



The challenge of FinTech from the perspective of German incumbent banks

An exploratory study investigating industry trends and considering the future of banking

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Abstract

Title: The challenge of FinTech from the perspective of German incumbent banks

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The financial industry is undergoing a surge of investment in start-ups, mostly triggered by innovations in technologies. Incumbent banks are being put to the test to assess whether they can keep up with the speed of FinTech companies. New business models seek to disrupt the market while traditional banks try to secure their position.

The aim of this study is to forecast how the German financial market will innovate, based on interviews conducted with experts as well as through analyses of industry data. In addition, an outline was created to assess the development of the industry and thus provide stakeholders with a better understanding of their future positioning. Different aspects including current challenges, core competencies, innovation, FinTech, and decentralized finance were considered and examined. This study fills a gap in existing research by comparing industry constraints with technology opportunities to provide a realistic assessment concerning market velocity for a long-term outlook.

Keywords: Future of Banking, Innovation, FinTech, Industry Perspective, Decentralized Finance, Outlook

Abstrato

Título: O medo, o escárnio e a bênção de FinTech da perspectiva dos bancos alemães em actividade

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Actualmente a indústria financeira está a passar por um aumento em investimentos em start-ups, na sua maioria desencadeada por inovações tecnológicas. Os bancos em actividade são constantemente postos à prova, tentando acompanhar a velocidade do desenvolvimento das empresas FinTech. Enquanto os novos modelos de negócio procuram agitar o mercado, os bancos tradicionais tentam assegurar a sua posição de mercado.

O objetivo deste estudo centra-se na previsão de como o mercado financeiro alemão irá proceder a esta inovação, a partir de entrevistas conduzidas por peritos, bem como através da análise de dados fornecidos pela indústria. Para além disso, foi gerado um esboço que visa avaliar uma forma otimizada de desenvolvimento da indústria e assim, proporcionar aos acionistas uma melhor compreensão do seu posicionamento futuro. Foram considerados e examinados diferentes aspetos incluindo desafios atuais, competências base, inovação, FinTech e finanças descentralizadas.

Este estudo preenche a lacuna na literatura existente através da comparação entre limitações na indústria e oportunidades tecnológicas, a fim de fornecer uma avaliação realista relativamente à velocidade do mercado, numa perspetiva a longo prazo.

Palavras-chave: Futuro da Banca, Inovação, FinTech, Perspectiva da Indústria, Finanças Descentralizadas, Visão Geral

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List of Abbreviations

AI	Artificial Intelligence
BaFin	Bundesanstalt für Finanzdienstleistungsaufsicht
BCBS	Basel Committee on Banking Supervision
CAGR	Compound Annual Growth Rate
CEO	Chief Executive Officer
CRD	Capital Requirements Directive
CRR	Capital Requirements Regulation
CTO	Chief Technical Officer
DeFi	Decentralized Finance
DLT	Distributed Ledger Technology
ECB	European Central Bank
EU	European Union
GDPR	General Data Protection Regulation
IT	Information Technology
MM	Modigliani-Miller
UK	United Kingdom
USP	Unique Selling Proposition

1 Introduction

Banking is one of the fundamental bases of our economy. Every company carries out financial transactions in its day-to-day business whether it is an agreement for the exchange of goods, services, or financial assets, all these implicate the monetary system and banking. This also includes investments, rents, loans, and almost every other business transaction. Not only do enterprises use financial transactions, but also private persons rely heavily on banking in their everyday lives. The way transactions are managed, however, has changed drastically over the last decades (Alan McIntyre, 2021).

Stanford Federal Credit Union was the first financial institution offering internet banking services to its members in 1994 (Chang & Dutta, 2012), the same year Amazon was founded. At that time, online transactions required specialized knowledge of encryption and were therefore not user-friendly. Further system improvements and the first FinTechs were able to change that within a few years. Today's biggest online payment provider, PayPal, was founded in 1998 and its revenue has been increasing significantly since then to more than USD 21.4 billion in 2020 (Raynor de Best, 2021). However, this is not the only player in the industry. The number of FinTech start-ups worldwide has doubled from 2019 to 2021 to more than 25,000 entities (Statista Research Department, 2021). Also, revenue in the FinTech market is predicted by Deloitte to increase at a CAGR of 11.7% over the next 3 years. The projection for the Asia-Pacific region, in particular, suggests a growing FinTech sector (Mark Casey et al., 2020).

Given these trends, the dominance of “bricks-and-mortar banks” – the traditional players in the sector – is waning and may cause these institutions to lose their relevance and even become obsolete sooner or later. Customers who are used to entering their bank physically and visiting a traditional branded branch of their bank in the city center are finding that there are fewer branch offices or that they are being encouraged to perform transactions online (Benedikt Eikmanns et al., 2021). Between 2010 and 2020, the absolute number of financial institutions in the EU shrank by 40%. This is not only due to lack of profitability, but customer behavior and preferences also play a significant role. Benoît Legrand, Chief Innovation Officer and CEO of ING Ventures, stated that the trend towards digitalization has taken hold “because human beings are lazy” (Crosman, 2019).

The following paper analyzes the evolution of the banking industry over the last decades in light of disruptive FinTech. It discusses key competencies of traditional banks while seeking to unpack how the FinTech industry with neo banks, RegTechs, InsurTechs, and shadow banks (further explained in chapter 0) has risen and is becoming a major parallel sector in banking. The goal is to understand the relative strengths and weaknesses of traditional banking and FinTech while examining the extent to which FinTech is a disruptor in the industry with the distinctive efficiencies it brings to banking. Finally, scenarios related to the future of the banking industry are posited.

2 Theoretical Background

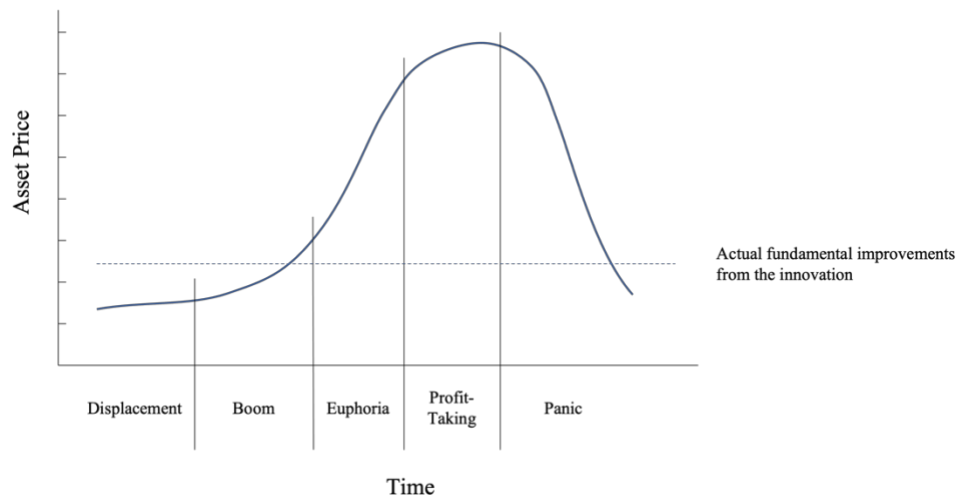
2.1 Emergence of the Modern Financial Market

Financial institutions form the backbone of the economy by providing financial resources and liquidity to the market. The first banking-like services can be traced to 2000 BC, when merchants in the Middle East and India gave out loans in form of grain (David Graeber, 2011). The long history makes financial institutions one of the oldest operating industries. However, the current situation of the world's oldest bank proves that traditions and history older than 500 years do not relieve banks from financial instability (Chiara Albanese & Sonia Sirletti, 2021). The industry is characterized by a recurring phenomenon of bubbles, crashes, and crises (Brunnermeier & Oehmke, 2013). The most recent and probably best-known incidence is the financial crisis in 2008. But also smaller, local crises occurred frequently all over the world. Japan was afflicted by a real estate and stock market crisis building up during the 1980s and bursting in 1990 (Hoshi & Kashyap, 2004), and the situation in Norway, Finland, and Sweden was similar at that time (Allen & Gale, 2000). Alike characteristics can be observed in all crises, which already occurred in the Great Depression of the 1930s and even in earlier times (Temin, 1991; White, 2009). Each of them gradually changed the industry by an overhaul of financial regulations but also through technology innovations (Anagnostopoulos, 2018).

The uncertainties of volatility of markets are intricately linked to financial bubbles, which refer to large, sustained mispricings of financial or real assets. Capital allocation decisions in an economy are undertaken based upon various incentives (Brunnermeier & Oehmke, 2013). John Maynard Keynes identifies in his *General Theory* (1936) two types of investors – ones who decide on fundamental values and speculators.

The reason for those distinctions becomes clear when considering Hyman Minsky's financial instability hypothesis (Hyman P. Minsky, 1986; Kindleberger & Aliber, 1978). He examines boom bust cycles and the lead up to the latter in terms of 5 phases (fig. 1). It starts with *displacement*, the phase where expectations for economic growth are born. This can be due to new technology, financial innovations, or historically low interest rates which lay the foundation for a housing bubble. It is followed by the *boom* where prices at first start to rise slowly, but gain momentum as more participants enter the market and create popularity. At this point, the price might already start to exceed the actual fundamental improvements from the innovation. When asset prices skyrocket, Minsky talks about the *euphoria* phase. Some investors might already consider the emergence of a bubble, yet they still believe in the ability to gain liquidity for inflated assets via the Greater Fool Theory. This relies on the increase of demand rather than on the intrinsic value of an asset as described above. Speculators might already be a fool by buying such an asset, however, the greater fool is the person buying the overpriced asset later, for a higher price. In this phase, high trading volume can usually be observed, which comes with price volatility, as seen during the internet bubble (Leone et al., 2013). When sophisticated investors begin to reduce their positions and lock in their profits, the *profit-taking* phase arrives. Depending on the ability of the investor to assess the best timing to sell before the bubble starts to burst, there might still be some demand in the market. The moment when demand is saturated in combination with weaker balance sheets, margin calls kick in and prices start to fall rapidly; the *panic* phase is reached. Prices are on a downwards spiral since investors are trying to liquidate their assets at any price and thereby dump the price even further. Such a phenomenon can lead to a total market collapse, as seen in the financial crisis of 2008, where systemic risk caused contagion across the financial system due to the domino effects of counter party risk (Brunnermeier & Oehmke, 2013).

