Directive II

R.

RTL - RTL Luxembourg

RTS - Regulatory Technical Standards

S.

SCA - Strong customer authentication

SCF - SEPA Card Framework

SCSSI - Service central de sécurité des systèmes d'information

SET - secure electronic transaction protocol

Sefti - Service d'enquête sur les fraudes aux technologies de l'information

SEPA - Single Euro Payments Area

SIT - Système interbancaire de télécompensation

SNCI - Société Nationale de Crédit et d'Investissement

SNPC - Système National de Paiement de Carte

SPA - Smart Payment Association

T.

TRANSAC - Société Transac

V.

VTX - Vidéotex

Z.

ZAG - Zahlungsdiensteaufsichtsgesetz

ZKA - Zentraler Kredit Ausschuss

Appendix

Interview with Marc Hemmerling and Jean Claude Schneider:

Interview 1

A: Florian Vetter

B: Marc Hemmerling

00:00:00

B: Mir maachen dat jo a fräier Diskussioun, dann äntweren ech ob är froen sou gutt wéi et geet.

00:00:10

A: Wisou gouf Cetrel iwwerhaapt hei zu Lëtzebuerg geschaaft?

00:00:17

B: Jo dat ass amfong geholl en Punkt an der Geschicht wou d'Banken decidéiert hunn d'Zahlungssystemer méi no un de Client ze bréngen. Ech mengen dat muss ee jo bëssen an d'Sechzeger Joer goen, hei zu Lëtzebuerg zréczeversetzen, wou ëmmer méi Leit ee Bankkonto kruten an de Bankkonto war am Ufank virgesi fir Geschäftsleit oder mäi betuchte Leit. An an de Sechzeger Joer hunn awer ëmmer méi Salariee zu Lëtzebuerg vun hire Partonen d'Geld iwwerwise kruten ob ee Bankkonto. Bon Geld ob ee Bankkonto setzen ass schéin, bon wann dir dat natierlech fréier aus der Tiitche geholl hutt, aus der Lohntüte wéi e seet da konnt dir direkt an d'Geschäft goen. Elo hutt dir missen ob d'Bank goen an ebe Suen ophiewen, wat dir da gebraucht hutt an dann eben an d'Geschäfte goen. A lues a lues an de Sechzeger Joer, wéi gesot och an anere Länner ob der Welt hunn d'Leit zu Kenntnis geholl, dass do aner Moyene kéint huelen, déi mech net zwéngen an eng Agence ze goen, Geld opzehiewen an dann am Geschäft ze bezuelen an do sinn dann zwou Saachen entstane fir d'éischt emol Enn Sechzeger Joren den Eurocheque. Dat war esou eng Initiative vun europäesche Banken. Dat kéint Dir héchstwarscheinlech wann Dir do bèsse googelt rëmfannen, wien dann do di Participante waren. Et kennt awer staark aus dem däitsche Raum, Benelux, Däitschland wou dann do deen Eurocheque entstanen ass an dann an aner Länner, wéi a Frankräich, do gelt natierlech och de Cheque a nach bis haut souguer oder bis viru kuerzem war dat ee vun de wichtegsten Zahlungssystemer, Methoden déi een hat. Bon d'Banken hunn erkannt, okay, mir maachen dann do een Outil de travail a gläichzäiteg géing ech soen ass och ebëssen d'Iddi komm, solle mir dann net, wat och schonn an aner Länner experimentéiert gouf ass, an de Siwwenzeger Joren, besonnesch an Amerika sinn déi éischt Automate komm. Geldautomaten. Fir elo ganz kloer ze sinn. An dat

ass dann och zu Letzebuerg iegentwéi esou lues a lues zur Kenntnis geholl ginn. Do ware souguer nach ganz wichtig Saachen. Interbank hat souguer een Drive In Agence, do wou elo d'Banque centrale ass. Do gesitt Dir jo data alt Gebai an dat grousst neit an do derzwesche konnten en mam Auto doduerch fueren do war ee Schalter, do konnten en da beim Schalter amfong geholl wéi an engem Drive In bei Mc Donalds eng Bankoperatioun maachen. Dat heescht dunn hunn d'Banken erkannt, dass ee kann och de Client anescht bedéngen. Dat heescht. Éischtens emol ech muss net méi an d'Agence fir Geld opzehiewen. Dat kann een da maachen andeems ee just mam Auto parke goe muss oder wéi gesot d'Geldautomaten. Mee dat ass alles eréischt géing ech soen Enn Siwwenzeger Ufank Achtzeger Jore komm an dat ass am Ufank net zentral gestéiert gewiescht. De Eurocheque war souwuel eng europäesch Initiativ, well Dir hutt jo da missen, well dat war jo net nëmmen eng Fro vu Garantie, ech hunn net just ee Carnet de chèques wou ech dann hunn misse mat menger Kaart an ee Geschäft goen, ech bezuelen dann ouni Geld, mee do war awer och hannert dem Pabeier eng Garantie dat heescht bis siwen Dausend Lëtzebuerger Frang, mengen sou war et déi Zäit, war dee Cheque garantéiert. Dat heescht do huet d'Bank wann de Geschäftsmann dann de Chèque krut huet, wéi gesot missen amfong geholl de Geschäftsmann bezuelen a kucke mam Client d'Geld ze kréien. Dat war den éischte Schrëtt. An da wéi gesot bei dem Chèqueheft war natierlech eng Identifikatioun, dat heescht dir hutt net elo är Carte d'identité benotzt fir ze beweisen, dass dir elo den Detenteur vun dem Cheque sidd, mee dir hutt eng Kaart gehat. Dat war déi berüümt Eurocheque-Garanties-Kaart. Déi hutt dir missen dohinner leeën a gläichzäiteg dann de cheque ausstellen. An iergendwann ass da gekuckt ginn, kann een de System net elektronesch gestalten? Dat heescht also d'Garantiekarten. Dir hat virdrun d'Post gesot. D'Post hat hiren eegene System. Postcheque awer och mat enger Garantieskaart. Dat huet d'selwecht funktionéiert am Geschäft. De Cheque ausgefüllt an d'Kaart dohi geluecht an dann huet d'Post dem Geschäftsmann och de Cheque bis ob ee gewësse Montant honoréiert. Dat huet natierlech och dozou bäigefouert, wann dir ee méi decke Betrag hat, dann hutt dir misse puer Chequen ausstellen. Mee bon dat ass awer esou gelaf. An dunn koumen d'Leit bemol, „voilà mir wëllen an engem éischte Schrëtt Geldautomatsausgaben hunn.“ An wéi kann ech déi bedreiwen? Ma ech muss als éischt de normalerweis de Leit eng Kaart ginn, esou ee Gerät muss jo dann de Client identifizéieren. An dunn sinn se séier ob d'Iddi komm, „mee kann een dat net iwwert de Wee vun der bestoender Postchequekaart oder Bancomatkaart etc. oder Eurochequekaart

maachen. An do ass dann d'Iddi komm, maja, da maache mir dat elo ee Geldausgabereseau. Et ass awer esou gewiescht, dass d'Post mengen ech, wann ech mech net ieren, déi éischt waren, déi missten 1980 oder esou dorëmmer deen éischte Postcheque also esou ee Geldautomat opgeriicht hunn.

00:06:07

A: D'Bancomat... ah nee.

00:06:08

B: Postomat huet en geheescht.

00:06:10

A: Ajo Postomat.

00:06:12

B: An dunn déi aner Banken. Déi aner Banken hunn dann ugefaangen, dat ass villäicht elo fir iech interessant, dass [...] een hei gesäit, dass een dann Acteuren huet wéi d'Post, déi gehéiert jo dem Staat, dat ass jo Etat. An dann huet dir géing ech soen, dat huet och sou geheescht, Communautéit luxemburgeoise Eurocheque an dann hat dir hei niewendrun zwou Banken déi et haut net méi gëtt, mee wichteg ze erwänen an dat war de Crédit Européen an dat war d'Bank UCM.

00:06:54

A: Kann ech Iech eng Fro stellen? Hutt dir dann do nach den Här Claude Pescatore begéint?

00:07:00

B: Jo selbstverständlech. Ech hunn mat dem och Whisky gedronk.

00:07:03

A: Dat ass flott. Kann ech do eng kuerz Parenthèse opmaachen? Wéi fiederféierend war hien an dem Ganzen?

00:07:14

B: Ech kommen dorobber.

00:07:17

A: Okay villmools Merci.

00:07:18

B: Dat ass nämlech wichteg well wann een dat net alles versteet dann, also net kennt, dann ass et heiansdo net ganz kloer ze verstoen, „wat hunn déi dann do alleguer esou gemaach?“. Also hei war sou bei der Communauté luxembourgeoise Eurocheque hat dir natierlech ee gutt vu Banken déi, wéi zum Beispill, ech kann der nëmme puer zitieren déi ech nach kennen, also, dat war dann d’BGL, d’Spuerkees, d’BIL, Banque de Luxembourg, Société Générale, eh wat hate mir dann nach? Déi Zäit war BNP, déi gëtt et jo och net méi als Bank, déi war awer do doranner, d’Raiffeissen, ech mengen dat waren se all, déi Banken déi am Ufank an dem Verbond dra waren. Dat do war eng [...] national, well se jo de Cheque hei zu Lëtzebuerg verdriwwen hunn, mee et ass een awer och duerch dat international, also wierklech europawäit, well dat Instrument huet jo iwwert d’Grenze funktionéieren, well do war ëmmer déi Konnotatioun européenne an do ass et zu Bréissel och eng Eurocheque Entiteit ginn. An do hunn d’Lëtzebuerger dann ëmmer dann, well dat do ass wichteg fir herno nach ze soe wéi et weider gaangen ass. Bon iergendwann dann eng kéier, ass hei de Postomat opgetaucht. Bei hinne weess ech net, ob déi Zäit scho Crédit Européen, wéi gesot do Geldautomaten hat. Dat well ech net bei hinnen do am Domaine dra war. Dat weess ech net, mee dunn hunn d’Banke gesot, „okay Post ass elo ëmgaange Postomat ze maachen, mee mir mussen awer do reagieren.“ Well dir verstitt jo de Postcheque zu

Lëtzebuerg war ee ganz attraktive Service, en huet näischt kascht, an immens vill Geschäftsleit hunn ee Postcheque an d'Staatsbeamten hunn d'office, kréien hier Paien ob de Postcheque iwwerwisen, wat no europäeschem Recht diskutabel ass, well dir sidd jo an Europa fräi fir är Bankrelatiounen ze wielen. De Patron kann net Iech zwéngen, wann en net elo villäicht eng Bank ass, dass dir d'Suen ob enger anerer Plaz iwwerwise kritt. Mee déi Zäit war dat esou an de Staat huet de Banke gesot, „mir maachen och elo Geldautomaten. An dunn ass dunn d'Iddi komm fir fir d'éischt emol ee Reseau ze kreéieren. Et mécht elo kee Sënn, dass eng BIL ee Reseau opbaut mat engem gewëssen Numm an dann deen anere probéiert een aneren Numm nees ze fannen. Dann maache mir et dach esou, dass mir ee gemeinsaamt optrieden hunn. Mir sinn zwar Proprietäre vun eisen eegenen Automaten, mee mir decidéiere wéi vill Automaten zu Lëtzebuerg Sënn mécht ze installéieren. Ebësse kucke wat Customerbase, wéivill Automate bréichten een zu Lëtzebuerg fir eben de Marché ze bedéngen. Dat war dann emol déi éischt fro. Dann koum déi zweet fro. „Ween kritt da wéi vill där Automaten?“ Do ass dann och fro wéi ginn esou Saache gemaach. An do gëtt de Part de Marché gekuckt. Wann mir natierlech nëmmen eng kleng Bank sinn, da kennen se net soen se hätte gären d'Hallschent vum Reseau. Dann gëtt awer gekuckt, wien sinn dann déi grouss Banken? Ganz kloer déi dräi éischt. BIL, BGL a Spuerkees déi haten de gréissten Deel dovunner. Ech weess awer d'Zifferen net méi dovunner, mee am Ufank war et awer relativ bescheiden a firwat ass dat dann nach wichtig. Bah voilà ech stelle jo net nëmmen een Automat fir meng Clienten dohinner fir meng Clienten ze bedéngen, mee ech sinn d'Accord de Kollegen hier Clienten ze bedéngen awer da mat renumération. Dat heescht, dir musst iech dat esou virstellen, dir hutt jo Fräien, déi si jo relativ iwwerhiefléich bei engem Geldautomat. En ass deier vum Investissement, en ass deier an der Wachtung. Et ass jo awer schonn ee komplizéiert Gerät mat Sécherheet, Coffre-fort mat IT, et si jo Softwaren déi do oflafen. Dir musst den Handling vum Cash all Dag maachen. Fir d'Kassetten dran ze setzen asw. Bon dat huet een Opwand

00:11:44

A: Securitas.

00:11:45

B: Jo. D'Securitas. Déi ganz D'éngens do, déi Beliwwerung an dann déi Bestückung. D'Geldschäiner mussen jo dann an enger Caisse gezielt ginn, wéi vill ginn doranner gemaach an an an. Et ass scho relativ opwendeg. An dann huet natierlech eng Bank gesot, „majo wat ech mat mengem Client maachen n, dat ass jo meng Affär.“ Wann dir elo Client bei der Banque Générale sidd, da kucken ech mol ob ech dem Här Vetter eppes ze bezuele ginn oder net, mee wann awer elo de Client den Hemmerling vun der Spuerkeess kennt, mir liwweren der Spuerkeess jo dann awer indirekt ee Service, also hätt ech gärén do eng Remuneration. Bon dat ass dann eigentlech sou dat dann deen Equiliber gesicht gouf, maja wéi vill hunn déi eng a wéi vill déi aner an do ass awer nach eng kleng Anekdote. D'Banque de Luxembourg, dir waren do ze jonk. Déi hat ganz am Ufank wéi d'Belle Etoile opgaangen ass, dee grouse Centre Commerciale, huet d'Banque de Luxembourg de Cactus begleet als Corporate Bank, also hir Hausbank enner Gänsefüsschen. Als contre Partie huet d'Banque de Luxembourg natierlech an der Belle Etoile ee Geldautomat opgestallt. Ech brauch Iech jo net ze soe wat du geschitt ass. Déi hunn do géing ech soen, hir Käscht gutt rekupéiert, well jo all Kéiers wann ee Client vun enger anerer Bank koom, huet d'Banque de Luxembourg natierlech eng gewësse Remuneration gewonnen. An vu dass se selwer net vill Clienten haten, hunn se nëmmen dierfen eng limitéieren Unzuel vu Geldautomaten opstellen. Dat war jo kee Problem, mee ob der richteger Plaz da bréngt et vill Geld.

00:13:19

A: Du war de ganze System quasi scho bezuelt.

00:13:23

B: Jo fir Si war et bezuelt. Fir dass de Client awer vun dobaussen dat soll erkennen, ass dunn de Bancomat gegrënnt ginn. Also dee Konzept Bancomat. Dat war eng Mark, déi Banken, also ech mengen déi Haaptbanken do deposéiert haten, mee et war ëmmer mat enger Ouverture, et war net ee geschlossene System, dat heescht et war wuel d'Banken déi gesot hunn, „voilà mir wëllen dat doe kreéieren, mir wëllen déi Mark kreéieren.“ Well déi Mark muss och europäesch oder wéinstens hei an der Géigend schützen. Ech mengen déi eenzeg déi och nach de Bancomat hunn, sinn d'Italiener. Do heescht se och Bancomat, och mat C, oder huet emol esou geheescht. An dat ass amfong dat wat dunn d'Banke gesot hunn. Mee

wann do awer eng bestëmmte X Bank bäikënnt dann dierf se natierlech och de Numm Bancomat huelen, wann se sech un d'Reegelen hält asw.

00:14:18

A: Do hunn ech eng fro. Huet een sech do a Frankräich bei Banken eppes ofgekuckt, ass een an Däitschland gaangen, ass een an d'Belsch zum Beispill gaangen? [...] Ech weess et net. Vun wou ass d'Iddi dann? Et huet ee jo ëmmer déi Traditioun dat een aus Lëtzebuerg an d'Noperlänner kucke geet.

00:14:38

B: Dat ass och esou, mee deen éischte Wee, ech huele mol un d'Post war och an engem Reseau vun den internationale Posten dran. Bon déi hunn selbstverständlech, ass duerch d'Participatioun an den internationale Gruppen ëmmer de Schrëtt séier gemaach. Dat heescht bei Eurocheque war et elo manner Frankräich mee méi Däitschland, well mir haten och déi éischt Automaten, déi ware besser geschützt zum Beispill wéi déi vun der Post, well mir hunn mat däitschen Technologië scho Verfälschunge vu Kaarte konnten nowisen. Esou eng Klammer. Do huet déi Zäit fir ee Geldautomat ze benotzen, war d'Informatioun ob der Magnéitsträif drop an déi Magnéitsträif déi kann ee kopéiere mee et ass awer esou bei der Produktioun, also wann ee Band mécht deen ass net honnert Prozent identesch vu Kaart ob Kaart, well do ass ee physikalesche Prozess mat magnetiséierbare Matricullen an all Kaart huet ee Merkmal, iergendwéi eng Charakteristiken an do gëtt et een Algorithmus dee kann déi Kaart liesen an déi physikalesch Eegenschaft quantifizéieren an enger Aart Signatur an dat huet MM geheescht, Magnetmerkmal. Dat heescht wann Dir meng Kaart kopéiert dann hutt dir zwar Donnéeën alleguerten drop, mee de Computer, ATM erkennt, dass dat net iwwertenee stemmt mat, eh, deen huet natierlech eng Datei wou en erkennt, dass do dee Magnetmerkmal [...] matkopéiert huet vu menger Kaart awer net d'Materialitéit vun der Kaart déi presentéiert gouf. [...] Dat kennt aus dem däitsche Raum. Do hunn mir eis inspiréiert. Et ass awer esou, do dierf en sech dat och net virstelle wie wann dat elo just Däitschland wär. Ech mengen déi Däitsch hunn dann d'Equipement aner Hollänner, Belsch hunn Equipementer kaf vun internationale Constructeuren déi konform waren. Ech mengen dat waren an der Zäit sou weit ech weess [...] an hei war et Siemens an IBM. Ech mengen et

ass ganz kloer IBM déi beliwveren de Weltmaart a wann déi wëssen, dass an Europa an der Communauté Eurocheque de Standard esou ass, ma da liwweren déi standardméisseg esou Equipement. An dat heescht an anere Wieder, hei waren dann zu Lëtzebuerg puer Banken, wéi zum Beispill d'Interbank, do kann ech mech nach gutt erënneren, déi hate Siemens geholl. Eng Spuerkeess an eng Banque Générale déi waren dann éischer bei IBM gaangen, soudass fir de Client de Service dee selwechte war, mee et war awer eng aner Technik. Wann Dir haut, wat haut ganz normal ass, Dir benotzt är Kaart jo ouni Iech Gedanken ze maachen, ob dat lo een Terminal vun der BIL oder. Et ass einfach een Terminal dee meng Kaart liese kann. Mee esou ass et emol entstanen an dat ass géing es soen 81', ech mengen et ass an där Géigend.

00:17:47 :

A: Jo ass et.

00:17:48

B: A bis da géing es soe 86' oder 85-86' wou dann eng nei Dimensioun dobäi kennt vun de Kaarten. Jo vun de Payementer an de Geschäfte. Fir awer lo nach eng Kéier wieder ze fueren, ab engem gewësse Moment, dat war hei 87' oder do 86'-87'ass geschwat ginn, "okay, mir hate jo lo eise Client, also ech schwätze vun Eurocheque." Mir hate jo eise Client jo lo déi Chequekaarte ginn, bei deenen en lo a ganz Europa konnt bezuelen. Oder et war souguer nach iwver Europa eraus. Ech menge souguer an Israel an Nordafrika.

00:18:30

A: An iwver drësseg Länner

00:18:31

B: Jo genau. Ah Dir hutt jo do schon gutt recherchéiert. Maja et ware vill méi Länner wéi nëmmen d'europäesch Länner. Dunn ass gesot ginn, „maja mir gi jo awer schonn Doheem de Leit d'Méiglechkeet fir ob ee Geldautomat zegoen, firwat net hinnen d'Méiglechkeet

gi mat der Kaart am Geigenwärt zu deene Garantien déi mir ginn a Spuenien oder wou se grad an der Vakanz sinn, ob Geldautomaten ze goen.“ An dunn hunn mir dann d’Coopération internationale Guichet automatique gemaach. Et heescht do waren da sämtlech Länner déi da lo, ech ka mech net méi erënneren, et waren eng drësseg Länner déi sech dann iwwer zwee, dräi Joer, ech mengen dat huet bis 90‘ oder souguer nach bal driwwer eraus sech gezunn, wou mir da gekuckt hunn, „wat musse mir maache fir, dass déi Interoperabilitéit iwwerhaupt stattfënnt, well et ass net sou evident. Dat sinn technescher Natur. Software musse jo kapabel sinn egal wat fir een Automat déi Sécherheetskrollen ze maachen asw. an dann ass dann d’fro, do huet da missten déi Online Autorisatiounssystemer opgebaut ginn. Also dat war schonn eng relativ gréisser Affär. Mee dat hunn mir dann iwwer puer Joer, kann ech mech erënneren, ech hunn 96‘ bei der Cetrel ugefaangen, 97‘ war mäin éischten Optrëtt an enger Aarbechtsgrupp wou mir dat da gemaach hunn. Dat hunn ech ëmmer verhalen. Dat sinn sou déi Anekdoten, dat war zu Helsinki am Januar bei Minus 25 Grad am Dag a Minus 30 Owe an dunn hunn mir da während zwee Deeg probéiert eis ze eenegen. Dat war wou ech déi éischte Kéier dobäi war a voilà dat war awer dunn scho bei der Cetrel. Dat ass wéi gesot nach dat wat haut nach quasi a ganz anere Forme weiderbestet. De Réseau akzeptéiert jo dann alles, VISA, Mastercard asw., wat do leeft.