Figure 1: Minsky's five stages in a typical credit cycle



The dark blue line describes the price difference over time in the different phases described by Minsky

Regulatory measurements have been constantly introduced and amended to avoid financial institutional failure. The agreements on Basel II bank regulations in 2004 and Basel III in 2010 institute heavy use of risk measurements and capital adequacy requirements to regulate the financial market (Brunnermeier & Oehmke, 2013). The Modigliani-Miller theorem (1958) supports regulators by proposing that higher imposed equity capital requirements do not affect a firm's average cost of capital (Miller, 1995).

Regular risk assessments are conducted for the 75 largest global banks, global systemically important banks, and banks added by national supervisors. The Basel III monitoring report of 2020 examined 173 banks: 105 of them fall under the first 2 categories and the remaining 68 were selected by the national supervisors (BCBS, 2021). Smaller institutions are subject to less complex rules due to disproportionate overheads associated with reporting. They therefore have fewer data points to report (Andrea Enria, 2019; Andreas Dombret, 2017; Joachim Wuermeling, 2019). Having less regulation, at least to some degree, may be an advantage for smaller players in the field who are consequently able to be more innovative in their business approaches.

2.2 Innovation and Disruption

Institutional size is relevant not only for legal and regulatory reasons. Clayton Christensen in *The Innovator's Dilemma* (1997) described how large and successful companies often fail to keep up with the innovation needed to remain competitive. Companies become victims of their success where size and scale are associated with having a proportionally larger market share.

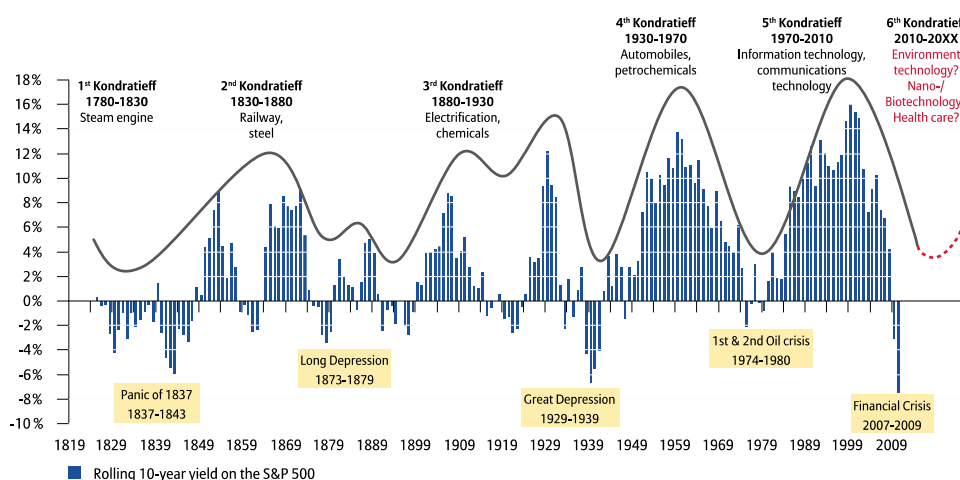
However, disruptive innovation starts in niche markets with early adopters who are willing to tolerate potentially lower performance of startup products that are still being perfected (Christensen et al., 2015). Therefore, the management of a large incumbent company tends to privilege sustaining innovation oriented towards its existing customer base. But although these decisions may seem better, they are often only successful in the short term and can lead to failure in the long run as established incumbents become displaced by upstart companies with disruptive innovations.

Smaller companies, usually start-ups or new entrants, with fewer resources can successfully challenge established incumbent businesses (Christensen, Raynor, & McDonald, 2015). Benefits evolve for start-ups when specializing in disruptive innovation with a small initial market. Larger competitors do not put effort into this area, which results in more time for start-ups to refine the technology and elaborate on the potential for performance improvements. On the other hand, Christensen has 5 suggestions for successful companies to better manage innovation and to avoid failing because of the innovator's dilemma. By having a spin-off, the venture can focus on the needs of a specific customer group, without worrying about the organizational core operations. Spin-offs also align their market size and their growth to the company size. Furthermore, the market is difficult to predict, and failure needs to be embraced. However, since these ventures are at an early stage, they are at comparably low costs. The full resources of an organization should be available to assist autonomous business units to develop disruptive innovative products. And disruptive innovation needs to launch in a niche market where its attributes are valued, rather than taking a market and adapting the disruptive innovation to it (Christensen, 1997).

Not only does the approach to driving innovation matter, but also time plays a crucial role. At the beginning of the 19th century, the Russian economist Kondratieff (1926) analyzed recurring growth cycles to innovations. The concept of his long-wave theory was used to estimate economic development trends. Kondratieff aligned economic cycles with time, each time frame associated with a milestone in technological evolution. The principles of this approach, with trade cycles of booms and slumps, is a fundamental feature of capitalism which was outlined by Karl Marx (Hanappi, 1988). Kondratieff's cycles have similarities to the Rogers' bell curve or technology adoption life cycle. During upswing phases, overall positive economic growth can be discerned in the market, whereas in downturn phases growth contracts but space for significant innovations opens up. This phase offers great potential for disruptive innovations,

as sustaining innovations with process improvements are not sufficient to keep the market growing or trigger another upswing. However, Kondratieff's theory is considered as heterodox economics since it is largely refuted by mainstream economists. The primary reasons are the unclear definition of the start and end of a wave and the often vague deductions that weaken the validity of the theory. Nevertheless, the concept is important for innovation-based development and evolutionary economics. Well-known companies use the theory to undergird predictions and forecasting, as can be seen in fig. 2 where Kondratieff cycles are mapped onto the rolling 10-year yield of the S&P 500 for Allianz Global Investors 2010 Report.

Figure 2: Kondratieff cycles – long waves of prosperity.



Source: Allianz Global Investors 2010 Report – The sixth Kondratieff – long waves of prosperity

Joseph Schumpeter was one of the first economists to take up Kondratieff's idea and refine it in his book *Capitalism, Socialism and Democracy* (1942). Here Schumpeter introduced his well-known term “creative destruction” pertaining to how innovation serves as the engine of competitive capitalism. Schumpeter also suggested naming the long-wave theory “Kondratieff waves” in honor of the Russian economist.

2.3 FinTech

Combining the financial industry with leveraging innovation, a frequently used term today is FinTech. The acronym is based on the terms Finance and Technology and refers to technologically enabled innovation to enhance or automate financial services and processes (Gomber et al., 2017; Nicoletti, 2017). This disruptive force and the potential of the sector are estimated to be to the order of 143 billion euros for 2021 with a continuous annual growth rate of 12% for upcoming years (Mark Casey et al., 2020; Statista Research Department, 2021). Not

only is the overall revenue on a steep upward trend, but also the number of unicorns in the field has more than doubled during the last years from 117 to 253 unicorns in 2021 (Florian Zandt, 2021). The rise of companies with a valuation of over 1 billion US dollars makes FinTech a threat for incumbent banks. The modern FinTech industry covers several use cases, ranging from payments, insurances, and digital lending to real estate and wealth management. To better understand the extent of the industry and its purpose, the following chapter covers the industry key frameworks.

2.3.1 White Label Banks

White label banks are financial institutions that use their banking licenses and systems to allow brands and new providers to get into the banking market quickly by renting services. White label banks are normally in the background and mostly unknown to the customer (Grabowski, 2021).

2.3.2 Neo Banks

Neo banks are online-only providers of bank services, focusing on products such as issuance of debit cards or saving accounts. Their key competence is the provision of a revolutionary user experience with tech-savvy solutions at comparably low operating costs. Their offerings include paperless account opening and innovative banking services. Neo banks' flexible structure, in addition to the low operating costs, enables them to rapidly up-scale as well as down-scale. They normally do not possess a banking license and are the classical user of white label banks (Joanna England, 2020).

2.3.3 Challenger Banks

Challenger banks possess similar characteristics to neo banks, with the addition of also maintaining some brick-and-mortar physical presence and holding a banking license. Compared to incumbent banks, however, the presence of challenger banks is generally much smaller. These banks' banking licenses allow them to innovate according to customer needs, as they are not fully dependent on third-party providers (Joanna England, 2020; Santos, 2018).

2.3.4 GAFAs banks

GAFAs banks are an allusion to the acronym GAFAs which refers to the original names of the four Big Tech firms Google, Apple, Facebook, and Amazon. None of them possess a banking license yet, however, all are constantly expanding their range of financial services products (Vives, 2019).

2.3.5 Robo-Advisor

Robo-advisors are automated and digitized versions of financial advisors and portfolio managers. By defining high-level criteria, an algorithm estimates the assets for investment. Buy and sell transactions are placed automatically and no further interaction is needed. The latest technology robo-advisors are based on self-learning AIs replacing human discretion (Jung et al., 2018; Tokic, 2018).

2.3.6 Neo Broker

Neo brokers are changing the market by offering almost commission-free trading. Their focus is primarily mobile-first with an innovative and cost-efficient IT infrastructure. Low commissions or nonexistence commissions result from directing order flow to market makers in exchange for payment (Steffen Meyer et al., 2021).

2.3.7 RegTech

RegTechs focus on technologies that help companies comply with regulatory requirements more efficiently and effectively (Anagnostopoulos, 2018; Douglas W. Arner et al., 2017).

2.3.8 InsurTech

InsurTechs bring the insurance market to tech-savvy customers via digital channels. Their product portfolio is often more specific and customer-oriented than incumbent insurers. Nevertheless, the backbone of today's InsurTechs are frequently still traditional insurers but modern algorithms provide more customization and precise computational models can be used (PricewaterhouseCoopers, 2016; Tanguy Catlin et al., 2017).

2.3.9 Shadow Banks

Shadow banks are institutions like hedge funds, structured investment vehicles, or mutual funds which are not subjected to governmental regulations. Their main role is to act as an intermediary between large borrowers and large lenders to provide structured securities. By not taking deposits in the traditional way, shadow banks avoid the regulatory demands of a regular bank, e.g. capital requirements. They can therefore take a higher risk (Julius Mansa, 2020).

The FinTech industry has reached a promising stage similar to incumbent financial institutions. Nevertheless, an important fact that should not be overlooked is the profitability of the industry. As previously outlined, investor interest is high although the return on equity is far below the industry average. Incumbent banks have a return on equity of around 5% to 10%, with some institutions even above this. Established FinTech banks still need to reinvest all their assets and

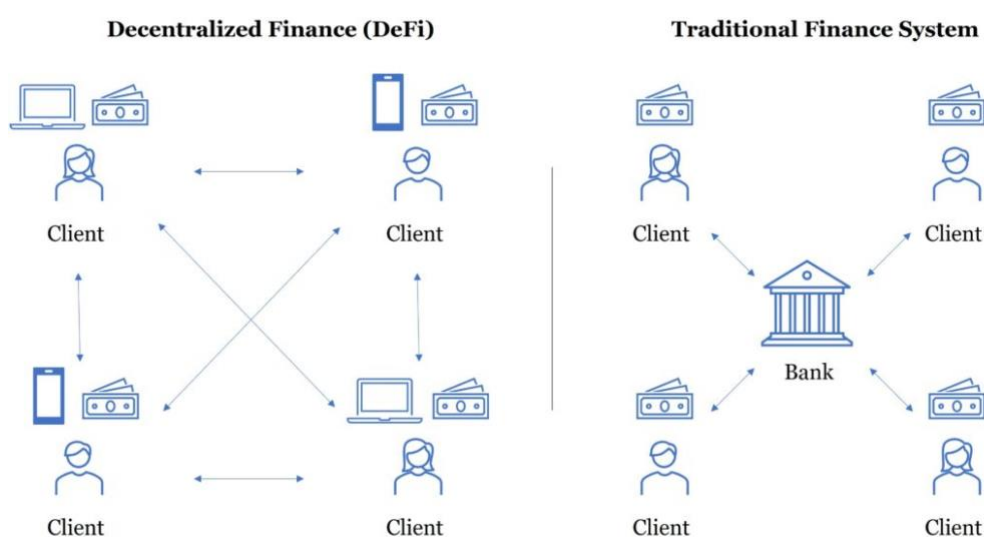
rely on external investment to finance operations. Return on equity is, therefore, more than 100% negative (Federal Reserve Economic Data - FRED, 2020; Matthias Lehneis & Thomas Sonnleitner, 2021; N26, 2021).

A further extension of this industry are TechFins, firms characterized by their capacity to leverage the data gathered in their primary business into financial services (Zetzsche et al., 2017).

2.4 Decentralized Finance (DeFi)

As the word banking already implies, the center of the industry is the bank. When considering the industry from a new perspective, i.e. without the need for a bank to act as an intermediary, new options emerge. The most frequent term associated with this approach is DeFi. The idea behind DeFi is to have the infrastructure which is needed for common banking transactions provided by distributed ledger technology. This is the underlying technology for cryptocurrencies such as blockchain for bitcoin. Data is completely decentralized and requires consensus and validation from participants in order to be added to the ledger. The procedure enables a system where trust is generated by a consensus algorithm rather than from a centralized authority that validates transactions. Peer-to-peer transactions allow direct interaction of users on an equal footing without restrictions to time, location nor with institutional binding (fig. 3) (Chen & Bellavitis, 2020). In order to create incentives to contribute to the system validating entities are rewarded financially by receiving transaction fees. The technology promises accessibility to banking solutions for the unbanked population as well as fewer costs and improved efficiencies (Abdulhakeem & Hu, 2021).

Figure 3: Schematic comparison between decentralized and centralized finance system



Source: MoreThanDigital (Roberto Zimmermann, 2021)

DeFi is not bound to a specific DLT and several coins and tokens are becoming established in the market. The most dominant tokens for DeFi applications at present are Maker (MKR), Aave (LEND), and Compound (COMP) – all of them run on Ethereum (Eaton, 2021; Holger, 2021).

The ECB has a joint initiative for a DLT and partnered in December 2016 with the Bank of Japan for a project called Stella. The project is currently in its fourth phase and the question of how to balance confidentiality and auditability is being examined. This is revealed in the banks' joint report published in February 2020 (European Central Bank and the Bank of Japan, 2020). It has not been clarified whether this DLT is intended for DeFi applications, and no further updates to the project have been released since. A digital euro project was officially launched in July 2021 by the ECB (European Central Bank, 2021). However, no clear position was taken in this new project either, since the ECB emphasized that the start of the project does not necessarily imply the issuance of a digital euro.

Concerns about regulatory needs in DeFi are getting more frequent in recent news (Benjamin Whitby, 2021; Ryan Browne, 2021). Regulatory entities however are still highly reserved on the topic and one can only speculate as to what a future regulatory regime would be. Authorities like the German federal financial supervisory authority (BaFin) are getting more concrete on cryptocurrencies as an asset, but DeFi is still barely mentioned.

Numerous challenges such as scalability, data protection, and governance need to be overcome, while a lower total cost of ownership, financial inclusion, and a fairer financial system remain the objective (Casey et al., 2018; Chen & Bellavitis, 2020).

3 Research Question

The previous chapters described how FinTech companies and new technology are disrupting the financial market, although so far only a small market share of the overall financial services industry has been gained by these entities (Zavolokina et al., 2016). Thereby, the central question is how the established market will be affected by these emerging trends and where will there be industry change. The first research question this paper tries to answer is therefore as follows:

How are German incumbent banks reacting to disruption in the financial market?

If we talk about disruption and changes in the financial market, the subsequent question about possible directions comes up. Digitalization and mobile-first are well-known buzzwords in the industry, but also new business models are moving more and more into the spotlight. Hence, the second research question focuses on potential directions for the industry, as suggested by previous research (Gomber et al., 2017).

Where do incumbent banks see their business in the future? Are they going to play the same role?

By investigating these questions, we will be able to better understand the direction of the financial market, highlight possible trends in the industry and give banks an orientation for future targets.

4 Methodology

To grasp the drivers of FinTech innovation, a qualitative approach was chosen (Hammarberg et al., 2016). Within the different genres of qualitative research, expert interviews were used to get the best insights from decision-makers. Semi-structured interviews have made it possible to understand the opinions, attitudes, experiences, and processes of experts, following the conceptual research approach of Rowley (2012) for data collection. To better reflect the statements made by experts, survey data and industry figures were used for key statements. The comparison of qualitative (open-ended) and quantitative (closed-ended) data allows to identify trends to answer the research questions.

The qualitative sample was reduced to experts related to innovation in the field of finance. Semi-structured interviews were held with a diverse range of key players in finance, as we focused on reaching different backgrounds to get a better understanding of innovation trends in the industry. To avoid the ostrich bias, an effect where individuals tend to avoid additional information given adverse prior news (Karlsson et al., 2009), interviews were also conducted with individuals who have an external perspective on the industry.

Following the approach of theoretical sampling (Bagnasco et al., 2014), where the sample is cumulatively developed, interviewees were chosen based on their relevance for answering the research questions. The sample was augmented until theoretical saturation was reached, which marks the point, where no new information can be gained by adding new participants. In this case, the interview process was stopped after eight participants, since it was recognized that no

additional insights could be added and all levels of positions in the scope of the research were covered.

The following list gives a brief introduction to the interviewed experts.

Table 1: List of Interviewees

Interviewee	Position	Age Range
Interviewee 1	Co-founder & executive of digital service provider for banks	40-50
Interviewee 2	CEO of robo-advisor spin-off from regional bank	50-60
Interviewee 3	CEO of innovation lab from incumbent bank	40-50
Interviewee 4	Ex-investment banker, now founder of learning platform (different industry)	30-40
Interviewee 5	Digital innovation & corporate development at regional bank	20-30
Interviewee 6	CTO at regional bank (member of management board)	50-60
Interviewee 7	Partner at leading European consulting firm for financial services	40-50
Interviewee 8	Ex-banker and now innovation and agile working methods consultant for banks	20-30

Overview of the interviewees' position and age range. All interviews were conducted during fall 2021

The interviewees were previously not informed about the background of the research and the questions were designed to encourage the interviewee to talk freely about the topic by not asking the research questions directly (Rowley, 2012). Interview questions were conceptualized in such a manner that they are adequate for incumbent bank leaders with knowledge of the finance industry's common technologies. The different expertise of the interviewees was covered by the depth of the answers. The guideline questions for the interviews can be found in the appendix.