00:20:32

A: Kann ech do eng Fro stellen? Ech hunn den Aspekt, dass de Client och ee bestëmmte Rôle domat spillt. Ech géif do ënnerscheeden zweschen engem éierleche Client an wéi ech an den Dokumenter vun der Bank ëmmer rëm liese sinistre. Géif dir soen, dass de switch vum Cheque ob eng zentraliséiert Cetrel plus Kreditkaart och am sënn vun der Sécherheet ass? An, dass net méi esou vill Fraudë geschéien? Wann ech zum Beispill d’Zuelen aus Frankräich huele waren 1974, wann ech nach déi richteg Zuelen am Kapp hunn, vum Cheque déi net bezuelt gi sinn am Wäert vun 10 Milliarde Frang, franséische Frang.

00:21:23

B: Ech géing scho soen, déi Zahlungssystemer déi sollte jo schonn zwou Saachen erreechen. Dat éischt, natierlech dee bësse méi kommerziellen Deel, ech gi mengem Client ee bessere Service an d'Hand an, eh, bah dee Service muss souwisou opmannst esou sécher si wéi deen ale, well soss huet ee jo näischt dovunner. An wat awer mat de Kaarten ugeduecht war ee quantitative Sprong no fir, fir et méi sécher ze maachen. Dofir war jo och déi ganz Geschicht, dass et een Onlinesystem ass. Am Ufank war méi mat Blacklist gefuer ginn. Deen éischten Deel war amfong wou d'Cetrel nach net bestanen huet, hunn d'Banken amfong mat Blackliste geschafft a mat Autorisatiounen. Mee dat ass wéi gesot lues a lues.

00:22:16

A: Weess Dir do nach wéi dat funktionéiert huet? Well [...] fannen ech ganz oft. Oder ass dat zewäit?

00:22:22

B: Dat ass, eh, do war ech nach net bei der Cetrel, ehm, mee ech menge bei all Bank ass ob deeglecher Basis hin déi Nummeren an d'Geldautomate geluede ginn an d'Transaktiounen sinn och héich geluede ginn. Dat war nach net alles online wéi et haut ass. Den Automat huet schonn, wéi gesot, eng gewësse Sécherheet gebuede mee et awer awer net wéi et haut leeft. Nee dat ass dono duerch d'Cetrel ass dat ganz anescht ginn. Dunn ass den online to issuer komm asw. [...] An dunn ass d'Fro iergendwann opkomm, well nämlech hei ob dëser Säit ass nämlech eppes geschitt. D'Bank hei haten dann eng Eurochequeskaart, eng IC Kaart, dat ass eng Debit Karte. Dat heescht Dir kritt just dat wat Dir als Limite beim Eurocheque ebe gebuede mee et gött direkt ofgebucht. An fir déi betuchte Clienten hat déi hei Grupp vu Leit, dat wat een Eurocap nennt, mee dat ass amfong geholl nëmmen un select Clientë verkaf ginn. Et muss een nämlech och wëssen, ech géing soe bis an d'Achtzeger Joren hunn d'Banken eigentlech decidéiert wat fir de Client gutt wär an net de Client de Banke gesot „ech hätt dat gär“. D'Banken hunn et gutt fonnt, dass een eng Eurochequeskaart huet an d'Banken hunn dann och gesot, „dat ass ee Client deen ass gutt, an dat ass ee Client deen ass manner gutt. Dem enge ginn ech dat an déi aner froen ech mol guer net.“ An hei ware Banken déi hunn eng Nisch aus Amerika entdeckt.

Fir d'éischt, wéi hei, de Crédit Européen dee war ëmmer bekannt. Wéi en an Europa, hei zu Lëtzebuerg sech etabléiert huet, dass en sech an eng Nisch huet misse setzen, well de Marché war jo scho staark vun deenen heite Banke besat. An wat huet en gemaach? En huet ee besonneschen, dat ass obmannst wat ech an Erënnerung hunn, Consumer Credits gemaach, wat déi Zäit, ehm, Dir hutt gespuert wann Dir wollt ee Fernsee kafen oder een Auto kafen.

00:24:46

A: Prêt immobilier.

00:24:48

B: Jo dat wat dat eent. Mee wann Dir esou déi, wéi haut ganz normal. Dir wëllt een neie Couche an een neie Fernsee da gitt dir einfach dohin an dir frot Iech ee Kredit. An dat hunn déi normal Banken net gemaach. Déi hunn gesot, „okay fir d'Haus jo awer wann's de gär däin Auto bezils oder deng Couche da spuer mol an dann“, he, voilà. De Crédit Européen huet do eng Nisch erkannt an déi hunn do ugefaangen an dee Beräich Consumer Credits ze goen. Se hunn natierlech och probéiert déi normal Geschäfte ze maachen. Herno ass do déi Banque UCL nach dobäi komm. Déi huet dat och gemaach. An iergendwann hunn déi do Banken decidéiert, „ma do gëtt et an Amerika ee flott neit d'Zahlungssystem, dat heescht VISA.“ A mat VISA dat ass eng Kreditkaart déi wierklech wéi eng Kreditkaart fonctionéiert. Dat heescht ech ginn an d'Geschäft, ech muss do, am Ufank ass dat jo nach alles iwuer Pabeier gaangen, de Sales Slip, wann dir dat nach kennt, de Slip. Dat ass hei ee Pabeier an dann ass dee wéi eng Ritsch, wéi eng Ritsch Ratsch hunn mir dat ëmmer an Umgangsform genannt, an da jo. An dann ass am Dag dono oder Owes an de Geschäfte déi Sales Slipen erageschéckt an da sinn déi traitéiert ginn an da krut en seng Suen. De Client ass belascht gi mee en huet je no sengem Kontrakt nëmmen eng Kéier am Mount bezuelt oder souguer mat Kredit [...] Et muss een nämlech wëssen et gëtt bei den Debit, amfong bei de Kaarte ginn et, dat hutt dir villäicht scho gesinn. Fänke mir mat der classescher Debitkaart un an dann hutt der dat wat d'Leit ënner credit card verstinn. Do ginn et der zwou. Hei ass mam débit immédiat, also esou bal Transaktioun bei der Bank ukënnt gëtt, gëtt se traitéiert. Normalerweis et et hei elo ëmmer [...] bestëmmt Regularie vun de Payment Servicer. An

Zukunft kann awer och instant sinn. Dat heescht et geet een a Geschäft an dann ass direkt d'Geld weg. Also bezuelt ass et net mee, dass et an ärem System, am Banksystem gebucht gëtt Owes mee et ass direkt vum Kont fort.

00:27:16

A: Ass dat och an ärem Interêt, vun der Bank, oder vum Client?

00:27:20

B: Am Interêt vum Client. Et ass ewell Interêt vum Client, vum Geschäftsmann. Dat ass ewell. Mir kennen dat zwar och aus Ausbléck nokucken. Dat ass wat am Moment an Europa leeft. Dat wat d'Europäesch Zentralbank gären hätt. Et ass awer wichteg, dass Dir dat awer esou verstitt. Soss verstitt Dir et net. Dee Changement kennt dohier, ech hunn elo grad gesot, normalerweis fonctionéiert alles. Dir maacht eng Transaktioun am Geschäft. Dir kritt är Wuer. Déi Transaktioun, ob dat elo mat Débit oder Kreditkaart ass, déi gëtt uginn, se gëtt traitéiert an dann entstinn eréischt Geldfless. Dat ass ëmmer per Gesetz den 1+1, Arbeitstag plus 1. D'Europäesch Zentralbank huet awer fonnt, dass d'Banken hire System anachromesch sinn zu der bestoender Ekonomie. D'Wirtschaft déi ass Real time dee Moment. Dat heescht Dir gitt am E-Commerce wann Dir eng Firma sidd déi dausend Autosmotoen oder Dir sidd um Amazon an Dir bestellt ee Buch oder wat och ëmmer, Dir kritt et meeschtens direkt geliwwert. Entweder well et een digitalen Download ass oder well et direkt iwwert d'Post geheet gett mee d'Suen kommen eréischt den Dag dono. Dofir huet d'Europäesch Zentralbank gesot „mir hätte gären, dass d'Banken een instant Payment Service ubidden. Dat heescht et ass net nëmnen elo, dass Dir an ee Geschäft gitt an dir maacht eng Transaktioun an Dir gesitt och herno, dass déi Transaktioun, dat gesitt dir jo am Webbanking, dass déi Transaktioun, also, dass Dir akafe waart, mee innerhalb vun zéng Sekonnen ass och d'Geldfloss beim Commerçant schonn ukomm. An dat ass eppes wat wichteg ass. Mee an deenen Deeg ass et dat net ginn.

00:29:01

A: Ech hunn awer nach eng Fro. Ass dat fir de Commerçant ebësse méi, wéi soll ech soen, méi ze calméieren, méi glécklech ze maachen? [...] Well en jo awer ëmmer méi oppe gëtt Kreditkaarten unzehuelen, well ech zum Beispill a Frankräich, wéi d’Kreditkaart ageféiert ginn ass, am Ufank gesäit een halt wéi d’Restaurateurs, also d’Restauranten an och déi ganz Syndicaten sech beschwéieren. An Däitschland kennt dat ebësse méi spéit, well se do réischt méi spéit emswitchen. Do sinn d’Tankstellen déi soe „nee mir wëllen net“. Et ass witzeg. Ass dat villäicht an dem Zusammenhang oder gesinn ech dat falsch?

00:29:47

B: Nee dat ass scho richtig. Ech menge wat d’Geschäftsleit interesséiert, se wëlle Business maachen. An dat ass dann och mat Geld verbonnen. Net nëmmen dass dir wësst, mee dass dir dat Geld och direkt zur Verfügung hutt. Dat ass villäicht bei engem Geschäftsmann net ëmmer esou wichteg. Also, besonnesch bei deene ganz groussen. Ech huelen elo de Cactus. De Cactus huet permanent een ongoing Tuyau vu Geld. Dat geet jo de ganzen Dag. Mee et sinn awer méi kleng Geschäfte, wéi zum Beispill E-Commercen déi punktuell, eh, Dir kaaft bei Amazon mee ënnendrenner ass een Händler deen awer villäicht nëmmen all zwee Deeg eng Kéier oder all Woch nëmmen eng Kéier dee Produit vun 150 Euro keeft mee deen hätt gären sou séier wéi méiglech säi Geld. Den ass jo och dorop ugewisen. Corporate ass nach vill méi wichteg. Mir schwätzen do net vu Betrag iwver instant payment elo, net nëmmen iwver kleng Betrag, dat kann och 20 Milliounen sinn oder ee ganz héije Chiffer oder Dir sidd een Handwierksbetrib maja dann hätt Dir dat gären instant. Dat heescht Dir liwwert de Schaarf deen Dir als Schräiner gemaach hudd, dann hätt Dir och gären dat Geld. An et ass ebëssen dee Wee. An haut ass dat zwar méiglech. Dir kennt de Client froen da mécht deen ee Virement an de Virement brauch dann awer nees puer Deeg. An hei ass et instant. An dann ass et heiansdo och nach einfach ee Service. Zum Beispill Dir sidd eng grouss Entreprise an Dir musst verschidde Rechnungen zu bestëmmten Datumer, zu ganz genauen Zäitpunkte bezuelen. Den éischte vum Mount oder um souvill Auer. Haut muss de Comptabel ëmmer rechnen, „ah okay ech muss dat den 1. August maachen, mee ass den éischten August net ee Freiden oder Samschden? Da muss ech dräi Deeg am viraus den Ordre de Virement maache fir dass en dann de richtige Moment bei mengem Client ukënnt“. Hei ass et egal. Hei sot dir einfach 23:59 ginn ech den Optrag an dann ass en de 24:00 beim Client ukomm. Dat sinn epuer Saachen. Et ass méi séier bezuelt

ze ginn. Et ass vun der Geschäftssäit hier méi, ech komme méi séier u meng Fongen an ob der anerer Säit ass et een zousätzleche Service. A bei de Privatleit gëtt ëmmer gesot zwesche personal payment dann hutt dir wierklech dat Geld an et ass net nëmme, dass dir sot dann iwwerweist mir mol 50 Euro. Dann hutt der se iwwerwise mee dir kennt déi 50 Euro direkt um Geldautomat oder och direkt selwer bei engem Payement benotzen. Et ass ebëssen dat. Bon bei de Kreditkaarte fir dat da vu virdrun ze verstoen. Do hunn mir dann, dat gëtt et och nach haut, dat ass wat een débit différé nennt. Dat heescht Dir bezuelt mat der Kaart an iergendwann eng Kéier zum Schluss vum Mount kritt dir ee Relevé wou all Reponses drop sinn an da musst der et direkt zrëckbezuelen. Dat ass da mat Null Kredit mee awer och Null Zënsen. Wann Dir den éischte vum Mount 500 Euro bezuelt hutt da gitt dir réischt zum Schluss vum Mount gefrot „ma da bezuel elo 500 Euro“. Mee dir bezuelt keng Debitorenzinsen. An da gëtt et dat, wat et besonnesch an Amerika gëtt, dat ass dann de Credit Revolving. An dat ass eigentlech wann ee well fälschlecherweis, dat ass nach guer net esouvill an Europa entwéckelt, wou een da seet „okay zum Schluss vum Mount, fin du mois, hues du elo X mat der Kaart bezuelt, mee du muss elo, ech weess net 10 Prozent mindestens zrëckbezuelen.“ Dat ass da wann Dir wëllt den débit différé an déi 90 Prozent vu X ma dat gëtt ee Kredit an dee gëtt da mat zimmlech héijen Taux d’interets belacht, also bezenst an dee gëtt reportéiert, dee geet dann ob de nächste Mount. Wann Dir hei 100 hat da fänkt dir hei mat 90+ interet débiteur un. An da geet dat esou weider. Dann heescht dat, dass dir deen nächste Mount iergendeen anere Chiffer hutt an da fiert dat esou weider. Dat ass Credit Revolving. Dofir, deen ass awer an Europa net esou kommerzialiséiert ginn, well effektiv d’europäesch Banken eng aner Attitüd hunn wéi déi amerikanesch Banken. [...] komm mir huele léiwere Clienten déi keng Problemer kréien. An Amerika si vill Leit déi mat de Kaarten total verschold sinn. Dat ass bei eis, mir hunn dat och, awer net an dem Moos wéi an Amerika. An de Crédit Européen déi hunn ganz genau ob déi Visaskaart mam débit différé gesat. Ech weess net, ech mengen net, dass se jidderengem een crédit privé wollten offréiert hunn. An wat nach wichteg war. Se hunn Iech gezwongen en Konto bei sech ob ze maachen. Déi Zäit war ech Client vun, ech weess net méi wéienger Bank, vun der Spuerkeess an an den Achtzeger Jore wéi da opgetaucht ass, hunn se amfong geholl Reklamm gemaach. Ech hunn dann do meng Kaart krut an ech hunn just zum Schluss vum Mount ee Virement gemaach. Jo an dat ass dat da wou da bemol d’Banke gesot hunn, „dat doten ass jo dann een Deal“. Si hunn dann ugefaangen an d’Geschäfte ze goen, wéigesot mat enger fonction papier géing ech da mengen, dat ass dann dat mat dem Ritsch Ratsch. An

dat ass da bei ee Punkt komm, dat ass ganz wichteg, den Här Pescatore. Ech weess jo net alles ob dat duerch hie war, well e war jo net eleng. Hien hat nach mat engem gewëssen Här Molitor zedi gehat. Dat waren d'Informatiker. An déi hunn decidéiert, „ma da kann een och mat Terminale maachen.

00:36:14

A: Point of sales.

00:36:15

B: Jo Point of Sales. Wat hunn se do gemaach? Ma se hunn dat gemaach wat och schonn, ma an och Si hunn awer scho gekuckt wat an anere Länner, an England scho war, dat heescht an och a Frankräich ass dat opgetaucht, dass een net méi dem Geschäftsmann gesot huet. „ma du muss net méi mat dengem Ritsch Ratsch do, déi denger do, déi Verkeef, da mëss de dat an eng Enveloppe a schécks eis dat eran an dann traitéiere mir dat mee mir stellen een Terminal zur denger Verfügung an deen Apparat ass amfong geholl, am Ufank näischt aneschters wéi de Ritsch Ratsch an och d'Blacklist war dran et war keen online. Wéi huet een dat genannt freier? Dat war en? Data Capture Offline Authorization. Dat heescht den Terminal hat just eng Lescht mat de Kaarten. Dunn huet en eng Kéier gekuckt a“ss déi Kaart do doranner?“ Wann net dann huet en einfach d'Autorisatioun gemaach. Dat heescht d'Transaktioun lafe gelooss an dann ass dat enregistréiert ginn an Owes sinn déi Transaktiounen da bei de Site komm an dann traitéiert ginn. Mat dann awer vielleicht mat Problemer, dass keng Suen do waren oder awer iergendwéi Problemer mat der Kaart waren. Bon dann ass erëm eng mise à jour vun där Blacklist gemaach hunn. Bon dat war wat Si gemaach hunn. An bon, iergendwann hunn dann eng Kéier déi Eurochequesbanken gesot, „Mhm dat ass awer elo net gutt, he“ An dunn ass da gesot gin voilà mir missten och an d'Geschäfte goen, mee Si hätte keng Visaslizenz. Dat heescht Si konnten net, wéi gesot, dat Produkt verkafen. Ech weess awer lo net, dat kann ech Iech elo net soen, ob déi Zäit do ee Blockage war, dass VISA en Contrat d'exclusivité hat déi Zäit, well dat nach net duerch d'europäescht d'Recht verbueden oder sou Arrangementen, dat géing haut alles mengen ech guer net méi goen a soudass déi Eurochequesbanken net un dat populäert Produkt VISA komm ass. Do waren immens vill Leit déi bemol ugefaangen hunn, „ech si Client bei enger

traditioneller Bank, mee ech hunn awer meng Kaart beim Crédit Européen.“ An aus deenen Iwwerleeungen ass et komm, „ma solle mir dann net dat heiten de Bankomat, deen éischer nëmme Garde war, sou wéi ee guichet automatique de billets em eng Komponent erweider nämlech Point of Sale? An da si mir ob dem Punkt wou Dir sot „okay, wat?“ Et ass jo kloer de Client huet jo eppes dovunner. Ech ka jo neierdénge meng Eurochequekaart, mai Chequeheft dat kann ech vergiessen, ech ka jo déi Kaart, well d’Iddi war jo, ech hat jo virdru gesot, déi Eurochequeskaart ass jo benotzt gi fir ob de Geldautomat ze goen. Ma lo kann ech déi Kaart och huelen. Ech hunn mäin Geheimcode an da ginn ech an d’Geschäft. Mäin Cheque kann ech Doheem loosene, also hunn ech eng Convivialitéit an dat mol. An ob der anerer Säit hunn d’Banke mol gesot „alles ebësse méi sécher, manner handling. Dir braucht dee Pabeier net méi déi ganzen Zäit do de processing ze maachen, also gewanne mir ob der Käschesäit.“ Et ass méi sécher, well mat de Chequen ware jo awer Frauden. Ech mengen ech hunn Saache gesinn. Mir sinn dann do an Aarbechtsgruppe mat Europol zesumme gewiescht. D’Chequen un sech ware sécher. Heiansdo dat onsécher war d’Identitéitspabeieren déi gefälscht waren. Dat heescht d’Kaart war geklaut, also de Cheque war geklaut, mee wat gefälscht war, war d’Identitéitskaart déi dir gefrot gi sidd. An esou weit ass et gaangen. D’Banken hu gesot „Da si mir awer, da wäre mir dem ganz lass.“ An dunn ass esou eppes gemaach gi wat de Crédit Européen net hat. „Jo wéi mache mir dann déi Autorisatioun? Wéi checke mir dat, dass de Client gutt ass?“ An do ass decidéiert ginn, et get een online Autorisatiounssystem. Dat heescht et ass net méi wéi beim Crédit Européen ee System wou ee just eng kéier an enger Blacklist kucke geet, mee déi ginn direkt wann dir ob een Automat kommt, sief dat ee Geldautomat oder an dem hei Fall huet et ugefaange mam Terminal POS an da gëtt eng Autorisatioun an enger Datenbank gekuckt, de Geheimcode gëtt validéiert an da wéi gesot gëtt d’Autorisatioun autoriséiert, eh gëtt d’Transaktioun autoriséiert. Se gëtt agedroen, dat heescht et ass ee Log In, dass mir genee wësse wat de Client nach dierf maachen oder net. Wéi maache mir dat da lo? Well mir si jo awer zu puer Banken an dem Grupp. An dunn ass dunn genau dat wat Dir sot, bah, et geet en net ëmmer d’Rat nei erfannen. Ech menge wann een d’Philosophie, wat ee jo well errechen, ee gemeinsamen Optett nobaussen no gemeinsame Standarden. Quitt, dass d’Clienten, eh, net nëmme bei déi Commerçante vu senger eegener Bank kenne goen. Dat heescht dat ass jo och de Problem. Wéi hätten se et soss gemaach wann de Crédit Européen net wär huet jo missen all Geschäft demarchéieren. Mee wann dir elo higitt a sot eng Spuerkeess geet dann och Geschäftsleit demarchéieren an d’Banque Générale geet dann och déi selwecht Geschäftsleit

demarchéieren dann huet de Geschäftsmann herno dräi Terminalen oder véier oder fënnf oder sechs. Dunn huet d'Bank gesot, „dat wëlle mir eisen heiansdo gemeinsame Clienten, mir wësse Lëtzebuerg ass jo kleng, vill Geschäftsleit si bei mei wei enger Bank ee Kont, also, da mécht et jo scho vun där Säit kee Sënn, mir wëllen eis Geschäftsleit jo net geckeg maachen.“ Dat huet dann dozou gefouert, „wou wéi maache mir dat da konkret?“ An dann hunn mir eis u Modeller inspiréiert wéi et am Ausland leeft an dee Modell dee wou d'Lëtzebuenger Banken sech inspiréiert hunn ass de Bancontact. Dat war ganz kloer de Bancontact.