To give the interviewee the possibility to respond most authentically and to give a feel of comfort, it was the interviewee's choice to hold it either in English or in German.

For a better understanding and to be able to elaborate on intrapersonal reactions, face-to-face interviews were preferred. However, due to a pandemic and geographical distance, most interviewees could not be met in person and video calls were set up.

5 Analysis

Conventional content analysis was used to gain a better understanding of the experts' perspectives on innovation in the financial market. This approach helps draw new information directly from the data by inductive category development, allowing the definition of categories during the data analysis (Hsieh & Shannon, 2005).

The data generated through interviews was first analyzed by repeatedly reading the transcripts. During the coding process, only the phrasings were analyzed without considering the background of the interviewee. Statements with the same meaning within one transcript were aggregated to not double count the opinion of one interviewee and distort the results. The suggestion by Creswell (2013), to analyze the data several times, was taken into account, and it helped to gain a better understanding of each interviewee's perspective. During the first time, bigger adaptations were made, also to find a fitting category for each statement. For a better understanding of the data, each informative phrase was clustered to be compared with other statements in this category. Furthermore, subcategories and tags were introduced to make the statements comparable. Tags were used to link phrases from different interviewees, independent of the interview language, with the same assertion. To evaluate whether a trend can be seen within a category, subcategories indicate if multiple statements exist with a similar purport but a different tag.

6 Results and Findings

The diverse sample of interviewees allowed for different perspectives on the industry. At the same time, it also reflected the broad range of answers in the results. Constantly reanalyzing the transcripts helped to create comparable categories and more insightful information. Six main categories were defined during the coding process, where each category defines a unique area and has characteristics as described below.

Table 2: Categories used for coding

Category	Description
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Challenges	Factors challenging and thereby also changing the banking industry according to experts. The source of those factors can be internal as well as external.
Innovation	Drivers for innovation, as well as different types of innovation which changed the market
FinTech	Perspective on emerging start-ups in the scene; further subcategories such as neo banks, shadow banks, or neo brokers could be identified
DeFi	Current knowledge status of decentralized finance and opinions on the technology were gathered in this category
Future of Banking	Highlights the core competencies that successful banking will need to have in the future and explains what such a model could look like
Competitiveness	Aims to identify areas with space for further improvements and the potential to increase the competitiveness of a bank

To give readers a guideline, which can easily be followed, the order of findings was structured, as seen above, from challenges and innovation to FinTech, DeFi, and the future of banking. Finally, key factors to improve competitiveness were identified.

6.1 Challenges

A broad range of different challenges in the industry was mentioned. To get a better overview, external challenges are mentioned first and followed by internal challenges.

Unsurprisingly, the interviewees commented on regulation. They referred to obligatory paperwork, risk limitations but also to the use of data. Interesting at this point is that not all interviewees saw it as a challenge, as will be elaborated later.

Especially during the pandemic situation, banks lost physical contact with customers and even more, customers got used to online services. Regarding digital access, it was also mentioned that customers have access now to an increased product variety as well as transparency about different possibilities. Interviewee 3 mentioned that previously there were around three institutions in a city to get credit from and you picked the best one of them. Nowadays banks have to compete with every institute in the country and sometimes even more. The increased competition makes it also more challenging to differentiate from other banks and at the same time the switching barriers are getting lower. The change in demography also brings a challenge

to the industry because young customers need to be attracted, but the older generation has the money.

Technology is often seen as the solution for scalability and lower margins, but digitalization is costly, and the core banking systems are hard to replace as two different interviewees remarked. A frequently overlooked effect is that structural changes towards agility, with the intention of increasing competitiveness and customer-centricity, can cause reduced productivity and even less innovation in the short run. Such structural changes often imply cultural changes that might not be well-received by all employees. Some interviewees also explicitly mentioned the mindset of employees as a challenge in banks' attempt to get more competitive and to restructure projects.

The perception that banking provides a safe workplace is prevalent in the industry. A comment was also made that the financial crisis was the first time a paradigm shift happened. Another example relating to the coronavirus crisis was given: employees in the financial sector did not have to worry about their salary, while most other sectors were at least concerned about it. This reflects the general perception of the industry as an environment with a high sense of security and a low urge to change, as indicated by interviewee 6.

6.2 Innovation

To better understand how banks are driving innovations like tokenization, experts were asked about the latest disruptive innovations from their point of view and how banks adapted to them. (The question related to this topic was asked as one of the first questions during the interview to avoid any bias by talking about specific technologies previously.)

The most frequent change which they highlighted was the shift to a more digital and mobile-first environment. At the same time, it was mentioned that this development is viewed rather as a transformation and not directly as a disruptive innovation. Other responses linked to this area were digital business bank accounts and AI-based robo-advisors.

Some opinions also mentioned DLT; those answers were mostly more straightforward. An exact use case for their bank was rarely given, but references to examples of what start-ups around the world are already doing with the technology were made.

Factors that push innovation were not only financial support and a protected space, but also the integration back to the core organization for marketing purposes as well as competencies on top management level. As long as the management level in charge of making decisions does not know enough about technology and is unaware of its potentials and downsides, a strategy cannot be developed.

The hardest impact analyzed on the scope of implementation of innovative technology was the fear of disruption. Most interviewees mentioned that within their projects they must take care not to reduce their classical employees too much. In addition, they stated that marketing campaigns were not possible due to not overhauling other established products in their portfolio. Interviewee 4 even mentioned it as the main reason for quitting the job in the finance industry. The interviewee got demotivated creating a great product with a lot of potentials, but not being allowed to sell it commercially due to restrictions from the higher level. At the same time, a competitor from the FinTech sector was able to promote a very similar product and it took off.

6.3 FinTech

A different mindset might be found in the FinTech sector. Not all interviewees chose to refer to it as competition. They argued that FinTech companies serve a domain which incumbent banks are not able to serve anyway, but all agreed that some parts of the traditional banking business are lost to them. At the same time, a common opinion was that those companies are drivers of innovation and incumbent banks need to catch up.

To better understand the potential of the industry, differentiations were made within the different sectors of FinTech. Neo brokers were categorized as one of the biggest game-changers and disruptors in the private investment sector; especially because the interviewees do not expect that this market can be gained back. Neo banks were classed on a level somewhere between competitor and innovator. Many processes implemented by them changed the market for everybody, and incumbent banks were able to learn from their success. An example often mentioned was the ease of opening a bank account and its online verification; one of the first USPs of neo banks. Incumbent banks were able to learn from this and adapt their processes as well. Such possibilities not only helped to increase customer satisfaction, but also to reduce process costs in the long run.

Another topic is the online payments service sector. In Germany, a significantly high number of online shoppers prefer shadow banks over bank transactions when purchasing products online: 48% choose PayPal, and only 6% direct bank transfer (postnord, 2020). These numbers did not surprise any of the experts and some even agreed that this market has been neglected. Comments were made that a compelling project was started to compete with the biggest market players. However, it resulted in disagreement within different entities and delays, so that in the end only PayPal was winning. In addition to declining revenue, due to the loss of transaction fees, data supremacy was lost.

The experts had different opinions on the impact and consequences of sharing transaction information with third parties. The lost data itself was seen as a major negative for Interviewee 5, whereas Interviewee 6 said that it was a disadvantage for the banks. However, the consequences were not very serious because traditional banks fail to use the data anyway. Interviewee 7, on the other hand, sees the problem more as a regulatory issue, creating a disadvantage especially for European banks because companies located outside of Europe have far fewer restrictions regarding the use of data.

6.4 DeFi (Decentralized Finance)

To get a further overview of the industry, the experts were asked about their opinion on DeFi and DLT. It quickly became clear that the subject was not as well-understood as originally expected. Almost half of the interviewees asked for a short explanation or expressed difficulties in making assumptions due to insufficient knowledge. On the other hand, the disruptive potential of the technology was also highlighted.

Concerns were expressed about the regulatory aspects of the topic. Due to anonymized transaction anti-money laundering (AML), compliance and Know Your Customer (KYC) were mentioned. Furthermore, the ECB is not expected to let the market remain as unregulated as it is now. A higher degree of regulation may result in more stability and trust, as interviewee 5 suggested, and consequently would lead to an increase in corporate participation in the field. For widespread use, private customers will also need to gain trust in the technology and broader knowledge about it. Interviewee 3 stated that DLT can only become successful when it is seen as a solution by its users and not as a technology.

Experts familiar with the topic see the technology as very promising for the financial market despite its early stage, some even categorized it as a game-changer. Information was shared that some banks are working on DLT use cases and a few already utilize blockchain technology for real estate tokenization. Interviewee 5 also sees a clear role for banks by offering financial advice to clients.

6.5 Future of Banking

All experts stated that they see the industry in a process of transformation. To better understand the direction of the transformation, the core competencies were elaborated, and possible future scenarios were highlighted. A clear understanding of the primary tasks is crucial to success. For banks, this is still mostly seen in the liquidity supply and investment brokerage.

Customer centricity is already understood in the industry, but the trend will continue to move towards a more self-determined and self-service online environment. Personal service will get a higher status and bank advisors will be a premium service for customers. A possible solution for this is an online-focused business with flagship stores in areas with high customer density. Several big, innovative players like Apple, Amazon, Tesla, but also German disrupters like Zalando, already follow this approach.

On the product side, no big changes are expected, but the product provider might change since earning commission fees will get higher importance for banks. Their role thereby changes more to the agent or platform model instead of providing the product themselves. An aspect to support banks with the right product offering will be the strong use of data to better understand customer needs.

In an unexpected comment, interviewee 6 proposed that incumbent banks are only still alive because regulation has hindered and restricted access to the industry for many other players. It was stated that the ability to act within the regulatory framework is one of the key competencies for incumbent banks.