00:42:15

A: Dee kennt aus?

00:42:16

B: Aus der Belsch. Bancontact hat Dir jo zwee Systemer. Bancontact a Mister Cash. An mir hate Kontakt mam Bancontact am Ufank. Herno sinn déi Reseau jo zesumme gaangen, mee dat war eis Ulafstell. Et ass gesot gi „Okay a wéi hunn déi Belsch Banken dat gemaach?“ Et ass eng entité opérationnelle kreéiert ginn, déi da sécher gestallt huet dann, dass an der Mëtt eng Datenbank war fir eben d'Clienten ze servéieren an déi selwer a higaangen an huet an de Geschäfte am Numm vun de Banken en Terminal opgestallt. De Réseau Bancontact. Bon an der Belsch haten se dann och zwee. Do haten se dann och de Reseau Mister Cash, mee d'Iddi war amfong geholl dat änlech ze maachen. Dat hat villäicht verschidden Ursaache well dir wësst jo dass d'Générale huet déi Zäit Société Générale oder Générale de banque gehéiert oder déi waren Aktionnairen hei soudass do d'Weeër heiansdo kuerz waren. D'Interbank hat och ee Lie mat der CGR déi Zäit asw. sou dass dann bemol ob der Hand loung, dass een sech mol bei de grouse Kolleegen, Cousinen inspiréiert. An dann ass et och, bon wann Dir da wësst wat Dir am Marché wëllt maachen. Dann musst Dir och kucke wat fir eng Léisunge si Verfügbar. Dir hutt natierlech lo schonn déi Zäit eng ganz Koup Softwarefirmae gehat, Terminalhersteller, mee dat huet net ëmmer ob d'Philosophie gepasst déi d'Lëtzebuenger Banke wollten hunn. Dann, wéi gesot, de Crédit Européen an och d'Fransousen haten dee Konzept vun Offline an Ënnerschrëft an eis Banke wollten awer, also d'Cetrel Banke wollten ee Schrëtt méi weit goen. Déi wollten an déi Sécherheet fueren

an dat huet geheescht keng Ënnerschrëft online mat Pin, he, mat Geheimcode. Dat war sou de Credo. Natierlech dee Moment waren déi franséisch Terminaux'en eliminéiert. Déi haten dat jo technesch guer net. Dach déi hätte kennen de Fournisseur do froen, mee dann huet dee gesot „okay mee fir déi 3000 Terminalen déi déi elo zu Lëtzebuerg, am Ufank opstellen, forget it“ Oder dach mee da war d'Rechnung esou grouss. An bei Bancontacto war et awer esou, dass déi déi selwecht Philosophie hate wéi d'Lëtzebuerger se wollten hun, also online issuer, oder online dedicated issuer wei et geet, déi hunn eng Zentral déi Datenbanke vun deenen eenzele Clienten, vun deenen eenzele Banken eigentlech, der Spuerkeess hir Kaarten, hir Kaarten, der Banque Générale asw. hir an hirem Numm geréiert. Dat heescht d'Banken haten d'Verpflichtung eben all Dag oder sou oft wéi et néideg war déi Datenbank à jour ze halen an déi ass benotzt gi fir online d'Autorisatiounen an dann d'Transaktiounen ze enregistréieren. De Moment wësse mir dass déi schonn déi schonn zéng Operatiounen am Dag hat, d'Limite iwwerschritt, mee Owes komme keng Autorisatioune méi maachen an dann Owes kruten d'Banken dann d'Transaktiounen fir eben dass alles bezuelt ass. Dir sidd debitéiert gi sidd vun äre Konten a Geschäftsleit sinn ausbezuelt ginn.

00:45:27

A: Waren och vill méi effektiv ass, wéi offline, wéi dat wat a Frankräich bis dohin the state of the art war.

00:45:33

B: Jo genau.

00:45:34

A: Dat heescht mir sinn an wat fir engem Zäitraum genau, wou mir elo grad schwätzen?

00:45:39

B: Eh, 87'. Also d'Cetrel ass am Dezember 85', also als Gesellschaft gegrënnt ginn, am Mee 86' sinn se an d'Lokaler gaangen. Mir haten déi Zäit Büroen um Houwald wou lo de GRUN,

deen déi Schëlter fir d'Autoe maachen, vis-à-vis, do hunn mir ugefaangen. An der Rue des Bruyères. Do hate mir een Datenzenter an ech sinn am September als Direkter do bäi komm a 87', am Fréijoer 87' hunn mir déi éischt Transaktioun gemaach. Déi éischt Transaktioun war an enger Tankstell bei der Colux deem Taxiunternehmer deen hat eng Fina Tankstell fir seng Autoe mee do konnt een och als Privatpersoun tanke goen an deen huet owes do deen éischten, dat huet do net POS geheescht, mee dat huet PTO geheescht. Payments Terminal Outdoor. Dat war da wou ech da bei d'Tankseile konnt goen an da fëllen. Bon dat war 87'. Dat huet dann dozou gefouert, dass mir ee Software vu Bancontact hunn. Wann ech d'Fotoe fannen. Ech hunn eng Foto deen éischten Dag wou mir gestart hunn am Produktioun.

00:46:57

A: Dat wär wonnerbar.

00:46:59

B: Jo jo ech muss déi erëm fannen. Déi huet mir dee vu Bancontact, also déi hunn eis fir elo hei d'Verständnis, mir hunn een Agreement mat hinne gemaach an déi hunn ee Software fir Lëtzebuerg verkaf. An mir hunn och Terminaux'en vun hinne krut wat natierlech, déi Terminaux'en déi an der Belsch gebaut gi si vu Bancontact déi ware konform mat deem wat mir eigentlech wollten hunn. An de Problem deen elo awer entstanen ass, bon dat kennt Dir Iech jo virstellen. Mir hunn dann do ugefaangen Tankstellen, dat war da ganz speziell, dat hat och ee Virdeel firwat mir mat Tankstellen ugefaangen hunn, well d'Belsch dat, deen Domaine war wou am meeschte vun de Leit, wéi nennt een dat?

00:47:41

A: fréquentéiert?

00:47:42

B: Jo och ugeholl ginn ass. Dass flott net méi an de Shop goen ze mussen. Ech maachen dat elo un der Tankstell an an der Belsch hat dat een relativ groussen Succès. An dono hunn mir dann och ugefaangen an déi kleng Geschäfte ze goen, also déi kleng Boutiquen an och d'Supermarchéë. An zu Lëtzebuerg huet den Match mengen ech als éischt ugefaangen.

00:48:02

A: Et ass ganz interessant, well ech hunn eng Visualiséierung gemaach. Deen éischte Point of Sales an eng ganz Kaart erstallt vu Lëtzebuerg an do gesäit een dass Esch a Lëtzebuerg déi éischt Zentren si wou déi meescht Point of Sales opgestallt gi sinn. Mee den Detail, dass et an de Banken als éischt ass kann een awer net aus menger Lescht rausliesen.

00:48:24

B: Mee eh, nee nee dat kann ech Iech awer elo, ech wollt ob dee Punkt kommen. Et ass ganz kloer gesot ginn, „voilà elo hunn mir da mat Cetrel eng technesch Infrastruktur. Do steet den Hardware, d'Software, d'Cetrel ass responsabel fir an d'Geschäfte déi Terminaux'en opstellen an och ze bedriwen an och déi Datebank ze bedriwen an och dee ganze Clearing a Settlement deen een all Dag brauch fir dass et fonctionéiert. Esou wéi hunn mir dat verkaf? Bon de Cetrel, et ginn zwou Méiglechkeeten. De Cetrel wéi et an der Belsch Bancontact eng Equipe de Kommerzialisatioun oder dee soutraitéiert et un d'Banken. Wann d'Banke soutraitéieren dann hutt dir natierlech, kann et sinn dass eng Bank ob Käsche vun enger anerer Clienten demarchéiert. Dat heescht si geet dann zwar dohinner a seet, „voilà ech si vun der Banque Générale, ech komme fir de Bancomat“. Dat seet de Client, „okay, fannen ech gutt. Ech well esou een Apparat, dat ass d'Zukunft“ an da seet dee vun der Banque Générale, „par ailleurs du bass Client bei der Spuerkeess et wär villäicht interessant wann's de bei eis géings kommen.“ Ne, fir Suen ze kréien. A fir dat ze vermeiden hunn mir zwou Decisiounen geholl. D'Cetrel wäert net eng eegen Equipe de Demarchage hunn, dach ee coordinateur interne, mee et wäerten d'Banke sinn déi demarchéieren. A fir dat genau ze vermeiden an dofir fann dir och keng sou Detailer, wee wou wat gemaach huet, sinn Equipp de Demarchage mixe gemaach ginn. Dat heescht dann dir hat ëmmer zwee an zwee, Leit déi da gesot hunn, „Wat wëlle mir ofgrasen? Mir wëlle Supermarchéë maachen, mir wëllen Tankstelle maachen.“ Déi Equipe do an do, do

war dann ee vun der Spuerkeess, Banque Générale, déi hunn dat da gemaach. An eng aner Equipe war dann ee vun der BIL an der Banque de Luxembourg, déi hunn dann anerer gemaach, soudass dann net di, soudass dann alles beim Status quo bliwwen. Dat heescht also, ech soe lo de Match Client vun der BIL war an d'Banque Générale ass dohinner gaangen, dann ass en herno awer nëmmen och nach Client vun der BIL gewiescht. Dass en sech iergendwann eng Kéier anescht decidéiert huet, ma dat huet ee jo ëmmer, mee net um Moment vum Demarchage an dat huet och dozou bäibruucht, dass mir de Marché relativ séier konnte besetzen. Bon de Match, [...] firwat hunn déi sech interesséiert als éischt?. Ma dat ass well déi schon an der Belsch tätég waren. D'Maison mères, Match [...] déi da n an engem belsche Grupp waren [...] bon déi wousste jo scho wat dat wär an déi hunn dann de Lëtzebuurger gesot „jo maacht dat“. Mir hate just eng kéier ee Moment ee klenge Problem krut an dat hat eis ebëssen Zäit kascht an der Kommerzialisatioun well mir wollte jo och eng Tarifikatioun an déi war ebëssen, bon déi war natierlech aneschters wéi an der Belsch, mee mir haten awer eng Influence vun der Belsch ob Lëtzebuerg well nämlech, vu dass an der Belsch de System mol gedréit huet, d'Belsch Commerçanten, opmannst verschiddener fonnt hunn, „oh mir müssen do awer ebesse vill bezuelen.“ An dunn wollten se iwwert d'Lëtzebuerg beweisen, „wann mir zu Lëtzebuerg de Präis gedréckt kréien, da kenne mir deene belschen Nickie vu Bancontact verzielen, „wat wollt Dir eis fënnef Frang, zu Lëtzebuerg kritt een dat fir véier Frang“.“ Dunn hunn mir awer net mat dem Spill matgemaach. Mir hunn amfong geholl gesot „okay mir hunn eis Käschten. Et ass dat wat dir ze bezuelen hutt.“ Bon dat hat dann dunn ebëssen. Dat war net esou einfach dee Kampf fir dat ze maachen. An da wat awer och interessant ass, dat ass dass den, bon et geet awer, mee wat interessant ass, de Crédit Européen war natierlech do net begeeschtert wéi d'Cetrel kreéiert ass. Ech hunn eng Kéier dem Yves Mersch, dat ass deen, also Dir wësst jo, dass zu Lëtzebuerg eng autorisation de fonds de commerce musst hunn als Firma, well d'Cetrel huet déi gefrot a well et awer service financier war, ass dat bei de commissariat de banque gaangen. Dat war déi Zäit een Departement vum Ministère des Finances an den Här Pescatore war déi Zäit politesch ënnerwee an deen huet do.

00:52:35

A: Bei der DP?

00:52:36

B: Eh, ech menge jo. Deen huet do hannert de Kulissen, sou weit meng Informatiounen ass, gebremst. Dat heescht mir kruten déi Autorisatioun quasi net. Ech hat keng gro Kaart wéi ee seet. An dat war esou weit gaangen, dass ech eng Kéier hunn missen a mäin Conseil goen, ech sot, „wat soll ech maachen? Ech misst elo Kontrakter ënnerschreiw fir d’Geschäfte unzefänken, mee ech hu keng autorisation de fonds de commerce.“ Do kann ech Iech eng Anekdot soen. Do krut ech aus dem Conseil gesot, ma da soll ech, déi Zäit hate mir 18 Leit. Da soll ech dem Här Mersch uruffen, froen, den Dossier, ech woussst dass en bei him [...] géing leien, fir dass dann de Ministère de l’Economie de Classes Moyennes keint jo oder nee soen an ech sollt dem Här Mersch soen, „wann net bis 12 Auer déi Dégens do wär, géing ech mëttes eng Pressekonferenz aruffe mat RTL a meng 17 Leit a mech selwer entloossen. Ferdeg.“ Well ebe politesch geblockt gëtt. Um 5 fir 12 hat ech meng Autorisatioun de fonds de commerce. Ech hunn dem Här Mersch, déi Zäit war ech ganz jonk, hunn ech amfong textuellement dat misse per Telefon soen, dat ass awer eppes wat Dir besser net schreift, mee Dir kennt soen et war politesch Gerangels. Dat kennt Dir gäre soen.

00:53:52

A: Enjeu politique.

00:53:53

B: Do waren déi enjeux politiques vun deene Partien, déi eng déi schonn um Marché waren, den Här Pescatore mat der Banque UCL, déi haten do schon ee Réseau mat Terminaux’en, déi waren dann natierlech net frou, dass plötzlech do een zweete Réseau entstanen ass. Sou dat ass da mol wéi et gaangen ass an da kennt Dir Iech d’Fro stellen, „Wéi sidd dir da komm, dass Dir elo haut nëmmen een hut?“ Mee iergendwann eng Kéier hunn mir dann an der Zäit, dofir ech hunn net méi d’Datumer am Kapp, hunn dann och d’Banke gesot „maja okay lo si mir bei de Geschäftsleit mee et wär och flott wann mir kéinte Kreditkaarte mat eran huelen, eis Eurokaart kéinte mir mat eranhuelen.“ Dat ass dann iergendwann eng Kéier gemaach ginn, mee do ass awer d’Fro komm, „mee wéi maache mir dat, dass ob eisem

Terrain d'Terminaux'en fonctionéieren? An do hate mir awer géing ech soen eng ganz gutt, eng genial, eng Iddi déi de Marché finalement zu eiser Faveur tippe gelooss huet. Mir sinn higaangen an hunn een neien Terminal gesicht an dat war Olivetti, dat war déi eenzeg an Europa déi eis déi Zäit konnten hëllef. Dunn hunn mir gesot „majo mir hunn de Moment een Online-Terminal mat Pin a mir géingen awer och gären een hunn, dass mir eis kenne Kreditkaarte kéinten akzeptéieren. An dat hunn mir fäerdeg bruecht. Lange Rede kurzer Sinn, hunn mir een Terminal erausbruecht deem déi zwou Funktiounen hat. Dee konnt funktionéiere wéi den Debitkaart online a wéi eng Kreditkaart, wat de Crédit Européen hat. Also braucht Dir Iech jo net auszemole wat mir gemaach hunn. Mir si bei de Geschäftsmann gaangen an hunn gesot, „firwat brauchst du een Terminal vun eis an nach een Terminal vu Crédit Européen oder vun der Banque BGL? Huel eisen.“ Well déi hate keng Debitkaart drop. Se haten dat war net de Marché deem sinn interesséiert huet. Se hate keng. An dunn ass een ob dee Wee, dunn hunn se iergendwann eng Kéier gesot „maja.“

00:55:42

A: Ech mengen dat war 88'.

00:55:44

B: Eh jo, ech géing, jo nee, jo nee.

00:55:46

A: BGL kennt nämlech do mat engem, ech weess net genau, mee et muss net eng vun den Achtzeger sinn, well do kennt déi Währung le duo inséperable. VISA an Eurokaart. Virdrun net méiglech well se déi Lizenz do net kruten.

00:56:01

B: Jo jo, dat ass richtig. Dir hutt ganz Recht. Also et muss esou sinn. Et muss, waart emol 95', 90-er, nee et muss ugangs 90' gewiescht sinn. Also, firwat ass et esou, well ech weess, dass deem deemoleg mäin President vum Conseil dat war ee vun der Banque Générale, dat

war no fënnef Joer. Also dat muss 90', also 89' oder 90' gewiescht sinn. An an dem Zäitraum kruten se d'Visakaart. An do ass da bis ob de Krich vun den Terminaux'en ass eigentlech, also huet de Marché gekippt, well mir haten dunn een Argument. Bah, d'Banke konnte jo nach ëmmer Kaarten ausgi wéi se wollten awer mir konnte soe „voilà Dir kennt bei eise Terminal Visa, Mastercard, eh Visa, Eurokaart a Bancomat huelen. An iergendwann hunn dann déi zwou aner Banken dat agesinn, dass dat à long terme näischt géing bréngen. Dat heescht si si verlueren Aasch, well de Chef sot „oh hei hunn se awer lo eng Leistung, he du kanns alles maachen, du muss net méi sechs Apparater um Comptoir stoen hunn“. An dunn ass dann, ech hat jo gesot, dass de System Bancomat ëmmer an engem esprit cooperateur, Cetrel war eng Cooperative. Dat heescht Dir konnt ëmmer nach Leit eran huelen. An dunn ass de Crédit Européen an d'Banque UCL, ech weess Datumer awer net méi, dat misst ech, ech hunn déi Ënnerlagen net méi, well ech bei der Cetrel 2006 alles stoe gelooss hunn. Déi hunn dann do integréiert ginn. Do hunn mir quasi de Réseau ofkaf vun den Apparater an dunn si Si mat an d'Boot komm. Wat jo souwisou Visa, Mastercard, Bancomat an alles ass.

00:57:42

A: Eh kenne mir nach fir déi lescht 10 Minutten iwuer, also mir haten elo, wann ech richtig verstanen hunn, wann ech gelift korrigeiert mech wann ech falsch verstanen hunn. Mir hunn eng éischt Phase vun der Digitaliséierung, Computeriséierung vun de Payementer déi ugestouss gi sinn duerch eis Bancomaten, Postomaten an dann déi zweet Phase mat de Point of Sales.

00:58:09

B: Point of Sales dat ass éischer Crédit Européen.

00:58:11

A: An elo fir déi lescht 10 Minutten, ech weess net ob et richtig ass, mee da kennt emol de WorldWideWeb, den Internet. Do kennt dann déi drëtt Phase.

00:58:23

B: Jooo, do misst ee villäicht. Jo jo, nee nee.

00:58:27

A: Do ass déi Thèse nach dobäi. Déi hunn ech aus den Interviewe mat anere Finanzexperten. Do ass net nëmmen d'Ukomme vum Internet mee anscheinend och la lutte contre le blanchissement de l'argent. An dat wär dann déi vage vun der Digitalisatioun déi doduercher och duerch den Internet an duerch la lutte contre le blanchissement d'argent ugestouss gëtt. Wéi gesitt Dir dat?

00:58:55

B: Jo ech géing Iech villäicht, éier ech ob déi fro äntweren, géing ech Iech nach wat Dir gesot hutt, interesséiert Iech jo vum Client senger Säit. Dir musst Iech dat esou virstellen. Virun enger gewësser Zäit hat dir d'Bank hei an dann hat Dir de Client dee bei d'Bank gaangen ass. D'Bank als Këscht an de Client, de Kunde geet bei d'Bank. An dann no enger Zäit hate mir déi Geschicht [...] gemaach. Du sidd Dir bei d'Bank, ëmmer nach de Kunde en ass net méi an der Bank mee en ass schonn dobaussen. Dann hutt Dir eng Phase wou Dir sot dat ass da Point of Sales, ech brauch guer net méi bei d'Bank ze goen ech [...] gi just nach ob déi Plaz wou ech eng Transaktioun muss maachen. Dann hutt Dir eng Phase déi Dir elo uschneit, dat ass dann elo déi Phase, wéi kéint ee soen, E iergendeppes, soe mir mol E-Banking an E-Commerce. Beim E-Banking hunn mir zu Lëtzebuerg zwou Etappe gehat, mee net nëmmen zu Lëtzebuerg. Dat hutt Dir villäicht och scho gesinn. De Phone Banking.

01:00:22

A: Jo do gëtt et jo och déi berüümte Visa Phone.

01:00:25

B: Jo voilà. Dat an dat zweet ass eben Dir konnt och higoen, bah dat ass jo da schonn den E-Banking um Computer an dat ass jo elo haut an nach enger denge méi weit. Do sidd dir och elo beim Mobile ukomm.

01:00:43

A: War de Videotext jo och un d’Cetrel ugeschloss?

01:00:45

B: Nee dee war net ugeschloss. Domat hate mir näischt zedinn. Mee wéi gesot dat heiten ass jo aus der Vue vun engem Client deen Instrumenter benotzt wou en ëmmer méi weit vun der Bank ewech kennt. Dat heescht do wou elo effektiv ëmmer, en ass jo quasi zu all Moment kann en jo hei Mobile Banking maachen an E-Commerce, also Commerce maachen. Voilà dat ass wat wichteg ass. An do dozou gehéieren ëmmer Léisungen. Hei entstinn dann déi gemeinsam Léisunge wéi Cetrel bon do ass nach eppes aneres dobäi. E-Banking huet all Bank seng Interfacen an dat ass insgesamt wéi Dir richtig sot eben duerch den Internet eigentlech réischt méiglech gewiescht. Hei musst Dir verstoe bis den Internet an den 90-er Jore komm ass, iwwerhaupt also déi ganz Technologie IP, hu mir alles misse mat gelounte Leitunge maachen. Dat heescht Dir hutt zweschent engem Cactus an der Cetrel huet misse vun der Post eng Kofferleitung duerchgeschalt ginn. Dat heescht dat ware reservéiert Leitungen. Zweschen enger Tankstell an der Cetrel war eng gelounte Leitung. An do hutt Dir da fir Iech [...] do sidd Dir da mat 1200 bit an der Sekonn ugefuer he. Mir sinn do net am Mega-Beräich wéi haut. An eréischt duerch den Internet a jo méi kleng Geschäfte déi hunn een Die-up gemaach. Dir wësst jo fréier war, dat gesitt Dir jo an den ale Filmer wéi War Games, esou huet Internet fonctionéiert, also d’Kommunikatioun fonctionéiert. Dir hat ee Modem am Telefon deen huet dann net nëmmen d’Operatioun Kaart astieche Pin aginn an dunn huet een ausgehaangen an, also dat war la mer à boire. Dat huet sech natierlech wonnerbar verännert duerch räich Banken. Dir kennt da Websitte maachen. Bon Phone Banking natierlech net. Dat war nach duerch Telefon mee dat war awer schonn een éischte Schrëtt fir d’Leit drun ze gewinne „ech brauch elo guer net méi an d’Bank ze goen. Ech maachen iwwert epuer Manipulatiounen“. Bon natierlech war dat séier eriwwer wéi ee konnt Websitte maachen. Déi éischt interaktiv. Dat ass vill méi einfach wéi do iwwer

Telefon Tasten ze drécken an dat ass awer nëmme méiglech well Dir déi ganz Technologie IP do hat. Also, IP plus déi Couche uewen driwwer. Do ass jo de Réseau de communication an uewen driwwer sinn d'Applikatiounen um Internet. An selbstverständlech ass et dann duerch déi well et jo alles connectéiert ass kennt Dir Transaktiounen am temps réel quasi de Monitoring maachen, also Traçabilitéit ass do an dat ass jo firwat och haut an dem ganze Gewulls vun Transaktiounen déi an de Geschäfte mee awer och déi normal, wann dir ee Virement maacht mat intelligence artificielle gefuer gëtt fir Pattern erauszefannen. Dat war alles virun 20 Joer net méiglech. Mee all Sprong wou mir gemaach hunn [...] Et waren ëmmer nëmme déi zwee Prinzippen: „Ech well menge Clientë bessere Service maachen, well et geet jo drëm mat Servicer Geld ze verdéngen an ech well awer gläichzäiteg hunn, méi sécher“. An selbstverständlech sinn enplus ëmmer méi Regularie komm. Dat heescht jidderee probéiert jo aus senger eegener mobile seng eegen, Dir gitt jo och nach gefrot vun de Regulateuren. Dir musst do jo Customer ginn. Dir musst Transaktiounen a Monitoring maachen an genau fir dann ze boucléieren, wat ech am Ufank vun instant payment gesot hunn. Da musst Dir Iech mol virstelle wann mir zwee eng Transaktioun maachen dat Geld géing jo aus dem Circuit verschwannen. Dat heescht maachen Iech 10 Milliounen Euro da muss déi Bank déi zwou Säiten innerhalb vun 10 Sekonne gemaach hunn. Et ass net well et eenzel ass, dass dir bemol net all déi Anträge musst maachen an de blanchiment d'argent an [...] An dofir brauche mir déi nei Technologie an dat ass haut méiglech, dass een dann déi Massen un Transaktiounen, mir schwätze jo do vun, fir Iech just ee Begrëff ze ginn, wann dir d'Europäesch Zentralbank kuckt, ech mengen nëmme d'Transaktiounen an Euro sinn 140 Milliarden am Joer [...] ouni mol déi aner. An doranner musst Dir ee Pattern gesinn, well dat geet jo queesch duerch d'Banken. Et ass jo net nëmme, dass déi Krimineller sech ob Lëtzebuerg beschränke mee dat si jo richtig Verflechtungen an dat musst Dir esou erkennen.

01:05:32

A: Dat geet jo bis dohinner, dass een erkenne muss, hunn Si villäicht an ee Fond investéiert an engem anere Land.

01:05:38

B: Ah jo Dir musst wou d'Geld higeet. Ass dat normal? Mécht den Här Vetter elo normal

Transaktiounen oder ass net elo eng dobäi déi total aus der Réi geet an enplus deen Destinatär. An da bei dem Destinatär selwer deen ass net ganz koscher an sou an dat ass genau dat want déi nei Systemer bei all Sprong quasi och gezwonge ginn ze maachen. Dat ass géing ech mol soen aus menger Vue sou wéi et ausgesäit an dat ass eppes wat oft Banken net esou bewosst gestéiert hunn mee wat awer flott ass, ass dass ab engem gewësse Moment quasi de Client dat freet. De Client seet zu sengem Korrespondent „ah tiens do gëtt et jo awer Internet. Ech kann ob Amazon oder ob iergendengem anere Site eppes maachen, firwat kann ech dann eppes wat fundamental och an de Payementer geännert huet. Déi hunn net nëmmen, well Dir virdu vu Money laudrying geschwat hutt, dass d'Reglement ännert, dass verschidde politesch verschidde Saache gewenscht sinn. Dass et méi streng ass, mee dir hutt Technologie déi einfach bemol do ass. Déi Iech awer ebëssen zu bedenke muss ginn, „soll ech mat mengem ale System weiderfueren? Kann ech net mat enger neier Technologie besser maachen? Käschte spueren asw? An dann ass ganz einfach de Client deen ass haut verwinnt. An genau dat ass jo déi Iwwerleeung vum Här Mersch wann en do am European Payment Board den Instant Payment viru puer Joer gepushed huet, 2015 mengen ech war dat, 14', 15', wou en gesot huet „do muss eppes gescheien“. Mee dat ass well de Client seet „majo et funktionéiert. Ech kann iwwehall online fueren. Firwat net bei menge Bank? Firwat verdammt nach emol muss ech do dräi Deeg waarde bis ech dat Geld eriwwe kréien?“ An aus deenen Iwwerleeungen, wéi gesot, ännert dat fundamental.

1:07:34

A: Dat heescht Dir géift direkt ënnerschreiwe wann ech soe géif dass de Client een direkten Afloss ob d'Modeliséierung an ob de Shaping vun dem Paiementssystem?

1:07:45

B: Also de den haitege Client, jo. Firwat mee d'Leit sinn och, obwuel nach ëmmer vill ze maachen ass an der education financière, also ech brauch jo mengen ech just vun dem Deel ze schwätzen, huet de Client awer eben duerch éischtens mol Accès un Informatiounen. Dat heescht et ass vill méi einfach, e kann sech vill méi séier informéiere wat sou leeft. E kann och d'Banke vill besser vergläichen. En ass vill méi mündeg ze soe „bah voilà mee ech hätt dat doe gären“. Dach dat ass awer ganz richtig. Dat kann ech ënnerschreiwen.

1:08:23

A: Dat heescht ab, soen mir, ab den 90er Joren bis haut?

1:08:26

B: Ech géing soe jo et ass elo, jo villäicht géing ech mengen dass et an deene leschten, bah säitdeem dass d'Smartphone komm sinn, also dat mierkt een, dat ass awer elo meng perséinlech Aschätzung, mierkt ee vill méi dass den Drock vu bausse kennt.

1:08:44

A: Dat heescht an där Zäit virdru waren et éischer d'Banken déi d'Reduzéierung wollte fir och méi Sécherheet ze kreéieren an dat heescht wann mir rëm ganz un den Ufank gi wou mir ugefaangen hunn mam Interview, wou ech gesot hunn ech deelen an éierlech an onéierlech Clienten dann huet awer an där éischer Hallschent vun där Periode sécherlech och den onéierleche Client de Paiementsystem mat gepräagt fir dee Secherheetsgedanken oder ass dat einfach eng Natur vun der Bank?

1:09:17

B: Nee also ech géif soen, dass och éischer eng Natur vun der Bank. Ech mengen Dir hutt jo awer ëmmer d'Sorgfaltspflicht déi Dir musst maachen oder misst. Ech mengen Dir gitt jo net als Entrepreneur permanent Risiko an also egal bei wéienger Branche Dir sidd. Dir probéiert ëmmer nee Iech ze rassuréieren, „majo wann ech elo mat dem do schaffen, ass dat ee gutt de Client?“ Asw. Haut muss Dir dat maachen. Haut muss Dir de Clientscreening maachen, ee Know Your Customer mat him maachen, Dir musst all méiglech Kontrolle maachen. Firwat? Mee well verschidde Banke justement dat net gemaach hunn. Mee ech géing soe fir Lëtzebuerg war et awer ëmmer esou gewiescht, [...], well ech hunn ni an enger Bank geschafft. Ech war ëmmer nëmme externe. Also Cetrel oder awer och ABBL. Mir hunn awer hei ee relativ staark ausgepräagte Secherheetsdenken. Dat heescht Banken also ech schwätzen elo vun Zahlungssystemer probéiere fir sou mann wéi méiglech Decheten ob

hirer Säit ze hunn, selwer Problemer ze kreéieren an da wéi gesot och no baussen dem Client dat Gefill ze gi vu Sécherheet well Dir musst jo och dem Client bei all techneschem System eng Sécherheet ginn. Well dat ass wat heiansdo FinTechen haut zu daags net ëmmer verstinn. Déi schéinsten Technologie hëlleft Iech net wann Dir als Client net ee gutt Gefill hutt. Oder keng Preuve dass et sécher ass. Dann notzt dat net. Et ka sinn dass dat dat bescht vun der Welt ass mee Dir wëllt et net well keng Garantie do ass. An hunn ëmmer d'Lëtzebuerger Banke probéiert ze maachen. Als Nieweneffekt effektiv sinn eis Frauden zu Lëtzebuerg glécklecherweis relativ niddereg am Verglach zu deenen aneren. Et gi Frauden ob zwee Niveauen. Also Fraudë bei der Transaktioun selwer an ob der anerer Säit de Client deen net éierlech ass, deen säi Geld ze vill ausgëtt an net rëmbezuele kann [...]. Also et ass villäicht, ech géing et net esou dréie wéi Dir et sot. D'Zahlungssystemer waren ëmmer geprägt duerch bessere Service a wann méiglech eng zousätzlech Sécherung fir déi zwou Säiten, fir d'Bank an och fir de Client. An selbstverständlech huet dat fir gudden Nieweneffekt, ech soe mol déi Leit mat ebësse méi kriminell oder ech soe léiwer mat der méi onéierlecher Energie limitéiert hätt. Ech géing dat net ze vill ervirsträichen.

01:11:47

A: Jo dat as wichteg ze soen.

01:11:49

B: Jo de Beweis ass jo, wat een och nach ka soen, wéi d'Banke geduecht hunn, wéi d'Catrel gegrënnt gouf hunn mir och do eng Réckversécherung gemaach he. Dat heescht do ass all Joers muss ee jo rechnen, dass awer mol kéinte Fraudë sinn, awer mole ben Problemer optauchen an dat hunn mir och nach iwwer normal Assurancë gemaach an iergendwann hunn se eng Kéier gesot „majo eng normal Assurance geet sech jo och ëmmer Réckversécheren da maache mir dat ganz einfach“. Zu Lëtzebuerg gëtt et jo och ee gutt entwéckelte Versécherungsmarché do hunn mir eng Réckversécherung gemaach déi huet Catrel V geheescht, ech weess awer net méi ob se haut nach existéiert. An do drënner hunn mir amfong geholl all déi Joers, ech mengen déi Zäit waren 100 Milliounen Lëtzebuerger Frang, 2,5 Milliounen Euro. Dat ka sinn dass et entre temps wesentlech méi ass, wann se nach ëmmer existéiert an dann hunn mir do déi Suen, eng

Récklaag gemaach fir eben justement wann eben eng Kéier eng gréisser Attack wär oder wann et mol epuer waren, dann hunn mir da mol déi Clienten déi da Schadenersatz krut hunn, déi konnten aus deene Reserven, wéi gesot dat Secherheetsdenke war ëmmer de ständege Begleeder vun den Zahlungssystemer. Jo dat ass emol géing ech soen, bon, haut ass et jo de Moment leeft dat jo haut zimmlech geordnet mat Visa, Mastercard, do sinn eis Kaarte jo lo entre temps gett et jo an dem Sënn de Bancomat nach ëmmer mee haut d'schwetzen d'Leit jo de Geldautomat a Punkt aus wäert ni eng Zukunft hunn. Mir sinn elo am gaangen, dat ass elo kee ganzt grouss Geheimnis. D'ABBL an och d'Banke probéieren net nëmmen hei zu Lëtzebuerg mee europawäit vum Cash lass ze kommen. Dat heescht mir si wéi an Däitschland, déi si relativ staark cash gepräägt obwuel hei zu Lëtzebuerg Kaarte ganz vill zum Asaz kommen am Verglach zu villen europäesche Länner, do si mir jo an den ieweschte Statistiken. Mir sinn der Meenung, dass een do nach ka vill wieder goen. Beispill Schweden, Beispill Holland do kennt Dir eng Woch laang alles bezuele vun Bäcker bis Hotel.

01:14:13

A: Vun der Kirch. De Klingelbeutel hunn ech gesinn.

01:14:15

B: Jo jo, et gëtt well alles. Ech war elo viru 14 Deeg, nee virun engem Mount zu Amsterdam mat menger Fra. Dat eenzegt wat ech mat Cash bezuelt hunn war an der Central Sation d'Toilette well do wou et era geet deen hat kee Kartelieser.

01:14:30

A: Ech hat dee Problem och.

00:14:31

B: De Recht wéi gesot, alles de Busticket, alles, entweder mat Apple Pay oder mat wéi och ëmmer, wéi gesot ze bezuelen. Dat ass och, wat och interessant ass dass de ganze Marché

sech elo total verännert. Virdrunhat Dir ëmmer nëmmen d'Banken an Operateuren déi de Banke gehéiert hunn déi an dem Feld täteg sinn. Haut hunn mir jo vill méi villfälteg, Dir hutt jo net nëmmen d'Banken déi an deenen Zahlungsmedien ënnerwee si mee och E Money Institutions, Payment Institutions déi haut dierfen am Paiementsberäich täteg sinn. Dir hudd eng selwer hei zu Lëtzebuerg, ganz [...], bon Paypal ass zwar eng Bank mee déi sinn awer an deene moderne Paiementssystemer ënnerwee. Bon Amazon Payments ass jo hei zu Lëtzebuerg, Amazon Payments Europen déi och Member alles zwee bei eis sinn an Dir hutt och ëmmer méi FinTechen déi een Deel vun dem Ecosystem gi si vun de Payementer. Dat heescht een anert Beispill Digicash kennt Dir jo. [...] Bah déi schaffe mat Banken zesummen. Well d'Banke selwer gesot hunn „Pff wat soll ech mengem Client eng Applikatioun ubidden. Ech hunn do Digicash déi mir dat do entwéckelen. Ech setzen dat lo a mäin Log” Ech hunn do Banque Générale Digicash an zu Gott. An do huet do dee Marché sech ganz staark verännert a mir hei ob der ABBL, just zu ärer Informatioun droen där Saach och Rechnung. Mir hunn e Beräich Payments Cluster dee mir hei ofdecken. Do hunn mir eng vun eisen 150 Memberen eng 40, Banken oder Memberen. Dat sinn net alles Banken, do sinn och der E-Money'en dobäi Payments, [...] a Payments Institutions. Mir hunn Affekotecabinete well déi och dozou bäidroen, dass dee ganze System funktionéiert. Mir hunn och Technology Provider déi de Back End Software ubidden an dat zesummen, natierlech mat Banken. Bon bis viru Jore ganz staark Lëtzebuerg duerch Retailbanke wéi Spuerkeess oder Banque Générale geprägt war well déi nei Präsidentin vun Paypal déi an de Payementer eppes ze bréngen huet oder bréngen kann an dat ass, eh, do gesäit een dass dat alles sech verännert huet. Dat heescht de Client huet an dann och, sinn och aner Acteuren déi erakommen. Dat ass och wichteg villäicht vun ärer Säit. D'Chasse war eriwwer. Firwat ass et elo keng Chasse. Ma well d'europäesch Gesetzgebung, soe mir mol, neien Acteuren d'Méiglechkeet gëtt a bestëmmte Beräicher vun de Payementer anzetrieden. Se mussen natierlech wéi eng Bank verschidde Verpflichtungen aginn. Mee firwat ass dat esou? Mee wengst de Stabilitéiten, wengst de Responsabilitéiten, fir de Client ze schützen mussen déi och wéi Banke verschidde Garantië ginn. An dat bréngt da mat sech dass do een Innovatiounsschub kennt well ebe Leit vu baussen déi net ëmmer nëmme Bankgedanken hate mee och aus ganz anere Beräicher kommen. En Amazon kennt net aus dem Bankeberäich mee si gesinn awer verschidde Saachen déi ee kéint besser maachen, ënnescht integréieren an sou an dat bréngt da mat sech, dass dann den Ekosystem sech verännert. Dann hutt Dir natierlech mat Momenter sou Saache wéi elo, dat ass dann déi berüümt PSDC

wou wann, dat hutt Dir villäicht schon an der Presse gelies, ee vun deene wichtigste Punkten ass, dass dann esou eng FinTech bei ee Client ka goen a soe „Lauschter mol. Du bass dach Client. Du hues dach bei dräi Banken ee Konto. Wär et dann net flott ech ginn Dir esou [...] wéi wann's de nëmme bei enger Bank wäers da gesäis de alleguerten deng Paxementskonten a kanns besser deng Finanzsituatioun geréieren. Du kanns och dann, mir ginn dir Suggestiounen wat's de villäicht mat esou engem Solde kanns maachen. Du kanns awer och direkt vun denge Konten iwwe eis bezuelen. Du muss just den Okay ginn.“ An dat ass genau wat iwwert dat zweet Gesätz geet. Wann de Client bei senger Bank geet a seet „Lauschter mol ech hunn do ee FinTech déi esou ee super Service hunn. Du gëss dem meng Donnéeën, da muss d'Bank et maachen. Donnéeë gi for free. For free. An dat bréngt dann elo do ee Schub mat sech, do sinn dann natierlech an Europa esou eng 140 oder souguer grave gesinn 200 FinTehen an Europa déi sech do prett maachen. Zu Lëtzebuerg schéinen der net esou vill ze sinn, well mir sinn ee klengen Marché deen net esou interessant ass. Ech mengen Dir wëllt jo dann hei vill Clientë fannen déi an der Situatioun sinn. Bon bei engem klengen Marché, Lëtzebuerg ass awer kleng gëtt et dat net sou vill.

01:19:48

A: Mee ee Leader oder [...] deen huet dee gréisste Potential.

01:19:53

B: Do kennen ech der. [...] dat seet Iech eppes vun eh, voilà déi sinn an deene Beräicher ënnerwee. Dir fannt esou Saache wann dir bei d'EBA, d'European Banking Authority gidd, do fannt Dir esou Leschte vu FinTehen déi de Moment schon autoriséiert sinn an engem oder dem anere Land. Wou et der ganz vill ginn dat ass an England well eben den englesche Marché dat dote schon säit längerem schon bei sech hat als Regularien. Wat awer elo interessant ass, an dat musst Dir, an dat Gesetz seet awer net aus, dass Dir als Client enger Organisatioun, ech hat elo hei Fintech gesot well dat elo deen einfachste Fall ass fir sou Autorisatiounen. Mee eng Bank huet och eng Autorisatioun. Dat heescht Dir sidd Client bei der Spuerkeess, bei der Banque Générale a bei der Raiffeisen, ech ginn dovun aus, dat ass elo mäin best guess, mee Dir enregistréiert dat och elo sou, dass déi Retailbanken och Iech de Service wäerten ubidden. Eng Spuerkeess wann Dir do Client sidd [...] „Mir hunn

super genius, wat och ëmmer, financial oder personal financial Manager, da bréngs de awer deng Konte vun der Banque Générale, deng Informatiounen net deng Konten, d'Informatiounen eran an da bidden ech Dir esou eng supper Vue un. Dat wäert och stattfannen. Dat heescht et ass net nëmmen, wat of gemengt gett, eng Konkurrenz zweschen de Banken an den Net-Banken, FinTeche mee et ass och eng Konkurrenz ënnert de Banken déi do villäicht amplifiéiert gëtt. An dat gëtt nach, firwat gëtt dat geféierlech? Majo dir verstitt jo dann dass d'Bank, d'Bank ass net méi, do setzen deen een, de Fintech setzt jo zweschen Iech an der Bank. Dann ass d'Bank déintermediéiert. D'Bank gesäit net méi wat Dir alles mat der Fintech do maacht an dat ass net gutt an dann, do gëtt et, et war elo kierzlech doriwwer eng Konferenz, déi hunn e Beispill ginn, bah, kuck emol Amazon. Dat ass een typescht d'Beispill. Dir sot zu Amazon „Bah ech ginn Dir d'Recht oder ech soe mengen zwou Banke wou ech meng Konten hunn, dass déi d'Informatiounen bei dir misst leien an ech ginn Dir d'Recht och wann ech mech bei Dir loggen an ech well bezuelen, da soen ech, dass du iwwert déi Konte kanns bezuelen. Dat ass alles wat se da brauche vun Autorisatiounen. Also dann huet dat keng Problemer. Sou lo sot Dir „okay da kennt awer, ech kafe mir ee Buch an dat gëtt da wat der bei Amazon gekuckt huet ah beim Spuerkeesskont, okay ech bezuele mam Spuerkeesskonto. Fein.“ Dann ass näischt wieder geschitt well d'Spuerkeess huet jo nach ëmmer d'Transaktioun. Elo kennt awer de Punkt, Spuerkeess seet „Deet mir leed Här Vetter do ass awer Null um Kont, kennen net maachen.“ Dann hunn ech Amazon hannendrun mat villäicht engem anere Partner an ech kréien ee Kredit deen d'Spuerkeess net méi huet. Dir kommt zu ärem Buch well dee Kredit deen Dir kritt, elo villäicht. Deen ass Iech geneemegt. Dir sot da „Okay“ mee d'Spuerkeess gesäit dat net méi. An dann huet d'Spuerkeess zwou Saachen, se huet dann ee Client verluer, he, oder eng Opportunitéit de Business verluer. An do ass déi Angscht déi do kennt an dat wär nach eng Kéier dee ganze Marché vun de Payementer opmeschen. 14ten September ab dann trieden déi Gesetzer all definitiv a Kraaft.