DeFi, according to the experts, will clearly play a role in banking in the future. However, they often added that it will still take some time.

6.6 Competitiveness

The interviewees gave insights into measures that were taken by banks to position them better in the market. Customer centricity is key, but agility to react faster to customer expectations will be crucial to maintain customer satisfaction. With respect to improvements and innovations, the mistake should not be made to only consider investments that have a direct effect on profitability. Long-term growth is more important than short-term profit, as interviewee 1 argued.

The speed of innovation was mentioned as a further point for improvement to get more competitive. Two statements of different interviewees complement each other very well in this regard. Interviewee 1 argued that at the time when incumbent banks start to come up with alternatives to FinTech, it is already too late because incumbent banks are only chasing solutions and not inventing their own. Interviewee 2 mentioned that traditional banks are only reactive and focused on the biggest perceived current problem. They thereby miss the opportunity of catching up with the competition.

Interviewee 7 stated that a clear vision concerning areas of focus and core competencies will position a bank better against the competition. Such vision also gives employees the possibility to address products as well as clients more directly. An example of successful positioning is the current trend towards environmental, social, and governance (ESG) products.

7 Discussion

Many challenges and competitive factors, which were mentioned by the interviewees, are well known in the industry. However, an interesting observation from the interviews was that almost every interviewee stated different factors and there were only minor correlations of answers that could be observed. This reflects the complexity of the topic as well as the broad range of possibilities for improvement and innovation.

Another observation made during the interviews was not directly extracted from the data, but rather from the way how the interviews were conducted. Many interviews were held in German, a language with a formal (“siesen”) and an informal (“duzen”) mode of expression (not to be confused with a rude way of communication). All German interviews, except one, were held in the informal communication style, which already implies a change in the industry. In the past,

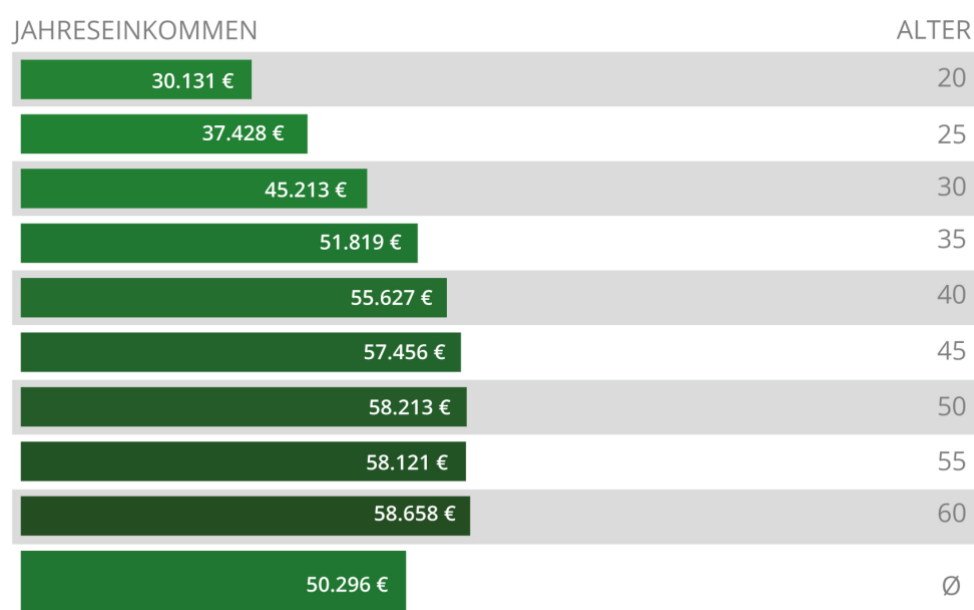
this would not have been possible, since people in the banking sector would have chosen the more conservative, formal way to address each other. The informal approach is also used by well-known German neo banks on their web pages, whereas incumbent banks still use the formal mode on their websites.

The interviewees can be classed into two groups. The first, which was unfamiliar with the topic of DLTs or at least asked for an explanation, had no clear positioning on the topic. The second group, which was familiar with the topic, remarked on its disruptive potential at least in some areas of the financial industry. No interviewee stated that DLT had no future in banking.

An important aspect in our opinion for DeFi and all DLT applications – which was not mentioned – is data protection. All transactions are traceable on a DLT (bitcoin.org, 2021). This makes it useful against money laundering but at the same time, it can deter people from joining.

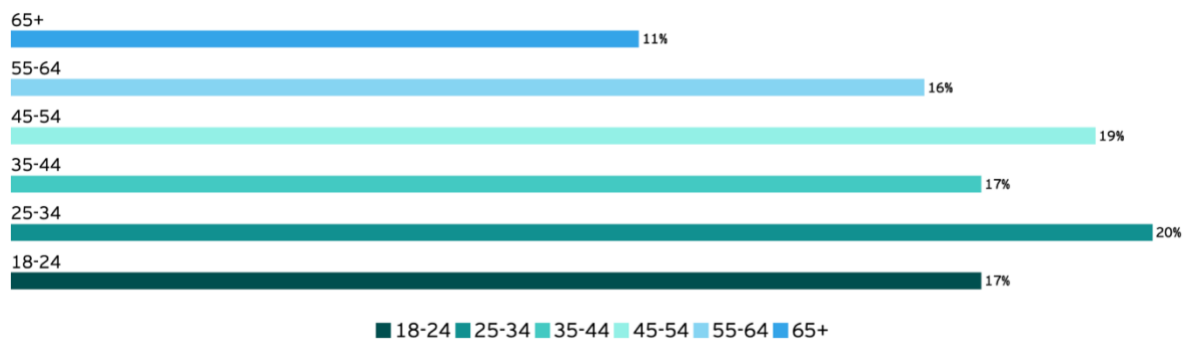
Interviewee 2 mentioned that the wealthy demographic is still outside the main target group of FinTech companies. This statement corresponds to fig 4 when considering that FinTechs main target group is aged below 35. However, the industry shows that also a significant amount of people outside this age range have come into contact with FinTech companies (fig. 5).

Figure 4: Average Gross Income by Age Group



The bars on the left indicate the German average gross income depending on the age group indicated on the right side. Source: (Dr. Philip Bierbach, 2019)

Figure 5: Consumers who choose a neobank for primary financial relationship, by age



Source: EY 2021 NextWave Global Consumer Banking Survey (Jan Bellens & Nikhil Lele, 2021)

The industry is being transformed, and sometimes even disrupted, but the process is still ongoing. The interesting question is going to be whether incumbent banks will be able to bring enough convenience to their customers to hold them or even gain customers back. At the same time, FinTech companies are faced with the challenge of gaining the trust of consumers and transforming their business model into a profitable institute.

Concerning the first research question, this study cannot provide a clear answer to how German incumbent banks react to disruption. The main reason is that the statements of the experts were highly diverse as well as their opinions on FinTech and disruptive innovations. Also, by narrowing down the question of how incumbent banks react to FinTech, it can be seen that a variety of business experts have different opinions on that topic. In general, banks see FinTechs as a source of new ideas and are inspired by them rather than viewing them as a disruptive force. Several customer fields, however, are lost to FinTech companies according to the experts. Areas like trading are almost completely lost to online brokers since incumbent banks were and still are unable to catch up fast enough or their processes and thereby products are too costly.

To gain a better understanding of the current situation, an overview was created in Table 3 of the different areas where incumbent banks, FinTech companies, and DeFi technology is currently active and has potential based on the interviewees' responses.

Table 3: Banking business areas of strength

Business Area	Incumbent Bank	FinTech	DeFi
Accepting Deposits	4	5	5
Providing Loans	5	4	3
Money Transactions	4	5	4
Self-managed Investments	2	5	4
Managed Investment Portfolios	5	4	2
Personal Financial Advisory	5	1	1

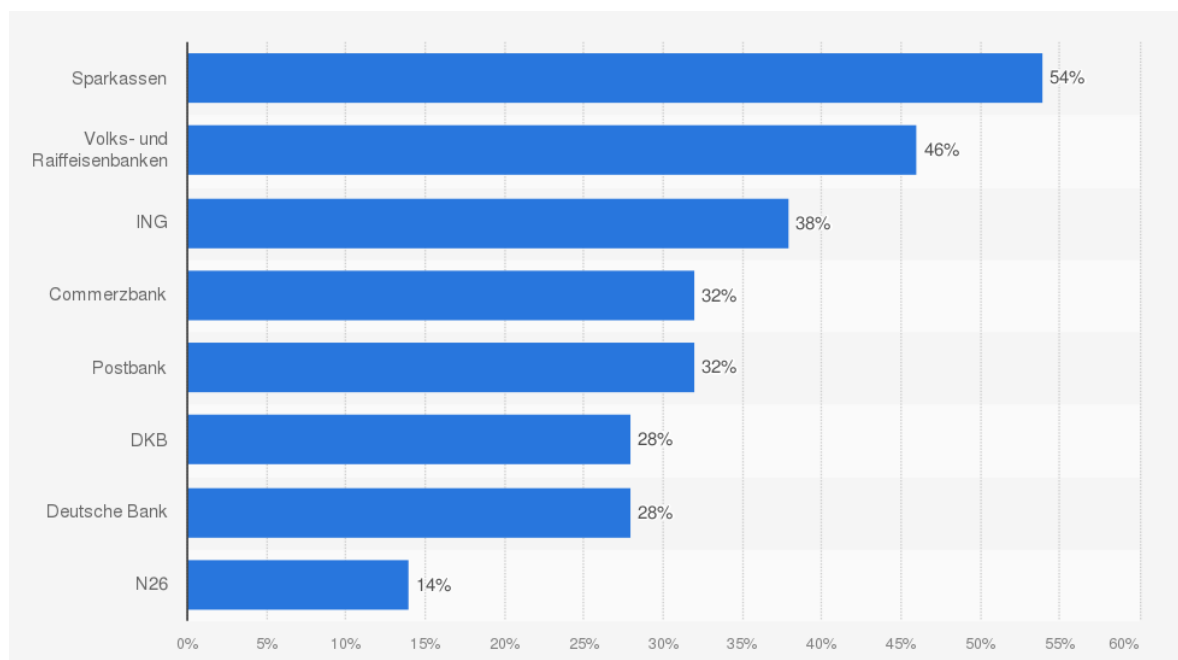
Competencies of different players in the banking industry are ranked from 1 to 5 whereas a higher number indicates a more dominant position in the area

As indicated above, FinTech is already very well established in the traditional banking sector, only missing out on personal financial advice. DeFi, on the other hand, is almost at the same stage regarding potentials even though they are not as well established yet. All three categories will vigorously compete for market share, each with its advantages and disadvantages. At the same time, they are all expected to intertwine and learn from each other.

8 Outlook and Recommendations

Incumbent banks often have the fear of cannibalizing their own market with new technologies and products. Schumpeter coined the term “creative destruction”, which incumbent banks recoil from. Often new, innovative products will bring a lower margin than products currently sold. At first, it might sound reasonable to sell products with higher margins as long as this is still possible. Nevertheless, it is questionable whether this is a sustainable way of keeping customers in the long run, especially if new products are already available. Furthermore, there will be somebody in the market who is going to offer your customer a new product where switching costs are almost nil. So, the question is if you want to cannibalize yourself and keep the customer or lose the customer completely to the competition. It is also essential to consider the image of the bank and whether customers trust that the bank is providing the best advice and keeping their money safe. Trust is still one of the greatest assets incumbent banks have against FinTech companies. This is demonstrated in the fig. below: The biggest German incumbent banks are ranked on the first two positions for the most trusted banks (fig 6).

Figure 6: Trust in German Banks



Customers still put the most trust in incumbent banks. Whereas young neo banks rank at the end of the scale. Source: DSGVO (2021)

In the future, banks will no longer all be the same; they will have to differentiate themselves and focus on a specific area of expertise. It will become more and more difficult to be competent as an all-rounder. This is especially true when switching barriers for customers are getting lower and diversification and specialization in products are increasing. It is unrealistic to think that providing your customer with a bank account or a loan will be enough. Additional value must be created to convince customers. Emotions should be triggered in the customer and banks need to be passionate about their philosophy and products.

To position a bank sustainably in this environment will also require cultural changes. Doing the same or a similar task with a defined process over and over again is not going to work much longer. Teams need to be able to change with their surroundings and adapt to their customers. Furthermore, intrinsically motivated employees are needed to deliver a bank's philosophy to customers.

This presupposes that the management level is free to position the organization in an agile and innovative way. Modern technologies and industry trends need to be well known, and sophisticated knowledge should be shared throughout the whole company. This also applies to

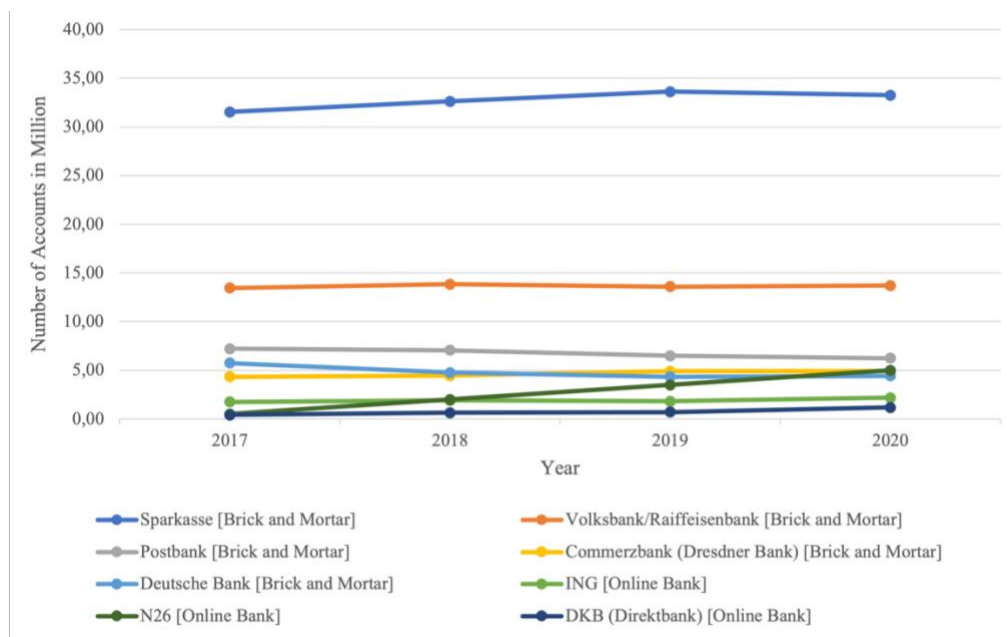
the management level since it should be able to assess opportunities as well as properly define strategies.

The most disruptive approach, being aware that it would have enormous consequences, is to question whether there is an added value for incumbent banks in having their own highly costly banking system. No positive aspect was mentioned during the interviews, nor could a benefit for customers be identified.

Traditional banks were pioneers by implementing digital technology in their business and providing IT infrastructure. However, developments during the last decades proved that incumbent banks have lost their position. Network payment processes are mainly carried out by Visa and MasterCard, and also a significant increase is seen in the use of shadow banks (Finanzmagazin, 2021). The European Payments Initiative (EPI), a conglomerate of 31 incumbents and 2 third-party acquirers, has a similar perspective. EPI aims to launch an initiative to create a new pan-European payment solution leveraging Instant Payments and cards (EPI Interim Company SE, 2021). This project is a significant example of how incumbent banks can join forces to boost innovation in the hope of catching up with FinTechs, although it is still only tackling the loss of the payment sector and not solving the technical infrastructure problem. Therefore, we see the potential for incumbent banks in focusing on their core competencies, i.e. providing financial advice to customers, enabling a network for them, and increasing their trust. This would also reduce the complexity and position incumbent banks better for future technology changes.

The opinions of our interviewees were diverse on the topic of data usage. Nevertheless, we would like to cite a phrase from Interviewee 6: “Google, Facebook, Amazon, and Co. are not the big data collector, the banks are”. The same interviewee mentioned that incumbent banks are only using around 20% of the available data due to technology legacies, not regulatory restrictions. Banks have data supremacy, and the intrinsic motivation should be to protect it, but as seen within Payment Service Directive 2 (PSD2) there is also a wish by customers to get data analyzed. Incumbent banks still have the possibility, owing to their high market share (fig 7), to generate the most detailed market research, as well as customer-specific product offerings.

Figure 7: German Bank sizes by number of checking accounts [Top 8]



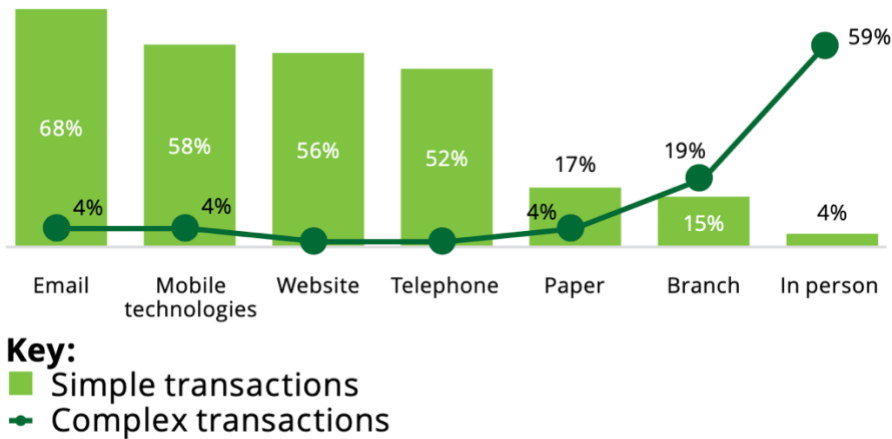
Aggregated graph of checking accounts per bank from the VuMA survey with 23.000 respondents each year, accessed via Statista, Source: (N26, 2020; VuMA, 2020a, 2020b)

The following example was brought up on how user data can be used to benefit the customer itself: Customers can be offered a financing plan shortly before their next car purchase based on an estimate of their current car's mileage from their gasoline bills. The amount of use cases is infinite, but automated processes would be required to gain insight into customers' needs. From the interviews, the following advice can be drawn: Don't sell the data but use it to your advantage.

Michael Kaiser, head of the banking industry division at the Hessian data protection commissioner, explained in an interview that from a legal perspective with respect to GDPR banks are still allowed to use all data required for the fulfillment of concluded contracts or for the implementation of pre-contractual measures. Customer consent is required only when data from banking transactions is used for marketing purposes. New start-ups or FinTechs often focus on technical possibilities at first and not on regulatory limits. However, at the latest when a certain level of maturity is reached or when cooperating with banks, all legal requirements must be met in full. Anonymized data is not covered under GDPR and no restrictions apply to the use of anonymized transaction data for customer or market analyses (Katharina Schneider, 2018).

With regard to the further reduction of costs for physical locations, we would like to elaborate on the comment from Interviewee 3: “By having flagship stores, an area is created where customers can connect with each other and with their financial advisor”. Thus, points of interaction are created. A study on the preferred channel of interaction concludes that face-to-face communication is still preferred for advisory services on complex transactions (fig. 8).