01:23:20

A: Dat ass jo Wansinn well dat entsprécht jo géingt de Secherheetsgedanken.

01:23:23

B: Ah nee nee

01:23:25

A: Ech weess et net, vun dem verschwannen. D'Visaskaart verschwënnt. Ech weess et net.

01:23:29

B: Jo mee et muss een oppassen, jo, dat ass ee Risiko de muss jo da wann elo esou eng FinTech hannendrun Kreditter da gëtt, déi mussen nach ëmmer no Krittäre schaffe wéi bei der CSSF.

01:23:40

A: Ah okay.

01:23:41

B: Ah jo.

01:23:43

A: Dat war elo meng Suerg dobäi.

01:23:44

B: Ah nee nee Dir musst oppassen. Do si jo aner Type vu Servicer an aner Type vu Servicë sinn an Europa reglementéiert. Dat heescht Dir kennt zwar méi Riskofrëndlech si bis zu engem Gewessenpunkt well Dir musst är Ratio awer bei de Bankenaufsichtsbehörden awer hannerleeën a beweisen. Also esou einfach ass et net. Et ass awer déi Flexibilitéit déi do entsteet. Wei gesot dat dote geet de 14ten 9ten 2019 trëtt dat a Kraaft et ass awer esou dass, well Dir virdru gesot hutt, PSD2 ass eigentlech d'Gesetz de Rahmen an hannendrun

kommen awer nach Regulatory Technolofications dat ass genau d'Sécherheet. Mee wéi? Wann ech um Internet mat menger Bank déi Donnéeën echangéieren. Dir hutt mir zwar, also, ech hunn zwar Iech als FinTech an Optrag gi mee wéi kommunikéiert ee mat der Bank? An do sinn da ganz kloer Verpflichtunge wéi déi da FinTech muss sech authentifizéiere well dat si Computersystemer déi matenee schaffen. Dat si jo net, dass jo net dass ee vun der FinTech urifft. Dat muss da Kommunikatioun muss ofgesécher sinn a vis-à-vis vum Client, de Client muss och méi Sécherheet erëm raféieren. Dat ass dann déi two factor authentication. All déi Saachen déi elo. Dir hutt jo schon villäicht héieren, Luxtrust huet jo elo. Dat ass jo schon een Deel vun deenen Implementatiounen déi elo vill méi sécher gemaach musse ginn. Et ass de Moment esou, dass och do bässe gefacht gëtt, dass dat kontraproduktiv ass. Wann déi bemol de [...] Klick net méi kennt da benotzen [...] Dee jo super war. Dann fäerte verschidde Commerçanten oder dat si jo manner d'Banke mee d'Commerçante behaapte jo dann. D'Leit wann et ebëssen ze komplizéiert ass, duerch hei drécken an dann do drécken an ob déi aner Sait an nach do een Token an nach kucken dass dat Bild ass, da maachen ech et net. Verstitt Dir? Well et ass einfach net méi [...] ass. An do musse mir elo kucken, wann mir et lo mol soen an Theorie ëmsetzen, wéi dann d'Praxis sech ergëtt. An Dir wësst jo all d'Gesetzer gi jo och nach eng Kéier nogebessert an d'Praxis. An dat wäert eis déi nächst zwee Joer voll am Damp halen. Dann kennt wéi gesot parallel dozou Servicer déi Instant Payment. Well dat musst Dir verstoen dat ass wéi eng Couche supplémentaire heidrobber, well dat ännert jo näischt un de Payementer mee just um Floss vum Geld. Mir maachen ëmmer eis Transaktiounen haut um Amazon mee d'Suen komme réischt muer. An dem neie System kommen se direkt. A 5 oder 10 Sekonnen. An et si Länner, wéi gëtt dat gemach? Mir wäerten et ab Oktober wäert JP Morgan hei zu Lëtzebuerg als éischt Bank dat ubidden awer éischten de Corporate fir déi Firmen déi bässe méi Geld hunn. [...] An am Laf vun 2020 dann sou Banke wéi d'Banque Générale, Spuerkeess, d'Raiffeise bon d'Post. Mee dann ass d'fro ass dat ee Service additionnel, also, verkafen ech Iech dat? Also dat ass jo eng Iwwerweisung als eng speziell Iwwerweisung dat gëtt a verschidde Länner gemaach an da musst Dir méi bezuelen dat ass eng Approche déi ass vun de Länner, oder sot Dir wéi d'Hollänner dat anert extreemt „ah nee d'Zukunft ass dat“. Dat heescht mäin normale Virement wéi haut 1+1 dee verschwënnt. An fir mech ass et normal als Bank, Dir maacht eng Transaktioun, Control AML, also Money Laundry an alles ass negativ also „futttt“ direkt gemaach dat ass da wat d'Hollänner the new normal nennen. An do dozweschend, jo, muss all Bank oder all Bankecommunitéit decidéiere wéi een dat

gesäit. Dat kennt alles mateneen. Den Instant Payment ass éischer eng Pression de Marché also Clienten déi dat gären hätte plus ebessé Politik wou awer kee Gesetz de Moment nach besteet. Wou awer kéint sinn, dass an zwee, dräi Joer ee kennt. Dat ass et elo oder Dir musst et ubidden ouni ze soen, dass et dat alles soll ersetzen a wéi gesot PSD2 déi nächst zwee Joer muss alles matenee gemaach ginn. An an engem Marché wou een ëmmer manner verdéngt, well d’Konkurrenz ëmmer méi grouss gëtt, wat et och ee Masse Marché gëtt an do musst Dir da kucken iwwert d’Rollen ze kommen. An bei esou Saache wéi PSD2 wou dann d’Leit alleguer an d’Hänn klappe fir dem Client méi Sécherheet ze ginn, dat kann awer zum Beispill dozou féieren, dass Dir musst sämtlech Kreditkaarten ersetzen. Also ech weess net ob dat elo de Fall ass mee do kéint et sinn dass do déi Chipen net méi kapabel sinn déi nei Sécherheeten dran ze maache well eben einfach begrenzten Algorithmen dran huet. Dann muss een dat ersetzen. Dat ass net nëmmen de Präis vun der Kaart. Dat ass jo och da substanzuell epuer Euro an Dir musst se awer och operationell maachen. Dir musst dann 100te vu Milliounen Kreditkaarten [...] zu engem gewësse Moment ëmsetzen. Dir musst dann Iwwergang schafe mat den Terminauxen. Dir kennt jo dann net soe vun haut ob muer sinn déi nei Kaarten net méi gutt an déi nei déi sinn da gültig oder epuer neier a keng al méi déi Dir kennt akzeptéieren. Dat geet jo och net also mussen d’Terminauxen och verschidde Versionen kenne fueren. Déi mussen upgraded ginn. Also dat ass schon en, eh, et gëtt oft total ënnerschätzt wéi komplex, dass wat de Client sou als einfach gesäit, wéi dat hannendrun am Back End fonctionéiert.

01:29:34

A: Et ass jo Wansinn wéi einfach quasi déi éischt Infrastruktur war an dann ab den 2000er no de Smartphonnen.

01:29:45

B: Jo dat géing ech soen. D’Komplexitéit ass enorm an d’Luut gaangen. Einfach well Dir kennt do, wéi gesot, mat Partnerschaften schon eleng duerch de Fait, dass mat der Partnerschaft déi Komplexitéit méi grouss well da vill vun den Informatiounen vum Terminal iwwer Digicash iwwert eng Bank ob eng aner Bank leeft. Clearing an Settlement an dann nach Instant Payment dobäi also dat huet schon eng gewësse Komplexitéit. An dat muss jo

emmer ronderem d'Auer funktionéieren. An dat ass och wat beim Instant Payment villäicht awer wichteg ass. Am Moment ass et esou dass d'Zahlungssystemer déi hannendrun déi Transaktiounen maachen ëmmer nëmmen ob Dagesmechanismus fueren an net iwwert de Weekend. Bei Instant Payment muss dat 365 Deeg am Joer ronderëm d'Auer lafen. An haut ass et esou, ausser elo wann Dir Kaarten elo blockéiert, bon do ginn et natierlech Helpdeske mee wann Dir elo d'Transaktionsproblemer hutt, déi ginn net an engem Helpdesk traitéiert. Am Instant Payment musst Dir dat awer maache well stellt Iech fir dir hutt do, ech soe lo, JP Morgan iwwerweist elo 100 Milliounen Euro, elo gëtt d'Transaktioun rejetéiert. Bah da wëllt Dir gäre wësse wat Saachen ass well et wichteg ass. Da wëllt Dir gär un är Bank kommen oder de Client un d'Bank kommen a jo da muss ee bei der JP Morgan do setzen. Wou en da setzt dat ass dann nach egal mee de Service muss awer do sinn. An dat bréngt dann erhieflech Käschte mat sech an Organisationsproblemer mat sech. Jo dat ass tiefgründeg dat ganzt.

01:31:20

A: Jo ob jiddefall.

01:31:22

B: Also ech menge wéi gesot, mir kenne gären, also nach méi wéi eng Kéier eis zesumme setze wann Dir am Laf vun der nächster Zäit do.

01:31:30

A: Gären.

01:31:31

B: Ech kann och wann Dir wëllt. Ech offréieren dat ëmmer de Leit déi esou Etüde maache Géigend liesen, dass een eng Kéier gesäit war d'Iddi richteg oder hat ech mech anescht ausgedréckt.

01:31:34

A: Souwisou ech wäert Iech dat zouloosse kommen.

01:31:44

B: Jo jo dat kenne mir gäre maachen.

01:31:46

A: Ech hätt just eng eenzeg Fro wann mir dofir nach Zäit hätten? Wat sot Dir zu där Thèse Visa, Contactless Payment doduercher gesäit een och dass d'Bancomatenzuel erof geet? Ass dat esou oder?

01:32:08

B: Eh Dir méngt Bancomaten, d'Geldautomaten?

01:32:09

A: Eh jo. Geldautomatenzuelen reduzéieren sech well Visa an.

01:32:18

B: Jo dat ass villäicht, jo, also et ass emol sou, ech géing et aneschtters formuléieren. Ech hunn keng Evidenz dass déi contactless Direktzuel vun de Geldautomate beaflosst. Mee wat mir gesinn hunn, dass d'Leit ganz séier de Contactless adoptéiert hunn. Dat heescht déi fannen dat flott an et gött och vill méi bezuelt duerch dat. Wann Dir méi bezuelt, och Klengegkeeten, wéi Zeitungen an hei an do, da braucht Dir bemol manner Cash. Dat heescht et wäert schonn eng Influenz ob d'Geldautomaten hunn well da gesinn d'Banke „okay ob all den Automate ginn Zuelen erof“ Well ech hunn iwwer Woche wou ech iwwer Woche guer net méi ob ee Geldautomat ginn. Dach ech huelen eng Kéier, well ech epuer Plaze kennen,

wou ech eppes muss bezuele well dat aneschtens net geet mee soss, wéi gesot, ech hunn an der läscht keng Zeitung méi mat Cash bezuelt, wat ech virun epuer Joer nach gemaach hunn. Ëmmer nach 10 Euro an der Täsch gehat oder esou. Maache mir net. An dat ass genau dat wou mir eng Kéier wëllen hikommen. Ech hat Iech gesot, dass eis Visioun bei dem neie Payment Cluster dee mir elo gegrënnt hunn ass ee vun de Visiounen, mir wëllen an engem, ultiment Ziel Cashless, mee mir wäre scho frou wann mir an eng less Cash Gesellschaft géinge kommen. An dat ass eis d'Ziel. An wéi kommen ech dohinner? Dir kennt natierlech d'Geldautomaten ofschafe mee dat ass awer elo net ganz produktiv vis-à-vis vun äre Clienten also musst Dir et iwwert dee gudder Wee maachen. Wou well ech se dann hikeréien? Ma ech well se hikeréie mobile ee Payment ze maachen. Ech well se kréien am Geschäft ganz einfach ze bezuelen, ob dat elo mat Apple Pay mat mengem Handy oder mat dem contactless, well dat grad esou einfach ass wéi mat Apple Pay, mat der Kaart bezuelen, dat ass de Wee dee mir solle goen. Performant, End User, also Customer Experienced ze sinn, dass e seet „voilà ech muss elo eng Transaktioun, also eppes bezuelen, hei ass de Moyen dee wierklech am einfachsten ass.“ An da brauch ech kee Cash méi. An dann dat géing eis och, dat leit et nëmme elo, ech soen eis Banken en general ob der ganzer Welt arrangéieren, well wéi ech am Ufank gesot hunn, also, Geldautomat ass eppes Deieres. Wéi gesot déi Software ass net bëlleg well et gi jo net Milliounen Geldautomaten ob der Welt. Et ginn der vill awer och net masseg. Et ginn der manner wéi Autoen an, eh, de Marché ass och deier. En ass och deier well de Geldautomat eben net nëmme PC an déi Këscht ass do, dat si jo automatiséiert Tresoren hannendrun mat Kassetten. Déi Kassetten déi sinn alleguer hautzedaags duerch europäesch Policeréglementer protegéiert mat Detektoren wann en gewaltsam opgemaach sollt ginn, dass Faarw verspricht gëtt dat ass alles esou komplizéiert déi Sensoren sinn awer ob der Kassetten an an den Autoen well wann de Geldtransporter iwwerfall gëtt, fir dass och dann ausléist, net nëmme wann se am Geldautomat sinn asw. Dann hutt Dir och gelies, do sinn awer Ufäll, déi gi jo an der Lescht vu bulgareschen an aneren Ostblockbande quasi gesprengt. Bon dat ass dann nach esou ee Risikofacteur. Dann hutt Dir déi üblech Arnaquen, mir haten elo d'läscht Woch ee kleng Communiqué an der Zeitung gemaach well nees, bon am Summer ass dat ëmmer esou, entweder hei kommen dann sou puer Banden, Krimineller déi dann d'Leit probéieren ofzezocken oder respektiv am Ausland.

01:35:59

A: Déi scannen.

01:36:00

B: Jo eh, entweder Dir sidd beim Geldautomat an da gitt Dir gefrot „uh eh Transaktioun, meng Transaktioun war net gaangen ass et dann elo bei Iech gaangen. Kennt Dir net nach eng Kéier probéieren?“ An da gëtt gekuckt d’Geheimzuel well dat ass meeschtens ee ganze Grupp vu Leit déi ganz anodar ausgesinn an da kritt Dir d’Kaart geklaut an dann huelen se de Geheimcode a dann huelen se déi richteg Kaart an da gëtt geklaut. Oder et gëtt probéiert ob den Automate Manipulationen ze maachen asw. An dat, wéi gesot, dofir wäire mir frou weltwäit wann mir kéinten déi Zuel vun den Automate kenne reduzéieren. An dann hutt Dir nach deen anere Problem heiansdo ass dat dann d’Geschicht do rífft de Buergermeeschter un „Hei firwat huet déi eng Gemeng dann een Automat an ech net“. Also dat geet bis ob deen Niveau. Nee nee also ech géing et sou soen. Komm mir setzen eise Leit als Zieler performant End User Experience ze ginn do wou en se brauch, ob dat mobile ass oder Doheim um Computer ass oder am Geschäft ass oder wou en ass an da brauch en dat anert net méi. Dat ass och dat Ziel wat ech probéieren hei bei der ABBL ze verfolgegen.

01:37:14

A: Ech géif elo ophaalen.

01:37:15

B: Jo wéi gesot Dir kennt gären nach eng Kéier erëm kommen. Wéi gesot Rdver wéist Dir jo wéi mir se maachen iwwer E-mail an da fanne mir ëmmer een Datum oder eng Zäit.

01:37:23

A: Villmools Merci.

01:37:24

B: Jo gär geschitt.

Interview 2

A: Florian Vetter

B: Jean-Claude Schneider

00:00:00

B: Ehhh okay. Mir fänken un. Also zur Virstellung ass villäicht interessant ze wëssen, dass ech vu Grond aus Philos a Mathesproff sinn. Ech hunn zu Paräis Philo a Mathematik studéiert a war dono véierzéng Joer Proff fir Philo a Mathe am Athnée a Jongelycée um Lampertsbiërg. A bemol duerch honnertausend Zoufäll, fir et kuerz ze maache, kum ech ob d'Bank. Ech hu scho Freelance fir Si geschafft am Marketing an dunn hunn se gesot komm ganz. Ehm, dat war fir mech eng schwéier Decisioun, well ech war a menge beschte Jore Proff also mir huet de Beruff Proff déi Zäit gutt gefall. Ech weess dass vill eeler Kolleegen et bemol sat hate mee ech war net an dem Fall. Ech war nach déi Zäit Generalsekretär vun der Demokratescher Partei an d'Bank huet dunn awer och gesot, dass wann ech géing kommen, dass ech domat misst ophalen, well sinn net wollt ob esou engem Poste parteipolitesch Responsabilitéite gesinn. Dat ass mir terribel schwéier gefall an dat huet dann och Méint gedauert.

00:01:22

Déi Zäit war de Chef vun der Bank den Alain Georges an du huet dee mir proposéiert well ech classesch Ausbildung am Lycée hat, Latäin an sou virun a mäin Englesch fir d'Finanzwelt, a well ech zu Paräis studéiert hat, ech hunn sechs Joer zu Paräis gelieft, eh total Francophon ehm sot deen, du gees bis an d'Businessschool. Dat war heavy. Dat war vu moies bis Owe Post Graduate, ehm am general management, zwee Méint, an ech hunn déi Zäit geduecht, ech war do 37 Joer al, maach dat, wann's de nach puer Joer waarts bitt keen

der méi déi Chance dech ze recycléieren an ze léieren. An sot dobäi well deemools d'Zeitunge voll stoungen, [...] stoung am Lëtzebuenger Land.

00:02:31

Ech sinn mat der nämmlecher Paie bei d'Bank gaangen , wéi ech als Proff hat. Genau déi selwecht. Se soten mir ginn dir dat selwecht. Natierlech hat ech aner Perspektiven. Dunn hunn ech dat gemaach. Ech gouf dunn Generalsekretär an eh ech hat ënnert mir d'Generalsekretariat, Sekretariat vum Comitéë, vum Conseil, d'Kommunikatioun an de Marketing an du koum ganz séier d'Joer 2000, an d'Joer 2000 sinn ech nach eng Kéier ob d'Stanford University an d'Silicon Valley geschéckt ginn fir Internet Marketing ze studéieren. Dat war eng gelungen Zäit 2000, well de Moment huet all Mënsch geduecht et géif elo alles digital ginn an ech hunn nëmmen där Coupéen kritt, Agencen ofbauen, mir missten Sitten developpéieren an d'Bankgeschäft wär iwermuer total digital. Ech hunn Iech zwee Bicher erausginn, déi ech deemools do hu missen studéieren. [...] Wou dat do eran developpéiert ginn ass 2000, Principle Leader Marketing war och déi Zäit an 2000 war awer och d'Joer vun der grousser d'Blüh informatique, wou all dot.comm'en [...]. Dat heescht alles wat se eis zu Stanford gezielt hunn, war ee Joer drop net méi wouer oder net méi an dem Stil wouer, well, an do well ech eppes soen, d'alternativ [...] an där Form wéi se an dem Buch hei beschriwwen ass, ass se haut iwerrholl.

00:04:32

Also Digitalisatioun, eh ech preziséieren dat herno, ass eng formidabel Saach, mee se schafft d'Agencen ni of. Au contraire hunn ech nach festgestallt, wat d'Clientë méi digital ginn, wat se méi mënschleche Kontakt och sichen. Si wëllen net nemmen digital sinn. Zemoos bei enger Universalbank wéi mir et sinn, eh bon si maachen e Virement, se ginn ob de Bancomat, wéi gesot si maachen all déi Operatiounen digital, mee wann et nëmmen em een Autoskredit geet dee mir och digital proposéieren, ginn se gär bei eng Persoun. An iwwert den Digikredit gi si gär bei eng Persoun. A wann et em Privatbanking, Sue verwalte geet, da ginn se gär bei ee Conseiller. Dat heescht mir sinn haut weit ewech vun deene Vagen, déi dee Moment virausgesot gi sinn. [...] Ech weess net ob dir deem begéingt sidd. Dat war deen eenzegen deen deemools eng Internet Bourse hat. Dat war fir eis en Idol, dat ass eis all

virgeschriwwen, dass mir all ob dee Wee goe misste wéi hien. Et gëtt och Online tradings-siten, mir haten och esou een, mee dat si wéineg Leit déi dat maachen. Déi Zäit war dat och den instant dealing also, dass ee Keef verkeeft an Zäit vun enger Stonn oder vun drësseg Minutten. [...] All déi Employéén hunn dat gemaach, an dat huet sech awer no a no ginn [...]. Mir liewen haut an enger Zäit wou den Defi ass, den Equiliber ze fannen tëschent dem mënschlechen an dem digitalen. Och well dat digitalt sech nach virun entwéckelt.

00:06:35

Wéi huet dat sech bei eis entwéckelt? Mir hunn ehm, wéi ech se an den Archive fonnt hunn, mir haten dee Moment ee grouss informatiksprojeten, déi hunn geheescht CARAT. Competitive Advantage through Advanced Technology, an deemools hunn déi Leit déi dee Projet gemaach hunn, ech weess nach wéi dee bei mech komm ass a sot, an der Kommunikatioun geet et jo nach keen Informatiksprojete [...] An dunn hunn ech deem éischte Site, einfach ee Website, wéi se deemools waren, passiv an eh bal net ënnerhalend war, mee effektiv Presentatioun vun der Bank, se ass dat Joer gegrënnt ginn, se ass dat an dat, et war de Site www.bgl.lu, eh dunn ware mir déi éischt déi iwwehapt ee Site haten. Ech weess net méi weie Joer dat war. Dat muss awer sou em 97^e oder sou gewiescht sinn doruechter. An wéi déi bis online war, hunn ech déi Equipe, oh mir waren net zu vill, siwen, aacht Leit, ob ee Patt invitéiert an dunn wollt ech mengem Chef d'Rechnung ginn an dunn huet deem zu mir gesot, dat hat keen dech gefrot, dat bezils de selwer. Dat war deem éischte Site deem d'Bank hat.

00:08:04

Eh jo et stemmt, dass dat ee Projet, wie gesot de sous-marin war par Rapport zum grouse CARAT an hien huet dat net agesinn an du sot en dat hat keen dech gefrot, wat ass dat do. Mee déi Zäit gouf et awer schonn ee Bancomat, dat gouf et do schonn. Also Bancomat dat ass ATM'en, eh heeschen se jo normalerweis, Lëtzebuerg hat eng Mark gemaach, Bancomat gëtt se och am Ausland mee ehm dat war éischtens déi wéi soll ech soe Maschinnen an et war een Accord tëschent de Banken, dass wann ee Client tëschent eis

bei der BIL ophieft, dass mir dann der BIL esouvill ginn, a wann ee vun der BIL bei eis ophieft, dass dann. D'Banken hunn sech géigesäiteg bezuelt. Mee fir de Client waren, wéi bis haut nach, d'Operatioune gratis. Do villäicht eng interessant Remark, dass fir de Client gratis an et bekloen sech ëmmer vill Leit iwwer d'Fräie wou d'Banke froen, mee de Bancomat ass ëmmer gratis, mee dee kascht awer. Et ass näischt méi deier wéi d'Manipulatioun vum Cash. Et ass deen deierste Moyen de Paiement, well do kennt jo de Pourvoyeur, verschidder maachen de Bancomat voll, déi dréien d'schéiner, déi maachen d'Ecker aus de Schäiner, et ass eng Manipulatioun vu Suen, déi musse bruecht ginn, Decompte musse gemaach ginn: wat ass dran? Wat musse mir nofëllen? Do schaffe Leit an nach bis haut ass eng Prestatioun déi bezuelt gëtt. An vu dass mir jo awer vill a m Moment du Noms du Consommateur ob de Bockel hunn, ass et och schwéier dat ze froen, well dat ass da politesch, géingen d'Leit da soen. Wann dir ob de Bancomat gi froe mir Iech wat dat kascht, gëtt et haut net. Mee ewéi gesot et kascht awer eppes. An et kascht vill par Rapport zur Operatioun. Also mir ginn ob de Bancomat a mir hiewen 300 Euro ob an da menge mir domat dat wier et mee do ass hannendrun, wéi soll ech soen, ee ganzen Truc.

00:10:17

B: Ee ganzen System.

A: Et ass net déi Zort vun Digitalisatioun mat der ee Muer ka keng Entreprise féieren oder eng Entreprise rentabel maachen. Doudsécher net. Et ass ee Service fir de Client, deen all Mënsch gëtt, deen een och net esou einfach kann tariféieren, mee et soll awer kee mengen et wier gratis, déi Sue kommen do automatesch aus der Maschinn raus, mee do ass hannendrun eng ganz Aarbecht. Mee dat hate mir deemools schonn iwwert de Site gemaach. Jo, eh dunn hate mir dunn de Site www.bgl.lu, deen heescht nach haut esou an et huet. Wat fir eng Leit si lo klicke gaangen? Bon mir hunn einfach gesot, wann dir méi iwwert eis gäre wësse wëllt, kuckt do, an do stoung eis Geschicht drop, do stoung bëssen drop wat vir eng Servicer mir géingen ubidde mee et konnt een awer näischt maachen. Et konnt en näischt iwwert dee Site maachen. Dat hate mir nach net. Dee war einfach passiv. Dee konnt en liesen.

00:11:14

B: Ech hat gesinn, Dir hat do och gewise wou dir sidd an der ganzer Welt, Hongkong...
[ënnerbrach]

00:11:18

A: Jo mir hunn do eis Agence, mir hunn eise Bureau de Representation gewisen, Hongkong, Zürech a sou weider. Dat hunn mir gewisen, mee et war net interaktiv.

00:11:28

B: Okay.

00:11:32

A: Elo kennt nach eng nächst Anekdot. Puer Joer drop. Mir hate Cadereunioun, réunions des cadres an dunn kennt eng vun deene flottste Cadre bei mech, do war ee grouse Buffet a mir konnten eis dohi stëtze fir ze iessen, sot dat zu mir Kik, wëlls de net de Owend mat mir um Dësch iessen? Ech war dunn zefridden an duecht, hei Merde esou ee flott Meedche wat grad fret an ech mat him un den Dësch an dunn huet et net laang gedauert, du koum do een, dat war guer kee Marketingsmanager aus der Comptabilitéit Finance an dunn sot deen zu mir, ech hunn eng App developpéiert kann ech Iech déi weisen?

An ech als troesche Mann ech war scho bal rosen, ech duecht wat mécht hat elo hei? Dat do ass elo coup monté an du sot ech hei maacht mir do eng Nott do doriwwer an da kucken ech dat. Bon an ech hat mech dohi gesat a Si hunn eng App developpéiert an déi App war, déi huet sech lokaliséiert, dat war also schonn um Iphone. Déi huet sech lokaliséiert, do wou's de waars an huet dir gesot wou deen nächste Bancomat wär. Et war eng total einfachen Truc, deen hat dat developpéiert an ech hunn dat dono gesinn an du duecht ech bei mir: mäi Gott wéi blöd waars de? Well ech war responsabel fir all déi Developpementer an ech hunn gesinn, ech hunn se net méi all matkritt. Dass Si mir mussen dat flottste Meedche vun der Bank ob den Hals hëtzen, dass ech gesi wat fir eng App et géif ginn, dat war schlëmm. An dunn sinn ech mir direkt privat een Iphone kafe gaangen, well ech duecht, du bass iwwerhaupt net méi bei. Du sinn ech mir privat mäin éischten Iphone kafe gaangen, hunn

d'Appe gekuckt an do realiséiert an du konnt ech dann dono déi ganz Developpementer mat maachen. Ech war ëmmer dunn an deene ganzen Apple-Applikatiounen, haaptsächlech déi mat fir bäi an ech konnt dunn dirigéieren, dass déi Saachen sech géife maachen. Virum Developpement vum Webbanking, Interview Webbanking, ehm d'App vum Webbanking um Iphone an ob all den Apparate konnt ech dunn maachen. Ech muss soen dunn war och dee Mouvement méi bekannt.

00:14:11

B: War dat dann, wann ech kuerz puer Paragraphë kann opmaachen? War dat dann ee staarke Besoin vum Client oder war dat eng Reaktioun vun der Bank an dem Trend „Mir hunn esou eng grouss Konkurrenz an dem Feld. Welle mir dat Feld engem anere Konkurrent iwverloossen? Oder ass dat wierklech ee Besoin dee mir als Bank bei de Clienteë gesinn hunn? Oder wei dir an dem Communiqué de presse sot vun der Iphone Watch. Ech hunn meng Aufgabe gemaach.

00:14:49

A: Ah ech gesinn. Ech weess et net méi wat ech du gesot hunn.

00:14:52

B: Ech gleewen dat. Multichannel wär déi nei Strategie vun der Bank. A wéie Kontext setzt Dir dat?

00:15:02

A: Also, ech menge BGL war dodra Pionéier. Also mir ware liicht virun deenen aneren. Dat dauert net laang, da maachen déi all dat selwecht. Dat ass jo einfach. Dat ass och séier gaangen, Mir wollten eng modern Banke sinn a mir wollten dat offréieren. Vir d'éischt ware mir eng Offre de Service. Demande vun de Cliente hate mir déi Zäit schlecht kennt. Mir hunn se geschat. Mir hunn geduecht d'Cliente wëllen dat, mir offréieren dat. An doranner ware mir déi éischt an déi Zäit an anere Saachen och. Mir waren och déi éischt déi

banques assurances gemaach hunn. Mir waren déi éischt. Mir waren de Pionéier. Wat och war, ob är fro, war de Besoin vum Client, dass de Client dat do ganz séier akzeptéiert huet. Et ass ganz séier gaangen. Wéi séier d'Cliente bemol och online waren, dat huet sech jo dee ganzen online, déi Zäit gouf d'Land jo och terribel mat Computeren equipéiert, dass déi grouss Evolutioun vun Apple, dass déi, déi ganz Geschicht do. Mir ware jo um PC. Et ass ganz séier gaangen, bis mir ganz vill Operatiounen online haten. Esou déi Zäit hunn ech geschwat an ech weess elo net mäin ob ech vu Multichanneling, well dat huet och evaluéiert geschwat. Dat heescht ech kann an d'Agence goen, ech kann iwwert den Internet, ech kann iwwert den Telefon, well déi Zäit hate mir och Applikatioune fir den Telefon. De Phone Banking. Mir hunn awer séier gemierkt, dass de Multichannel Selling, dass dat den Ufank wär an dono koume mir zum Cross-Channeling. Dat heescht an anere Wieder: Am Ufank war et esou. Mir sinn ob de Bancomat gaangen, oder ech war um Internet, dann huet de Conseiller wann dee mäin Code am Computer aginn huet, huet dee gesinn. Dat war Multichanneling. Parallel Distributiouns Modeller, déi net matenee geschwat hunn. An dat war natierlech ee Problem. Zum Beispill konnten e Client ob d'Bank Suen ophierwe kommen a war virdu beim Bancomat oder hat virdrun ee Virement gemaach, dee konnt dat net gesinn. An dunn hunn mir agefouert de Cross-Channeling. Dass d'Kanäl géife matenee schwätzen. Dass interaktiv. Dat war och déi Zäit, wéi d'Bankekrise war a wéi mir ugefaangen hunn mat BNP Paribas zesummen ze schaffen. Wéi déi eis iwwerholl hunn. An déi haten dat. Si haten awer nëmmen iwwert een identifiant client, et huet all Client eng Nummer kritt mat sengem Kontosnummer. En huet eng Nummer kritt, eis Cliente hunn dat nach haut an déi Nummer verbënnt d'Kanäl.

00:18:27

B: Mhm okay.

00:18:28

A: Dofir hunn mir déi speziell Nummer. Dat war heiansdo schwéier mat dem Token an dem Luxtrust. Informatesch schwéier, well mir nach déi Nummer hunn a fir, dass, eh, ech ginn an eng Agence, déi mécht säi Computer un, déi gëtt mir mäin Identifiant an déi seet genau wat alles geschitt ass a wat ech gemaach hunn. Dat ass de Cross-channeling wann all d'Kanäl

matenee schwätzen. Dat war eng wichteg Etapp. Dat war zwar eng méi wichteg Etapp fir d'Bank wéi fir de Client, well dem Client ass et amfong egal wat mir iwwert hie gesinn oder net. Mee et war awer am ganze Kontext vu Know your Customer, wéi haut wou een, wat heescht hei de Client kennen. Ee Client kennen heescht net, dass ech weess en heescht Misch an ech soe Moie Misch. Dass ech weess wat ass dem säi Comportement. Wat ass him säi Bankcomportement. An haut mat der Uni maache mir déi Programmer déi ech maachen, sinn amfong Segmentatioun iwwert Comportement.

00:19:29

B: Dir kennt do och roueg ebësse méi ausféierlech ginn, well dat ass interessant.

00:19:33

A: Da lauschter. Mir hunn segmentéiert: Mann, Fra, Beruff, Alter, Avoir'en, wéi vill huet en? Dat gëtt een Segment. Huet deen 30.000 Euro, 3.000.000, dat ass ee Segment. Ass et Mann oder Fra also haut wëlle mir segmentéieren iwwerhaupt net méi mat deene Krittären do. Wéi verhält sech de Client? Wéi oft ass en am Internet, wéi vill Autoen huet en kaf? Wat soll ech soen? Ma nach ëmmer wéi vill huet en? Wat sinn seng Operatiounen? Wéi oft geet en an d'Vakanz? Mir gesi jo dann ob de Kreditkaarten. Dann léiere mir de Client kennen. An do gëtt et keng Gruppement vu Segmenter. Jiddereen ass säin eegene Segment. An duerch säi Comportement segmentéiert de Client sech selwer. Mir segmentéieren hien net méi. Hien segmentéiert sech duerch säi Behuelen. An dat ass deen néie Marketing. De Client, duerch alles wat en mécht, gesi mir ee Bild. An da soe mir, mee deen do kann interesséiert sinn un dem do Produkt. Net méi den Alter, d'Geschlecht an d'Avoir'en. Ah Dach d'Avoire sinn ëmmer wichteg. Ech ka kengem mat 10 Euro ee chinesesche Fong proposéieren.

00:20:53

A: Nee dat geet net.

00:20:57

B: Mee dat ass déi ganz dynamesch Attraktioun do. An ee vun de Projeten déi ech ëmgaange sinn, dat ass een Thema zesumme mat der Uni iwwert Fondatioun Weicker ass genau d'Segmentatioun fir de Wealthmanagement. Wat proposéiere mir wíem? An dat geet genau nëmmen iwwer Marketingskrittären déi individuell sinn.

00:21:23

A: Wann ech do kuerz eran d'äerf kommen, dat heescht alles wouriwwer mir elo geschwat hunn, multichannel, crosschannel, dat ass alles ganz rezent an dat heescht Dir hutt och quasi deen néie Wand mat do ran bruecht. Net Dir eleng natierlech, mee wann ech Dir soen, mengen ech d'Bank.

00:21:44

B: Dat wär iwwerdriwwen. Also, ech hat am Ufank d'Moyenen net. Dat hunn ech jo scho gesot. Ech hunn se bemol kritt. Dat kascht jo an ech hat amfong, [...] ech relativéieren dat elo wann ech soen, déi eenzeg Stärkt déi meng Managementtechnik hat war, dass ech jonke Leit ëmmer nogelauschtert hunn. An ech sinn awer ganz vill vun innovative Leit inspiréiert ginn. Ech louch net am Bett a si Moien an d'Bank era komm a sot elo maache mir dat an dat. Mee do waren eng Partie Leit ronderëm mech wou ech wosst wéi kreativ se wieren an ech hunn déi geruff. Ech war villäicht déi Kraaft, déi dat dirigéiert an autoriséiert huet.

00:22:45

A: An wéi ech et gesinn, Dir kennt mech korrigéiere wann et net esou de Fall ass, well da kann ech natierlech och spéider bei der Aarbecht anescht schreiwen. Dir waart Gesiicht, also d'Mark am Public.

00:22:59

B: Jo am Public jo also ech hunn ëmmer vill Leit kannt an am Public hat ech vill Gesiichter. A bis ech elo genau dat do hat vun der Innovatioun an der Kreativitéit hat, dat weess ech net.

Dofir sinn ech och bëssen ze vill schei fir mir dat unzemoossen. Mee bon ech hat éischer d'Gesicht méi vage dass ech dreiwend Gesicht vun der Bank war, wéi wann ech ob der Stier tätowéiert hat BGL. Dat Gesicht hat ech. Mee dat do war jo herno och nëmmen een Deel vu menge Responsabilitéiten. Also bon ech hat jo Responsabilitéit iwwert d'Agencen, d'Kreditter, iwwert de ganze Marketing. Do waren awer Leit déi mech gedriwwen hunn. Also ech well och soen, dat waren awer eng aner Generatioun, wéi ech gezielt hunn, wéi dat Meedche mech mat an de Restaurant zerren, dass ech déi éischt App gemaach hunn. Do waren awer Leit déi, ech hat ob déi Lektoun gutt geléiert, mee do waren awer aner Leit déi mech gedriwwen hunn an déi mir dat richtegt gewisen hunn. Heiansdo sinn ech och ob d'Nues gaangen. Ech si mat enger Plaz ob d'Nues gaangen dat huet FLASHiZ geheescht. Dat war ee gudde Mataarbechter vu mir deen [...] war genial. Ech nennen en net well en ass net gutt am Moment, en wäert stierwe well en Kriibs huet a mee em dee war genial an deen hat da mat puer Partnere FLASHiZ. A FLASHiZ war de Virgänger vu Digicash. Et war awer schon genial, et konnt ee vun Ufank un Paiementer mache peer to peer an do haten déi awer wéi oft Start-Up'en, déi hate keng Sue méi. Start-Up'en kréien se hei an do an da fir ze developpéiere keng Sue méi do. Déi maachen dat zu fënnf. Mir mussen zu honnert sinn. An déi mannst reusséieren dat. Déi musse ganz séier dann zu honnert sinn an dunn sot ech zu dem, okay, mir investéieren do dran. Et war net vill. Ech mengen et waren 1 Millioun Euro. Mir ginn déi elo an ech hat nach ee Chef ob de Bank den Eric Martin, Fransous an dee war och genial, den Eric Martin. An dunn sot deen, bass de geckeg? Mir wëssen dach guer net wou dat higeet. An ech sot, ob wat fir eng Stell an der Gesicht bleiwe mir stoen, [...], ob deenen déi een een Truc verpasst hunn oder déi eng Millioun Euro an de Sand gesat hunn. E soot du hues Recht mir mussen. An mir sinn an den Eemer gaangen. An deemools hunn ech gesot. Ech war net fir Digicash muss ech soen. Digicash [...] ass Haushoch ënnerstëtzt ginn.

00:26:26

A: Firwat géingt Digicash?

00:26:28

B: Ma Digicash, dass amfong e Produkt [...] mee do muss een ee Bankkonto hunn. A FLASHiZ war scho vill méi. Et huet ee kee Bankkonto gebraucht. Mir ware scho vill méi an der crypto-manière. Ouni Bankkonto konnt ech batsch Suen [...].

00:26:46

A: Dat ass Wahnsinn

00:26:48

B: dat ass wierklech strikt. Just déi hunn dat net ausgehalen. Déi hunn dat dann net gepackt an do ware Konsumenten héchstwarscheinlech net prett. Dofir, a bon déi Firma ass dunn iwwerholl ginn. Deemools huet nach een Deel vu BNP Paribas een Deel dovu kaf, mee et ass verschwonnen. Dat war ee falschen Investment.

00:27:18

A: Wann ech dat elo sou héieren, wierkt et ob mech, wéi wann Digitalisatioun, Computerisatioun zemoos am Retailbanking aus ärer Vue och een experimentéiere war an där Hisiicht. Dir hutt iech ob een neit Gebitt, also dir sidd an een neit Gebitt rakomm, an net war een Try Win or Error Failure.