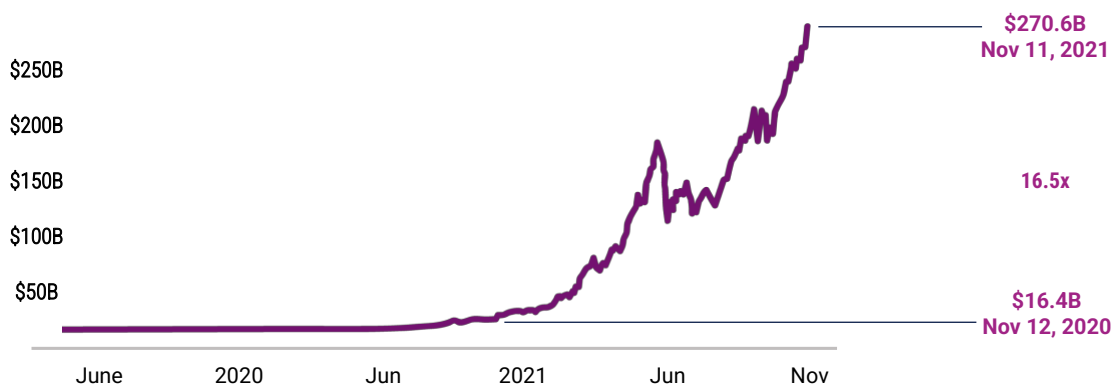
Figure 8: Preferred Interaction Channels by Clients for Transactions



Source: Innovation in Private Banking & Wealth Management (Dr. Daniel Kobler et al., 2017)

Not only influential investors such as Mark Cuban (Locke, 2021) are aware of the potential within DeFi (fig. 9), but also banks have got the grasp of it as our interviews prove.

Figure 9: Total Value Locked (USD) in DeFi



The total value locked in DeFi folded more than 16 times during the last year. Source: CB Insights Research/DeFiLlama (2021)

There is one good message for incumbent banks: DeFi is more disruptive for neo banks due to their focus on providing technology as a service (TaaS) (Zhou, 2021). When the technology behind banking is available for everybody without restrictions, their services will become obsolete. In addition, this could give incumbent banks a competitive advantage over FinTech companies, since the main business for banks is going to be to advise customers (Interviewee 5) and maybe also some yet undefined regulatory tasks. However, it is clear that incumbent banks must embrace new technologies in order to be able to compete in the market. To this end, as previously described, a cultural transformation must happen within banks – and it should include all their employees.

Combining the qualitative and quantitative information obtained and further elaborating on a statement made by interviewee 6, four possible positions that banks may take in the future have emerged:

1. The Advisor: banks may focus on the bank's core business by providing customers with financial advice as a service. These banks will have a broad product spectrum which includes a large selection of external products. The main part of the business model is based both on the commission fees charged by the banks when selling products from third party providers as well as on the use of shadow banks. A dichotomy might be created between the best output for the customer and the highest fees for the bank.
2. The Tech-Provider: an approach several FinTech companies are already taking by providing the customer with the technology needed for their financial interests as self-service. The business model is mainly based on scalability and high customer numbers. Users are attracted by low fees, but at the same time, more financial knowledge and more time are needed.
3. The Allrounder: a positioning that most incumbent banks are currently following. Institutions try to cover all the financial needs of customers with their products. These are provided inhouse, however, they are typically less customizable and higher fees are charged, but customers get an all-in-one solution.
4. The Niche: highly specialized banks focusing on a niche market by providing customers with the best service in a certain area. The customer segment is highly focused and by being well established in the market higher fees can be charged. Further business can be made by cooperating with advisor banks from the very beginning.

How banks are going to position themselves or if they are going to compete with the same strategies as before will only be shown by time. In our opinion, the first strategy will be the most sustainable positioning for incumbent banks due to the fast technology changes. By having a flexible back end and providing the customer with a trusted front end the most promising results can be archived.

9 Conclusion

Banking is essential in almost everybody's daily life. Microsoft founder Bill Gates emphasizes this with the following sentence characterizing the wide debate on increasing digitalization.

“Banking is necessary, Banks are not.”

This statement is slowly becoming reality, but it is important to note that the comment was made in 1994 and almost 30 years later we still have banks. This characterizes the industry in a certain way. There are a lot of visions and ideas, but the industry itself takes its time to transform, although banks urgently have to prepare for what is coming next. Customers have almost unlimited product offerings and seek to have more than only seemingly simple processes. Client acquisition and retention in banking will remain an ongoing challenge.

Many financial products are not disrupted yet but have been optimized by technology since the core product is still the same. However, different types of innovation have enabled more convenient systems for the financial industry. Technology has already reached a state where it is disruptive. This is generally seen in the field of distributed ledger technology – an innovation that will change the financial market, although not yet immediately. For financial institutions it is important to position themselves and already have a clear vision of their future business model since many services will become obsolete – Banks need to transform from the state where they are needed to where they are wanted.

10 Limitations and recommendations for further research

This paper aimed to analyze different expert opinions on the current transformation in the banking industry. The initial idea was to understand trends applicable to the European market. During the interviews, it was noticed that the knowledge of the experts was mainly restricted to one specific country. Therefore, the scope of the study had to be narrowed to the German

market. Even though Germany is one of the leading countries in Europe regarding FinTech, the UK is the pioneer in the field (CrunchBase, 2021). In addition, the UK has stated that it is likely to comply with the minimum standards of the Basel Committee on Banking Supervision. However, the responsible Prudential Regulation Authority has a free hand in how it will meet those standards (Scott Martin et al., 2021). This can give the UK's financial sector competitiveness and crimp innovation under the CRD/CRR framework. Therefore, a suggestion for further research is to conduct interviews with experts in the UK and analyze these accordingly.

Another aspect is the customer's perspective on the topic. Industry leaders are defining the possibilities and options offered to customers. However, as Eric Ries (2011) has shown, innovation is doomed to fail if customers are not interested in using it. Therefore, further research should consider the customer perspective and measure its potential in the real world. During the interviews, interviewees recognized needing to explain how the banking industry has evolved towards its current situation. Great lessons for the future can be derived from an analysis of the key factors that are shaping the current state of affairs. In conclusion, it may be said that you have to know the present in order to master the future.

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Interview Guidelines – Future of the Banking Industry

Date of interview: _____ Type of interview: _____

Interviewee: _____

Position: _____ Age: _____ Gender: • female male

RQ1: How are German incumbent banks reacting to disruption?

RQ2: Where do incumbent banks see their business in the future? Are they going to play the same role or transform?

1. Please give me a brief introduction of your role at the company (5:00)
2. How do you think the banking industry is going to change in the future? (9:00)
3. What was the latest disruptive innovation in the banking industry you can think of? (14:00)
4. Where do you see the biggest challenges for the banking business? (17:00)
 - Competition/Regulation/Technology/Customer needs/IT Structure
5. Do you see FinTechs and other startups as significant competition for your organization? (+30 fintech unicorns in Europe) (20:00)
 - Why? / Why not?
 - In which field?
6. Are NeoBanks changing the banking market? (N26, Revolut, Monzo, Tomorrow) (25:00)
 - Why/Why not?
 - In which way?
7. German online shoppers (92% of population) prefer payment services like PayPal (48%) and only 6% direct bank transfer. Do you see it as a problem for the banking business? (Source: PostNord) [Shadow Payment Providers] (30:00)

8. Do you see potentials for Decentralized Finance (DeFi)? [distributed ledger-based payment systems] (38:00)
 - Have you heard about it?
 - Could you imagine having a financial market without banks only self-regulated?
 - Is it a topic that is talked about?
 - What should banks do about it? How should they get involved with it?

 9. Where are the core competences of incumbent banks going to be in the future? (43:00)
 - Same as previous decade?
 - personal advice for customers?
 - Is trust going to play a role?

 10. Are there any steps your organization could take to be more competitive? (48:00)
 - Are there any barriers within or outside your organization for changes or to innovate?

 11. In your view is traditional banking being transformed? (56:00)
 - If yes, what are the three greatest transformative forces influencing it?
 - Will the transformation come into being in the short 3-5yrs, medium 6-10yrs or long term more than 10yrs?
 - If no, why not?
- Optional:
12. Are you aware of difference within the financial market across Europe? What about other continents like Asia and America?
 - regulatory nature
 - customer differences and needs

 13. Do you see a difference in the industry due to the financial crisis or covid?

Highlights Interview 1 – Co-founder & executive of digital service provider for banksDate of interview: *04.11.2021*Type of interview: *video call*Position: *Co-founder & executive* Age: *40-50* Gender: *male*

Tag/Translation	Subcategory, tag related with	Category
customer contact as an asset	customer relationship	Core competencies
responsive design, mobile ready, sign contracts online	user interface	Innovation
online meeting possibilities	digital acceptance	Crisis - Covid
Innovation is important but before we have to concentrate on..	prioritization	Competitiveness
serious competition	competition	FinTechs
gaining trust (time on market, funding, omnipresent)	characteristics	FinTechs - NeoBanks
topic not well known	unknown	Decentralized Finance
technology that has come to stay	disruptive	Decentralized Finance
KYC (know your customer) and money laundering to create trust element	trust	Decentralized Finance
regulator must be involved	regulation	Decentralized Finance
strengthen customer relationship	customer relationship	Core competencies
make convenient, easier and faster	convenience	Competitiveness
self-determined	flexibility/individual	Future of Banking
bank should interact as connector within network	connector	Core competencies
react faster to customer expectations	customer centric	Competitiveness
giving full focus only to the problem at hand	prioritization	Competitiveness
not every innovation has to be profitable in the short term	innovation	Competitiveness

personalized and individual	personalized	Core competencies
markets are different but you should learn from each other	synergy effects	Outside Germany