00:27:45

B: Also dat war elo déi eenzeg pique 4. Bon Eng Millioun ass elo net, bon he, ech sinn dovun net entlooss ginn, mee Digitalisatioun ass eppes Allgemenges. Dat ass keng Fonction linéaire. Mir ginn dat heiansdo, dat geet virun, dat geet virun, dat geet virun. Éischtens sinn déi grouss Vagen, déi ech virausgesot hunn zu Stanford, wat ëmmerhi Silicon Valley ass, déi sinn net komm. Ganz einfach. Déi sinn historiesch net komm. Mir hunn do immens geduecht, hei mir hunn agreéiert, lo kennt een Tsunami an dat war net sou. Mee se geet awer virun Digitalisatioun an et wär schwierig ze handlen well amfong kee Mënsch déi Welle kennt. Also et ass wéi wann dir Welle surfing maacht, dir musst déi richteg Well

gesinn an do muss dir heiansdo och dräi laanscht goe loossen. An da kennt déi richteg. Doran besteet d’Konscht an der Digitalisatioun, ze gesinn, wéi geet dat dann elo a wat sinn déi Investissementer déi ech soll maachen. Wat mech stéiert hei am Land ass, dass d’Gewerkschafte mengen, mir kéinten d’Zukunft vun der Digitalisatioun verdeelen, mee mir hunn se iwwehapt nach net kritt. Momentan ass Digitalisatioun fir d’Firma een Invest. Et huet nach kee Schwäin eppes domat verdéngt. Dat muss eréischt kommen. An dat ass nach net do. Et kommen aner Saachen a Plaz zum Beispill de Control, de Know your Customer, et ass elo Virement bei eis automatesch registréiert ginn. Dofir hunn mir kee Mënsch entlooss a kee manner agestellt. Déi schaffen ob anere Plazen. An dat ass dat wat nach haut kee weess. Ech sinn nach haut President vum Lëtzebuenger Journal, [...] ech sinn am Conseil vun Edit Press. Print, digital an der Press, kee Mënsch weess wou dat higeet. Musse mir, do sinn Zeitungen, déi musse sechs mol d’Woch Print maachen. Wou si mir an dräi Joer? Ob enger Printedition Samschden an déi aner digital? On sait pas. Wou ginn d’Annonceuren hin, wou gëtt d’Publicitéit gemaach? Publicitéit gëtt um Netz gemaach. Do dréckt kee méi eng Annonce. An all déi Saache sinn impressionant, mee all déi Weltverbesserer, déi haut soen se missten haut soen, déi wéisste wouhinner dat higeet, deene gleewen ech net. Dat do ass eng Saach, déi erliewe mir, mir kennen se zum Deel matgestalten, mee do geet ee Wee, dee geet méi lues wei en annoncéiert gëtt. En geet méi lues. Ech krut och gesot, hei maach elo mol fënnef Agencen zou. Mir hunn der véierzeg. Dass d’Spuerkees der zoumécht, déi hunn der 112, dass d’Post der zoumécht, mee mir hunn nëmme véierzeg, wéi soll ech der zoumaachen? Da muss ee mol soen, da geet kee Client méi hin. Präventiv Agencen zouzemaachen, bon ech sinn och dofir kritiséiert ginn, mee ech hunn dat digitalt no vir gedriwwen, stemmt, mee ech hunn awer keng Agence zougemaach. Wat mir heiansdo reprochéiert gëtt.

00:31:17

A: Dat heescht, dir gesitt datt och déi grouss Demande villäicht net ëmmer do ass, mee datt vill Leit ob där villäicht falscher Well matschwammen an dowéinst präventiv den direkt Kontakt wegfaale loossen? Dir hutt jo gesot, dir wësst net zu 100 Prozent wat ass de Besoin vun engem Client oder wat well de Client, dat kenne mir net direkt soen.

00:31:49

B: Mir versichen dat iwwert de Marketing, de Besoin vum Client ze begéinen.

00:31:52

A: Jo genau

00:31:54

B: Mee do ass ëmmer eng gewëssen Unsécherheet dobäi. Ass de Produkt, dee Fong, de Kredit, interesséiert dat de Client? Zum Beispill mir hunn alleguerten an ärem Gebitt [...]. Mir waren déi éischt, déi d'Ouverture de Compte en ligne haten. Dat ass jo souwisou mat Know your Customer komplex, well mir kenne jo net einfach ee Konnt opmaachen an do si mir jo och kontrolléiert vun der CSSF. A mir hunn et gemaach. Eng Prozedur, eng Prozedur déi de Client muss maachen. Dee geet dann dodran, muss seng Carte d'identité scannen an déi schécken. Bei där Prozedur hunn mir genau gesinn, wou de Client ophält, wou en d'Fleem krit. Déi éischt dräi Etappe gemaach an da geduecht Fuck, dat doe geet mir duer, elo ginn déi mir ob d'Nerven. Et war e Besoin vu Clienten ee Kont opzemaachen einfach esou, jo villäicht, mee Prozedur war esou komplizéiert, dass déi mannste bis ob de Schluss gaange sinn. Dat ass ee Beispill.

00:33:00

A: Jo, dass héich spannend.

00:33:02

B: Mee, dass ee Beispill. Ach, mir sinn déi, dir kennt ee Compte en ligne obmaachen [...]. An dann gett et esou, dat kann een studéieren, esou Drop-off'en gemach. Dat heescht esou, do wou de Client obhält.

00:33:19

A: Et ass héich interessant.

00:33:21

B: Mir hunn genau gesinn, wou hält deen ob. Dunn konnte mir déi Etapp erëm verbesseren, da war et zwee Klicke méi spéit, mee mir hunn et gemaach. De Client verzweiwelt.

00:33:38

A: Dat heescht och mam Marketing selwer hutt dir probéiert de Client an déi Richtung ze, oh ech well net forcéiere soen, mee an eng Richtung ze lenken, datt en sech méi ob déi Produiten déi bezuelt sinn ze fokusséieren oder ass et éischer?

00:34:00

B: Mir maachen dat net.

00:34:02

A: Okay.

00:34:03

B: A bis elo net. Et weess een ni wat geschitt. Ech soe bis elo net. Fir ons ass dat einfach een Angebot fir Cliente ze halen an ze suivéieren. Och wann mir d'Entrée en relation en ligne gemaach hunn, kann een awer ëmmer an eng Agence goen a soen et hätt ee gären ee Compte opgemaach. Mir mussen amfong als Anbieter [...] d'Offer hunn a wéi gesot mat der auto-augmentation an de Client loossen definéieren, dat ass mäin Konzept vu Marketing. Haut ze soen, bon et gëtt Saachen, wou de Client effektiv [...] gett. Mir hunn an den Agencë kee Cash méi. Dat heescht do stinn déi Automaten a wann de Client gäre Cash wëllt ophiewen, an en mécht dat an der Agence preparéiert den Agent him eng Kaart an da geet en mat där Kaart, dat ass dann eng Kaart One Way ob den Automat, de Code ass schonn aginn, en kritt seng Suen an den Automat schléckt d'Kaart. Sou, da war et fir eng Kéier wann ech meng net bei mir hunn oder ech dépasséiere gäre meng Limite. Mee et ass net méi de Cash dee besteet an

dat ass eng Evolutioun, déi ass allgemeng. Fréier well d'Leit och d'Sue changéiert hunn, déi wollten och Dollaren hunn, Yennen hunn, wat hunn ma ob franséisch, Frangen hunn. Dat hunn mir net méi an och aus Sécherheetsgrënn och fir d'Employéén ass kee Cash méi an der Agence, ausser an de Maschinnen. Et ass ëmmer déplacement du lieu de crime. Elo gi Maschinnen aus de Maueren erausgerappt an si komme mat baggere mee op mannst halen se kengem Employé méi de Revolver bei de Kapp. Also ech hunn léiwer se rappen ee Bancomat aus der Mauer mat engem Bagger, wéi si, well ech hat dat nach am Ufank, dass mir Iwwerfäll ob den Agencen haten. Déi Leit si krank ginn. Also do geet en net deen aneren Dag schaffe wéi wann näischt wier. Déi sinn terroriséiert.

00:36:09

A: Dat ass een Trauma.

00:36:13

B: Dat huet dunn opgehalenen, Gottseidank an do war déi schlëmm Geschicht bei der BIL, dass do Leit erschoss gi waren an sou virun. Dat hunn mir net méi. Hold Up'en ob Agencen.

00:36:22

A: Wësst dir a wat fir engem Joer dat war mat der BIL?

00:36:25

B: Ohmamm nee. Ech weess, dass nach alles schwaarz wäiss. Déi Leit setzen nach haut am Prisong.

00:36:34

A: Wësst dir villäicht nach d'Nimm oder iergendeppes wou ech mir eng Trace ka maachen?

00:36:38

B: Oh mama mia, oh kuckt dach Hold-Up BIL. Ech kucken dat elo an da fanne mir d’Nimm.

00:36:45

A: Ech fannen dat wahrscheinlech

00:36:48

B: Oh wéi huet dat dann nach méi geheescht, ech muss dat dach wëssen. Ehm, wou ass da lo hei mäin Frënd google. Oh mama mia lo freet dee mech rëm [...] Oh Moment ech kucken eng kéier. Also dat war dee gréissten Hold-Up [...] Nee, ah dach. Nee dass et net. Nee ech hunn dat do net méi. Dat musse mir aneschtters sichen.

00:37:55

A: Dass net schlëmm. Et gëtt een Internetsite Eluxemburgensia an do ass ganz Presselandschaft aus Lëtzebuerg digitaliséiert. Do wäert ech sécher eppes fannen.

00:38:07

B: B: wéi heescht en da scho méi, den. En huet nach ee Buch geschriwwen am Prisong dee selwechten. Dass ee Polizist erschoss ginn.

00:38:17

A: Okay, nee da waert ech...

00:38:21

B: Do ass eng gewësse Contrainte fir dann d’Leit, fir dass kee Cash méi an den Agencen ass. Et gëtt och eng Contrainte fir d’Leit, dass wann se an de Guichet gi Suen ophiewen, dat meescht jiddereen, och d’Post, kascht dat 2 Euro. Et ass do wou d’Union des Consommateuren eis elo ob den Hals geréckt ass an terribel reklaméiert an si sinn awer

onéierlech a soen dat wär fir déi al Leit ze schwéier um Internet. Also ech hunn déi Kommissioun agefouert a wéi ech se agefouert hunn, do war fir all Leit iwwer 60 Joer de Retrait gratis. Dat soen se net.

00:38:59

A: Nee

00:39:02

B: Nee, dat soen se net d'Union de Consommateurs. Ech hunn et zéng mol gesot an dräi mol geschriwwen. Se maache wéi wann se et net wéissten. Se sinn net total éierlech, mee bon eh et ass kloer, dass déi ganz Geschichten do, zemoos dat transaktionellt an engem Wandel, Beroderfunktione behalen hier Bedeitung, obscho jiddereen sech iwwert Internet informéieren iwwert ee Fong, iwwert déi Bourse an iwwer déi eh, et ass jo Recht. Fréier war et esou du war de Chef d'Agence komm dunn huet dee moies Financial Times gelies an dunn huet en säi Client beroden.

00:39:38

A: Bei iech war et och Gang und Gebe, dass de Chef d'Agence an der Agence gewinnt huet?

00:39:44

B: Jo deen huet do gewinnt. An en huet misse bei de Metzler am Duerf goen an huet misse bei de Schouschter am Duerf goen, jo.

00:39:52

A: Dat war keng domm.

00:39:55

B: Dat ass haut alles ondenkbar. Eng Bank kann haut net méi soen, wou d'Madamm bei de Metzler geet. Dat däerfe mir jo net. Déi Zäit war dat esou, mee de Metzler ass Client an dem Gerant gouf gesot, du gees elo do däi Fleesch kafen. Ech weess net, ech hat eng Zäit en Truc mat de Reesen déi d'Bank gemaach huet, d'Leit, professionell. Well ech eng lescht vun den de Reesbüro fir ze kucken, wat huet dee Client Emsaz mat eis. Dann hunn mir bei dem fënnef Reese gebucht, bei dem zweeten dräi reese gebucht a sou virun. Haut géing dat heesche connivance oder ech weess net wat, combinazione, mee et war normal. Du hues gekuckt wien ass Client bei eis an dunn hues de dem och Reese ginn. Scho bei Fortis sinn d'Reesen all zu Bréissel gebucht ginn. Well déi dann esouvill Reese gebucht hunn an dann all [...] kritt hunn. Haut bucht kee méi bei eis an der Bank eng Rees bei engem Reesbüro hei zu Lëtzebuerg. Dat ass jo schrecklech. Et leeft alles iwwer Paräis. Paräis huet ee Reesbüro an dee bucht

00:41:06

A: Okay.

00:41:10

B: Awer déi Saachen do, dass mir Client drënner Relatioun a sou virun, mee et war och schwéier ze geréieren. Wann een engem Gerant gesot huet, hei du gees elo ob Veianen an en huet misse mat senger Frëndin ob Veianen goen, an en koum vu Schëffleng dann huet deen eng richteg opgefouert.

00:41:30

A: Et ass ee Stéck.

00:41:31

B: An dono war et esou, wann een deem vu Klierf gesot huet, géi elo ob Veianen, dann huet deem eng opgefouert. An a Frankräich ass een vun Thionville ob Bourdeau versat ginn. Déi hunn de Mond gehalen. Mee hei d'Lëtzebuenger déi hunn eng terribel opgefouert.

00:41:42

A: Obwuel et keng Distanzen sinn.

00:41:44

B: Ma nee, mee oh d'Lëtzebuenger sinn esou. Wee bass du dann elo a schécks mech ob Veianen? Jo, verdéngen ech da méi? Elo muss ech méi fueren. Sou Saachen, jo dat ass hei esou.

00:42:00

A: Muss een net verstoen.

00:42:01

B: Nee, dat ass hei esou. Dat ass Lëtzebuerg. Sou wéi wäit si mir?

00:42:07

A: Ech géif soen, wann ech nach eng oder zwou Froe stellen dierft.

00:42:13

B: Gär, Gär.

00:42:14

A: Dat wär eng Kéier, wisou denkt dir dass d’Kreditkaarten esou laang gedauert hunn bis se elo endlech akzeptéiert gi sinn? Wat heescht akzeptéiert? Vun der Gesellschaft an datt mir nach bëssen iwwer Kreditkaarte schwätze kennen a villäicht nach eng zéng Minutten esou bëssi iwwert deen Thema a wéi Dir de Client gesitt, an ob hien eng gréisser Akzeptanz fir déi dräi Bezuelungsmëttel huet oder éischer net? Nach eng Kéier kuerz. ATM.

00:42:58

B: ATM, jo Cash.

00:42:59

A: De Webbanking.

00:43:01

B: A Kreditkaart.

00:43:02

A: A Kreditkaart.

00:43:06

B: Kreditkaarte war ni en, also Problem Kreditkaart. Wéi dat ugaangen ass hunn mir net jidderengem eng Kreditkaart ginn. Haut kritt jiddereen eng Kreditkaart wann en ee Kont opmécht. Fir eng Kreditkaart huet ee scho missen ee gudden Client sinn, um Kont gesinn, eng gutt Paien hunn, eng Plaz hunn. Da kritt een eng Kreditkaart. Dat war, wéi soll ech soen, de Plus, deen d’Banke ginn hunn. Nodeems se de Client gescreent haten. Dat war dat éischt. Dat zweet war, Kreditkaarte sinn een international Zahlungsmëttel an déi Zäit war [...] nach zoustänneg fir Kreditkaarten. Déi wollten dat net. Well do echappéiert jo Fluxen, de Kontrolle vun de Mouvementer. Bis effektiv no Maastricht Europa d’liberté des flux gesetzlech gemaach hat. Dee Moment kruten och Kreditkaarten natierlech een Opschwong,

well d'circulation des capitaux ass agefouert ginn an Europa. Dann dat drëtt. D'Banke sinn dunn, fir d'Kreditkaart ze kommerzialiséieren, dat war eng grouss Gesellschaft, VISA huet enorm Publicitéit gemaach. VISA ass jo nach haut, a Mastercard ass haut d'Olympesch Spiller a weltwäit, déi investéiere jo wansinneg a Publicitéit. Si sinn och relativ sécher an do huet och d'Gesetz sech geännert, Renversement de la preuve. Wann Dir haut eng Kreditkaart geklaut kritt an een hieft domat ob, da muss d'Bank dofir opkommen.

00:45:21

A: Dat wosst ech net.

00:45:22

B: Jo dach, mir mussen. Fréier konnt Dir soen een se opgehewen, ech war net do. Dunn huet d'Bank gesot beweist eis dass dir net waart. Haut [...] musse mir iech beweisen, dass dir do waart. Dat ass Renversement de la preuve. Mir hunn d'Responsabilitéit [...].

- Ënnerbriechung -

00:00:00

B: D'Popularitéit vun de Kreditkaarten ass also duerch d'europäesch Gesetzgebung, duerch d'Sécherheet, duerch enorm Publicitéit, an haut ass dat och keng Faveur méi. All Kand iwwer véierzéng oder siechzéng Joer kann eng Kreditkaart kréie bei der Spuerkeess mam Accord vu sengen Elteren. also, d'Kanner kréie Kreditkaarten. Et muss ee mol keng 18 Joer hunn, mam Accord vun den Elteren. A wann een e Kont opmécht kritt ee schonn eng Kreditkaart ugebueden. Sou wäit zu de Kreditkaarten. Elo ass eng europäesch Bewegung ëmgaangen, bon, weltwäit amfong, fir de Cash ze verhënneren. Ëmmer manner Cash ze maache wéinst der Wäisswäscherei haaptsächlech. Drogenhandel, Prostitutioun a Gott weess wat an Terror. D'Banken an d'Autoritéite wëllen ëmmer manner Cash. Dat ass Trend deen ee muss kucken. D'Ekonomie ass net méi cash-oriented. Et ass Virement, et ass och mat abezuele vu Cash. Et muss ee froen, ab e gewësse Montant, wou kommen déi Suen hier? An do gött et jo d'Operation inhabituelle. Dat ass wann ech ni Suen abezuelen an ech

kommen eng kéier mat dräi dausend Euro, et ass emol net déi Limite vun 1000 Euro, mee et freet een sech awer, wou kommen déi Suen hier? Dofir Cash, Tendenz ass dass et ofhëlt.

00:01:46

A: Sot dir dann, dass Cash jeemools ofhëlt. Géif dir iech esou wäit aus der Fënster leenen a soen, Cash verschwënnt komplett oder sot dir dat ass net méiglech?

00:01:55

B: Cash verschwënnt net, et hellt of. Et ass och eng Generatiounsfro. Ech hunn ëmmer Cash am Portmonnie. . Et ass villäicht mäin Alter. Villäicht hutt dir kee Cash am Portmonnie.

00:02:06

A: Ech hunn Cash ëmmer ob mir

00:02:09

B: Mee dat kennt sou no an no. Et sinn esou Evolutiounen déi ginn no an no. Mäin Fils huet ni Cash bei sech. Warscheinlech well en mech well fofzeg Euro froen, mee en huet ni eppes bei sech. Deen hellt kee Cash. Dat huet eppes mat Generatiounen ze dinn. Et ass gewollt. Et keeft kee méi een Auto mat cash. Wee géif sech schonn eppes Grousses kafe mat cash? Et sinn der villäicht nach puer, déi ginn an de Cactus mat cash oder an de Restaurant, mee do hält et awer och ob.

00:02:47

A: Et gi ganz speziell Leit, déi Angscht do virdrun hunn. Zum Beispill hunn mir ee bei eis schaffen, deen erzielt eis dann ëmmer, en vertraut kengem. Dunn huet en sech dee leschten

Iphone, do huet en 600 Euro ofgehewen, ass domat a Geschäft gaangen, well en net retracéiert well gi vun der Bank, etc. etc. Awer och dat ass fir mech keng Zomm.

00:03:09

B: Dat do ass interessant. De well net retracéiert gi vu der Bank. Do si mir jo nach bei eppes wat e muss uschwätzen. Dat ass den Dateschutz. D'Banken hunn jo duerch all déi Geschichte wou mir elo gesot hunn, immens vill Donnéeën iwwert d'Clienten. An mir iergeren eis och ganz oft iwwer Facebook a Google, well déi Donnée iwwer Clienten hunn. An allgemeng, well ech sinn ee Mënsch deen terribel Dateschutz verdeedegt, mee d'Leit vergiessen oft wat d'Banken iwwert ee wëssen. Jo wann dee wëllt soen, ech well net, dass meng Bank weess, dass ech een Iphone kaf hunn, kann ech dat zum Deel verstoen. Well e ka riskéieren, dass en muer gesot kritt, hei du hues een neien Iphone kaf, hei ass eis nei Applikatioun vu Webbanking oder ech weess net vu wat, heiansdo. [...] Dat anert ass, dass Cash doheem hunn geféierlech ass. Zweetens wou d'Bankekrise war, koume vill Leit cash ophiewen, déi hate kee Vertraue méi an d'Bank. An déi räich 500-Schäiner. Do huet d'Banque Centrale 500-Schäiner geännert. Koumen se an d'Bank, a wou kommen déi Suen hier? Dat ass de Regime. Mee se waren dach bei iech. et sinn dach déi selwecht. Dat ass beim Cash. Do si Leit ob hire Sue setze bliwwen a geckeg ginn.

00:04:45

A: Natierlech.

00:04:48

B: A mir versichen se nach séier auszeginn. Also, dat ass och esou eng Saach mam Cash. Lo sinn néi 200-Schäiner eraus, also, de Cash ännert der Matrass ass geféierlech well d'Banque centrale européenne, déi ännert regelméisseg d'Schäiner. A wann ech dann déi falsch ännert der Matrass hunn, dann eh. Also ech soen dat fir ze laachen. Et ass och fir ze laachen, mee Cash hellt of. Wann ech bei de Bancomat ginn, dat ass jo fein haut, 300 Euro ophiewen, ech ka soe wat fir eng Schäiner ech ka soe wéi ech se gären hätt a wat [...]. Jo dat bleift. Mee

grouss Paiementen a Cash, vergiessen. Also, anscheinend gëtt gesot al Autoen an Tableau, Molerei gi vill a Cash bezuelt an dat wär eng grouss Wäisswäscherei.

00:06:00

A: Dat gleewen ech direkt.

00:06:03

B: Also Konscht an Oldtimer. Ech kann et net beweisen, mee do si vill Saachen, och emol een alen Teppech. Mee mat de Banken ass et net méiglech. Bei eis ass et net méiglech.

00:06:26

A: Dat ass awer och. Do géif ech genau déi nämmlecht Direktioun [...]. An och dowéinst soen ech perséinlech, dat ass elo à Part vun der Recherche elo, ech denken och dowéinst wäert Cash ni verschwannen, well cash gebraucht gëtt fir d'Kriminalitéit.

00:06:45

B: Bon, fir wat geet et do, well den Autos Händler, deen elo eng al Porsche verkeeft, deen huet ee Contrat de Vente. Dee kann natierlech mat dem Contrat de Vente ob d'Bank goen a soen hei do kommen d'Suen hier. Da sinn se wäiss gewäsch. [...] Ech sinn iwwerzeegt, vun de Zentralbanken. Se mussen eng kéier. Also wann en véier mol kennt, da seet d'Bank dat do maache mir net méi mat. dat huet sech alles geännert, soudass de Cash menger Ansicht no ënner dausend Euro, halen d'Leit nach Cash an de Rescht Virement oder Kaart. Traceabilitéit.

00:07:36

Dat heescht och dowéinst gëtt och méi den Akzent ob Digitaliséierung gesat?

00:07:40

Majo Natierlech. Digitaliséierung ass tracabel. Do gesi mir wat wien mécht a mir kennen nowise wann e Kontroll, dee mir heiansdo musse maachen. Et si jo och Saachen. Ee vun de Projeten, wou mir ëmgaange sinn ob der Uni ze maachen, ass fir d'Indicen ze modeliséiere vu Wäisswäscherei. Do gëtt Comportementer [...], dass kee beweis, an da patsch een anert geheien. An et ass och esou wann d'Gesetz seet, wa mir bis ee suspekt hunn, musse mir deen och nocéieren, de Parquet, d'Banken an. De Parquet muss seng Aarbecht maachen. Wat mech stéiert, ass, dass de Client gëtt näischt gewuer. Do sinn ech gestéiert, well ech war 15 Joer Staatsbeamten. Dat ass net ganz rechtsstaatlech ech kann iech denoncéieren, mee ech soen iech näischt. Dir wësst näischt. Bis eng Enquête leeft. Et ass d'total Limite fir de Rechtsstaat fir mech.

00:08:52

A: Jo Natierlech, net nëmme fir Iech.

00:08:54

Jo nee dat ass d'Limite. De Parquet seet, de Gesetzgeber seet, wann deen dat jo weess dann ännert dee säi Comportement an da gesi mir ni wat en mécht. Also fir mech ass et d'Gesetzlimite, mee mir mussen et deconéieren. Et ass elo nach eng Geschicht viru Geriicht, [...] Abus de faiblesse heescht dat, wou mir wëssen, dass ee jonke Mann, e Sportler fir en net ze nennen, eng eeler Damm Suen extorquéiert hunn. Mir gesinn dat an hunn dat dem Parquet ginn an dunn hunn déi gekuckt an, déi, jo dat stemmt. Dat hutt dir gutt gemaach, mee wéi gesoot, et ass ëmmer eng Limite, mee effektiv wat dir ugoe musst an ärer Aarbecht ass, dass déi ganz Digitalisatioun, protection des données. Ech mengen do musst Dir an ärer Aarbecht puer Reflektiounen maachen(...) et sinn Tracen do. Et ass net méi big brother is watching you, mee mir wëssen et jo awer. Et kuckt net een all Dag, mee deen Dag wou iergendeppes, wou ären Numm opfällt, kennt alles zum Virschän.

00:10:18

A: Mee dat ass héich interessant, well bis elo wann d'Geschicht opgeschafft gëtt, gesäit een halt vun 1960 un, dass eng Mechanisatioun interne vun de Banke selwer, dat heescht mir giffe vu fréier wou nach alles ob der Hand opgeschriwwe gouf, da gi mir hin zu de Lochkarten, da gi mir hin zu den Zentralrechnere. Mir maache fir d'éischt ee Switch vu Pabeier an dat elektronesch an elo gesinn ech wonnerschéin den zweeten deel deen einfach nach net esou verständlech fir mech war. Mir ginn nach méi an dat elektronesch fir och an deen Deel vun der Protection des Données méi staark ze gi fir Tracen ze zeien. Wou kennt Geld hier, wou geet d'Geld hin.

00:11:07

B: Dat muss mir maachen. Dat ass haut d'Aufgab vun de Banken. An do si mir surveilléiert vu CSSF vun der Europäescher Zentralbank. An no 2008 ass dat jo nach vill méi schlëmm ginn déi Surveillance. D'Banke sinn haut dee reglementéiertste Secteur deen et gëtt. Ass et gutt ass et schlecht? Et heescht obmannst, dass wann ech Compliance hunn, puh 2008 hunn bei mir drësseg Leit a Compliance geschafft. Bank verlossen 150. Si maache weider näischt wei déi aner ze kontrolléieren. An de ganze Réseau ass immens frou mat hinnen, well si maachen eng Operatioun an zack Compliance um Telefon. "Kenns de deen?" Déi ginn geckeg. Mee dat ass halt esou. Alles ass kontrolléiert. An ech soen och ëmmer ech hat de Pouvoir fir Prête fir d'Cargolux d'Boeing kaaft huet fir 600.000.000 Milliounen ze ënnerschreiw, mee ech hat ni de Pouvoir fir mir 25 Euro ze iwwerweisen. Dat wier direkt aus der Këscht gesprongen. "Wat mecht dat? Wou kommen déi hier? Wat ass dat do?" Et ass gutt, mee mir kommen och haut ob d'Limite vun enger Reglementatioun, déi ufänkt sech selwer ze widdersprieche, mee et huet awer misse sinn. Also, nodeem wat d'Banken sech 2008 geleescht hate mat Lehman Brothers a mir mat Fortis oder eist d'Mammenhaus, also, dass d'Saache besser kontrolléiert sinn ass scho gutt. Ech hunn an der Bank ëmmer ee Bonus kritt wéi jiddereen, mee ech kréien haut nach ëmmer meng läscht Bonussen, well ech se ni all mateneen ausbezuelt krut. Déi kucken nach haut all kéier all Kreditter déi ech bewëllegt hunn. A wann ee schief geet, ass mäin Bonus ewech. Een Deel hunn ech awer nach zegutt. Firwat, well ze vill Banquiere Riske geholl

hunn, sech ausbezuelte loosse hunn, an fort se waren. Katastroph koun dann no. Et ass normal. Ech kann an engem Joer d'Kreditter vun der Bank verduebelen an da ginn ech an d'Pensioun an da fueren déi ewech. Dann hunn ech mäin Bonus kritt well ech schei Resultater gemaach hunn. Dat geet haut net méi. Okay?

00:13:40

A: Villmools Merci

00:13:41

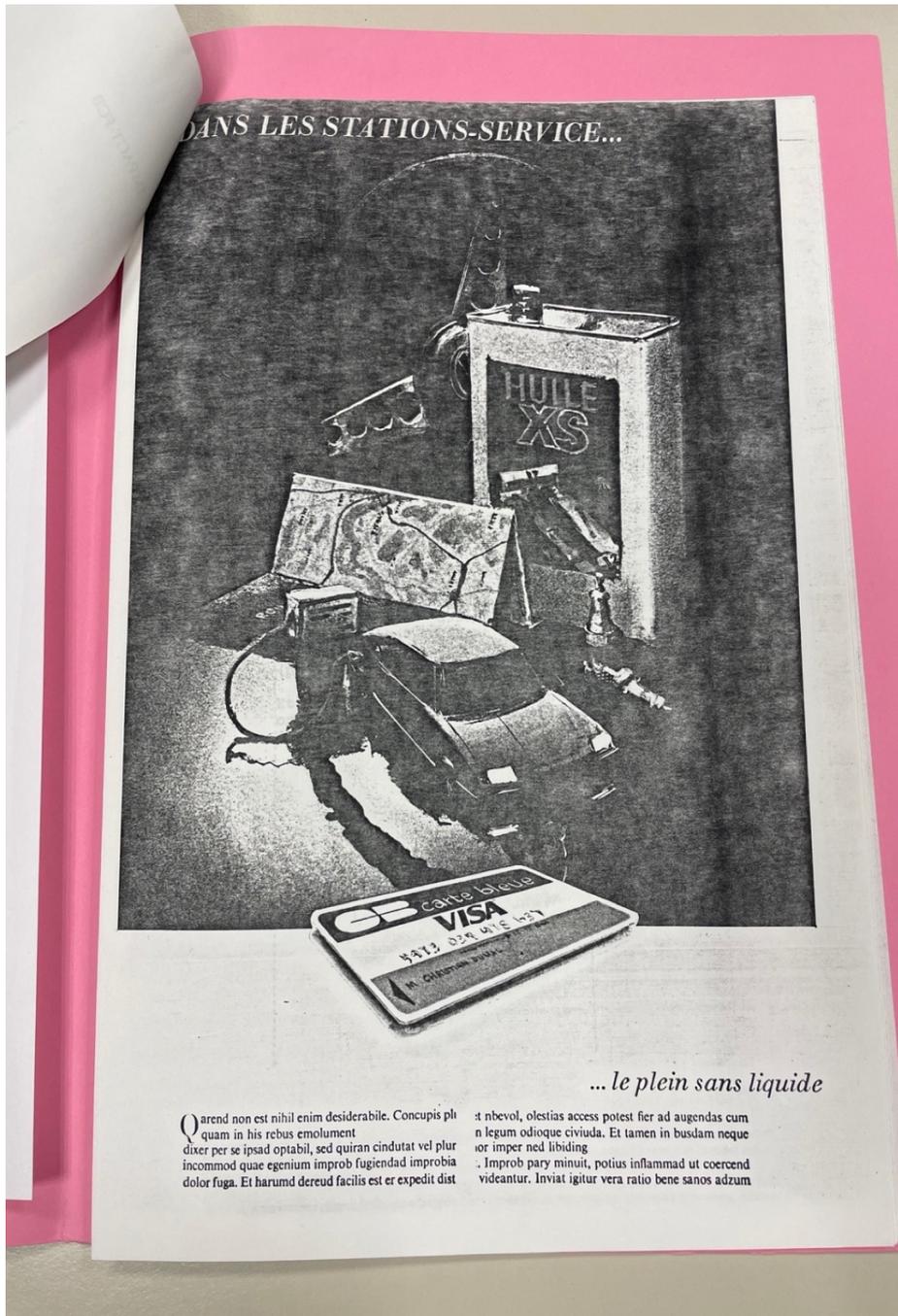
B: Geet dat Iech duer?

00:13:42

A: Jo.

Some visual sources

Archive *Crédit Agricole*, Groupement Carte Bleue Visa Campaign in the 1970s



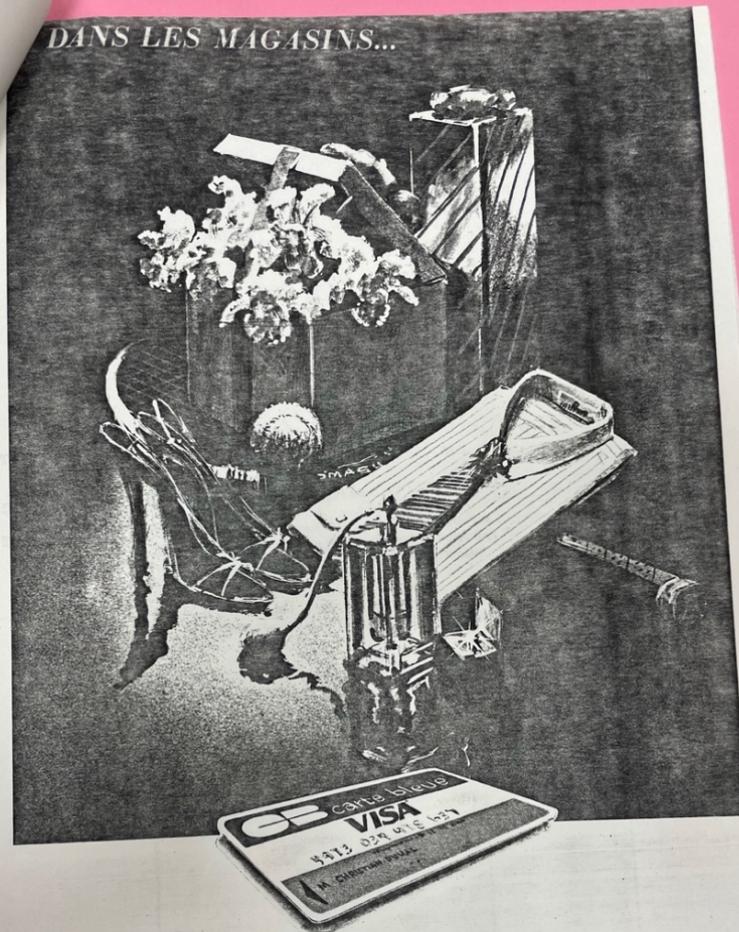
DANS LES STATIONS-SERVICE...

... le plein sans liquide

Quare non est nihil enim desiderabile. Concupis pl
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Groupement Carte Bleue Visa Campaign, Dans les stations-service...le plein sans liquide, 1970s.



QUAND on fait du shopping, on ne se promène pas toujours avec beaucoup d'argent... Alors devant la bonne affaire : une jolie robe en solde à votre taille ou des chaussures qu'on craint

de ne plus revoir... c'est très pratique d'avoir la Carte Bleue. Plus de 90 000 commerçants acceptent la Carte Bleue en France. Autant l'avoir sur soi...

...prévoir l'imprévu

Groupement Carte Bleue Visa Campaign, Dans les magasins...prévoir l'imprévu, 1970s.

TRANGER...

...partir rassuré

Q arend non est nihil enim desiderabile. Concupis pl
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Groupement Carte Bleue Visa Campaign, À l'étranger...partir rassuré, 1970s.

A L'HÔTEL...

...se sentir plus léger

Quare non est nihil enim desiderabile. Concupis pl
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Groupement Carte Bleue Visa Campaign, À l'hôtel...se sentir plus léger, in 1970s.

Second half of the double page in *La Revue*, n°20, 19.05.1988.



La carte EUROCARD est bien plus qu'un moyen de paiement universel,
elle vous offre bien d'autres avantages:
vous pouvez prélever de l'argent liquide auprès de plus de 100 000 guichets
bancaires à travers le monde
vous pouvez échelonner le paiement de vos dépenses
vous disposez d'une assurance-voyages de 100 000 ECU
en plus, la deuxième EUROCARD liée au même compte est gratuite.
petite soit-elle, votre EUROCARD vous ouvre de nouveaux horizons. Profitez-en!
si vous n'avez pas encore votre EUROCARD, demandez-la!
votre banque vous l'offre gratuitement pour la première année.

le monde !



Eurocard advertisement in Revue, n°20, 19.05.1988, p. 47.

Archive Sparkassen und Giroverband e.V., German saving banks promoting a reductionist image of woman.



www.sparkasse-koelnbonn.de



Wir informieren Sie gerne über unser Produktangebot in unseren Geschäftsstellen oder unter www.sparkasse-koelnbonn.de im Internet.

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**Ihre SparkassenCard:
immer und überall dabei.**

Kartenschutz.

Bitte achten Sie darauf, Ihre Karte nicht in die Nähe von Magneten zu bringen, da diese dann Magnetstreifen auf der Rückseite beschädigen können. Magnete oder elektronische Felder stecken unter anderem hier drin:

- Handtaschen, Portemonnaies und Laptops (Magnetverschlüsse)
- Magnetschmuck
- Lautsprecherboxen, Fernseher oder Computerbildschirme
- Bahn-Klapptische
- evtl. Schlüssel, Namensschilder, Schlüsselanhänger
- Lautsprecher in Mobiltelefonen
- Warensicherungssysteme an Verkaufstheken
- im medizinischen Umfeld:
z.B. bei Röntgenuntersuchungen

Zu Ihrer Sicherheit.

Ein paar Dinge sollten Sie zu Ihrer Sicherheit unbedingt beachten: Bitte bewahren Sie Ihre persönliche Geheimzahl (PIN) niemals zusammen mit der Karte auf, sodass bei Verlust der Karte kein Missbrauch möglich ist. Schirmen Sie die Eingabe Ihrer PIN immer mit der Hand ab, um ein Ausspähen zu verhindern. Außerdem die Karte aus Sicherheitsgründen am besten nie im Auto zurücklassen.

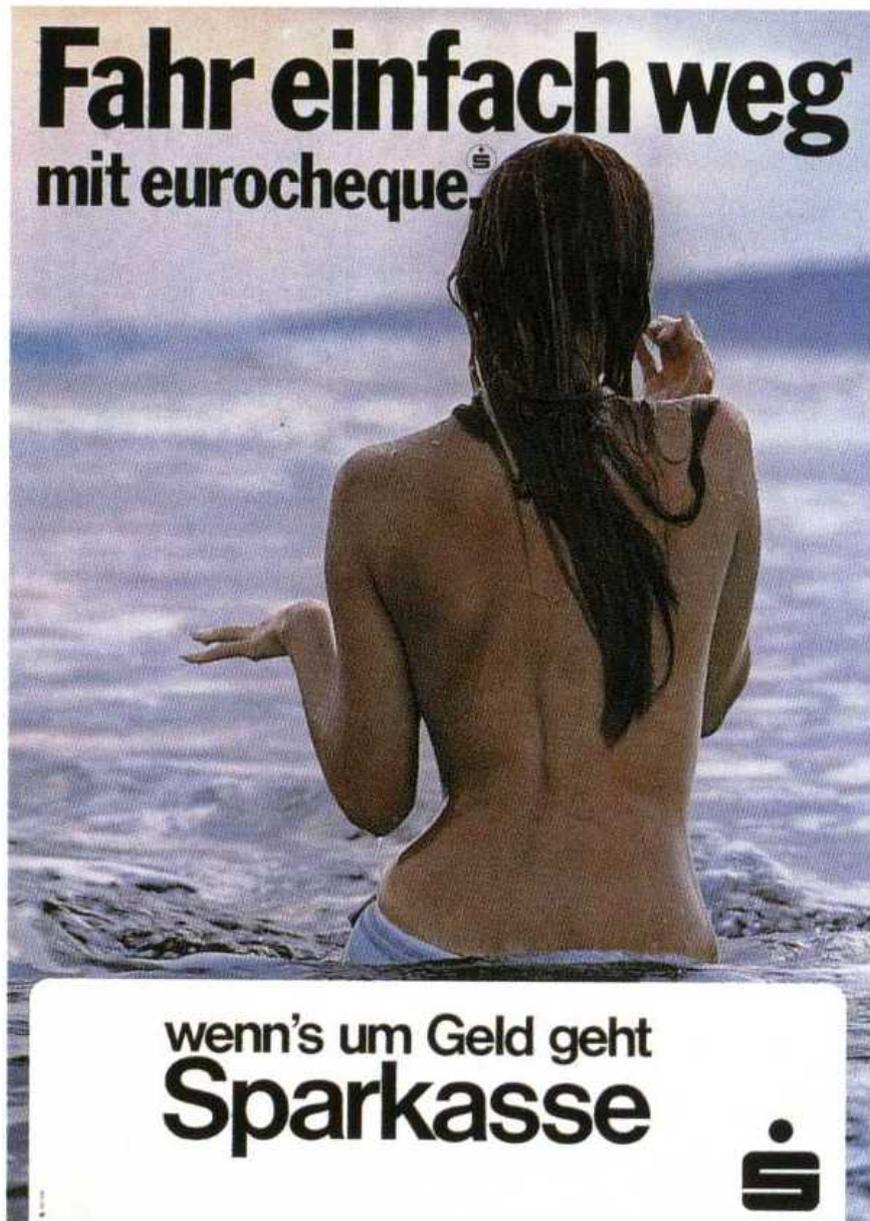
Falls es dennoch einmal zu einem Verlust oder Diebstahl kommt, lassen Sie bitte Ihre SparkassenCard umgehend unter folgender Nummer sperren:

- während der Geschäftszeiten
0221 2265253 oder
0228 6065253
- außerhalb der Geschäftszeiten unter der zentralen Rufnummer 116 116.
Im Ausland wählen Sie +49 116 116.

Unser Tipp: Speichern Sie die Sperrnummer auch in Ihrem Mobiltelefon!



Sparkasse KölnBonn, Ihre SparkassenCard: immer und überall dabei, 2006.



Sparkassen und Giroverband e.V., Fahr einfach weg mit eurocheque, 1975.

Internet Archive (Wayback Machine) – Screenshots of the webpage from the *Groupe­ment des Cartes Bancaires* in 2005 and 2007.



Web page *Groupe­ment des Cartes Bancaires* promoting the security of their chipcards archived by Internet Archive on November 07, 2005, <https://web.archive.org/web/20051107102254/https://www.cartes-bancaires.com/>.

» Français GROUPEMENT DES CARTES BANCAIRES "CB" » Sitemap

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CB SYSTEM

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- » The CB bankcard
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GROUPEMENT CB

SECURITY / DEVELOPMENT / SYSTEMS

SECURITY, THE NUMBER ONE PRIORITY

Several devices guarantee the high level of CB card security.

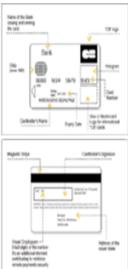
Since 1992, CB cards have contained a microchip. For each payment transaction, this key security component checks the PIN entered by the cardholder, and carries out other security checks.

Since 2002, CB cards have had a chip compliant with the new international EMV (Europay, MasterCard, Visa) standard.

Since 2005, an additional encryption function, DDA (Dynamic Data Authentication), has been added to a so-called third generation card: whereby each transaction generates a unique signature calculated from random data, adding an extra level of payment security.

Placed end-to-end, and constantly upgraded, all the components contribute in making the CB card one of the most secure payment methods in the world.

SECURITY ASPECTS OF A CB CARD



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Web page Groupement des Cartes Bancaires promoting the security of their chipcards archived by Internet Archive on October 18, 2007, <https://web.archive.org/web/20071018020115/http://www.cartes-bancaires.com/en/systeme/sed.html>.