Highlights Interview 2 – CEO of robo-advisor spin-off from regional bankDate of interview: *04.11.2021*Type of interview: *video call*

Position: CEO

Age: *50-60*Gender: *male*

Tag/Translation	Subcategory, tag related with	Category
Robo-Advisor	technology	Innovation
low-interest-rate policy - low maturity transformation	regulation	Challenges
develop new sources of income	new sources of income	Competitiveness
adjust cost structure	lower cost	Competitiveness
digitization is costly	costs	Challenges
losing physically contact with customers	customer relationship	Challenges
create customer needs unexpected from a bank	create customer needs	Competitiveness
earning commissions for external products is getting more important	earning commissions	Future of Banking
customer information	data	Future of Banking
young customers need to be attracted but older have the money	demography	Challenges
to much obligatory (unread) paperwork	regulation	Challenges
we have to prepare for the worst	competition	FinTechs - NeoBanks
no innovation just catching up	innovation	Competitiveness
FinTechs in sector with highest profit margin	competition	FinTechs
access to product variety	competition	Challenges
good idea but only arguing, no progress	joined development	Challenges
topic not well known	unknown	Decentralized Finance
credit supply, liquidity supply, investment brokerage	products & services	Core competencies

agility, customer centric	customer centric	Competitiveness
employee's mindset	mindset	Challenges
agility changes are currently slowing down innovation	transformation	Challenges
pressure from customers as well as competition	competition	Challenges
everything online and for critical situation consultant on side	hybrid model	Future of Banking
need to streamline and digitalize processes	processes	Crisis - Financial
Home Office was allowed	working culture	Crisis - Covid
good cooperation with the regulatory authority	regulation	Crisis - Covid
prioritization of products with highest commission	prioritization	Challenges
not involved in online transactions at all	market lost	FinTechs - Shadow Banks

Highlights Interview 3 – CEO of innovation lab from incumbent bankDate of interview: *16.11.2021*Type of interview: *video call*Position: *CEO*Age: *40-50*Gender: *male*

Tag/Translation	Subcategory, tag related with	Category
digital banks with flagship stores	Flagship Stores	Future of Banking
need for personal encounter	personal contact	Future of Banking
manpower will become the absolute premium	products & services	Future of Banking
the big money is made on classical products - lending	products & services	Future of Banking
digital business bank account	products & services	Innovation
banking is not about the transaction anymore, it is about the experience (white label banks)	experience	Future of Banking
core banking system is hard to replace	technology	Challenges
difficulties in restructuring due to entrenched processes	processes	Challenges
legacy in the minds	mindset	Challenges
for young people, classic and neo-banks are of equal value	customer segment	FinTechs - NeoBanks
lower switching barriers	competition	Challenges
more transparency about possibilities	competition	Challenges
decision criteria hard to predict	decision criteria	Challenges
differentiation from competition	competition	Challenges
needed products but basically nobody wants them - credit	interest	Challenges
many companies will no longer disappear and remain	competition	FinTechs
have set new standard	innovators	FinTechs - NeoBanks
served a certain class of customers that the traditional banks simply did not serve	customer segment	FinTechs - NeoBanks
topic not well known	unknown	Decentralized Finance

customers don't trust a technology that they do not understand	trust	Decentralized Finance
need to be seen as solution and not as technology	trust	Decentralized Finance
agile structure and mindset	supporter	Innovation
flexibility, ability to act, responsiveness	supporter	Innovation
money, protected space, but at the same time interfaces in core organization	supporter	Innovation
commitment as well as competences of top decision maker needed	supporter	Innovation
the importance of customer centricity was understood	customer centric	Core competencies
being able to get feedback	supporter	Innovation
possibility to get in contact with clients (also digital)	customer relationship	Core competencies

Highlights Interview 4 – Ex-investment Banker, now founder of learning platform (different industry)

Date of interview: *17.11.2021*Type of interview: *phone call*Position: *Founder*Age: *30-40*Gender: *male*

Tag/Translation	Subcategory, tag related with	Category
DeFi will turn the financial world upside down, even if it takes some time	DeFi	Future of Banking
infrastructure to take care of	technology	Future of Banking
putting customers at the center	customer centric	Future of Banking
capital providers	products & services	Future of Banking
people are also becoming more and more resistant to advice	flexibility/individual	Challenges
Crypto, Blockchain, DeFi	DeFi	Innovation
young customers break away	demography	Challenges
simple, digital solutions (Convenient)	technology	Competitiveness
dissection of products / products are purchased from different suppliers	competition	Challenges
danger - stock market value of N26 and a Commerzbank	competition	FinTechs - NeoBanks
huge potential, I think there are still a lot of playing fields	disruptive	Decentralized Finance
did not want to cannibalize themselves	strategy	Challenges
deal intensively with the topic of innovation	innovation	Competitiveness
working methods and best of all to have people who only deal with the topic	specialists	Competitiveness
keep theme (hierarchy) high and as few policies as possible	supporter	Innovation
"Over Banked" - you get advice at every corner	competition	Challenges
from the financial crisis emerged the Bitcoin	trust	Challenges
crises also always mean opportunities	opportunity	Crisis - Financial

banks must be given credit for being among the first to work digitally	technology	Core competencies
a lot of cooperation between FinTechs and incumbent banks	cooperation	FinTechs
be able to provide the right consulting service on demand	timing	Competitiveness
NeoBroker (securities trading) already outranked	lost market	FinTechs

Highlights Interview 5 – Digital innovation & corporate development at regional bank

Date of interview: 30.11.2021

Type of interview: *video call*

Position: Employee

Age: 20-30

Gender: *male*

Tag/Translation	Subcategory, tag related with	Category
flexibility	flexibility/individual	Future of Banking
customer requirements	customer centric	Future of Banking
zero-UI and the topic of dealing with voice assistance in everyday life	technology	Future of Banking
to be understood as a technical product provider	technology	Future of Banking
we have to adapt to the market and not the other way around like in the past	customer centric	Future of Banking
How are we going to deal with electronic money in the future?	crypto	Future of Banking
quality standard is the advice	products & services	Future of Banking
PSD2 (formerly Banks Data Sovereignty)	regulation	Innovation
take customers with you	customer centric	Challenges
too many products (new banks focus on a specific segment and have a limited range of functions)	competition	Challenges
universal bank - How can we position ourselves in all segments with the functions that are important for the target group?	customer centric	Challenges
respond to customer needs - want individual offer	flexibility/individual	Challenges
how can we also use customer data and retain positions of trust with the customer	Data	Challenges
regulation, i.e. legislation that is not yet known to the public	regulation	Challenges
Decentralized Finance	DeFi	Challenges
innovation driver and source of inspiration	innovators	FinTechs
broker too late - competitors	lost market	FinTechs

were driven to deal with digital possibilities	innovators	FinTechs
I think many have opened a second account with known addresses in addition to the actual main bank account to feel how it is. But they have noticed the advantages they have with us.	competition	FinTechs
we have the densest bank network in the region	branch	Core competencies
get in contact with younger generations at an early stage	demography	Competitiveness
if deducted from PayPal balance bank of course has no idea what customer has bought	Data	FinTechs - Shadow Banks
will become more important the more banking services PayPal itself offers, especially with regard to financing.	competition	FinTechs - Shadow Banks
speed and simplicity can these providers better	competition	FinTechs
cell phone or with my Apple Watch (wearable payment devices) we no longer earn money, Apple does.	competition	Challenges
highly explosive topic	disruptive	Decentralized Finance
there will never be a state without intermediaries	intermediaries	Decentralized Finance
this supervisory perspective will also exist in another system	regulation	Decentralized Finance
commission agent employ - in perspective perhaps be decentralized based on cost alone but again more aspects the banks provide e.g. advice	banks positioning	Decentralized Finance
I believe that people do not yet have the confidence in this system that banks still have.	trust	Decentralized Finance
next disruptive technology but just not yet so accepted	timing	Decentralized Finance
also always consider what the whole has for effects, also socially and morally	side effects	Decentralized Finance
core competence will be technology	technology	Future of Banking
product-driven companies, high product competence, regularly revise product to respond flexibly to customer needs	products & services	Future of Banking

forming a clear opinion with customers whether Bank or DeFi	banks positioning	Decentralized Finance
we have to know the financial products best of all, with the corresponding technologies behind them, of course.	products & services	Future of Banking
yes we have a big change - electronization	technology	Challenges
In contrast to the past, the customer now tells us what he wants, not us what is possible.	customer centric	Future of Banking

Highlights Interview 6 – CTO at regional bank (member of management board)Date of interview: *07.12.2021*Type of interview: *video call*Position: *CTO*Age: *40-50*Gender: *male*

Tag/Translation	Subcategory, tag related with	Category
we have increasingly distanced ourselves from customer needs	customer centric	Challenges
in the middle of a phase where also Nokia, Blackberry or Kodak were	disruption	Challenges
very few - a lot of money in strategies but little in research and development of completely new things	few	Innovation
was more about better understanding and serving the customer interface and the massive networking of different data heads.	user interface	Innovation
away from a monopolistic approach towards a cooperative network-based approach	network approach	Innovation
mindset	mindset	Challenges
regulators are the ones who keep us alive	regulation	Core competencies
the ECB, the EBA, BaFin, and the Bundesbank, just actually protect us, especially against Google, Amazon, and the 1000 FinTechs that are out there.	regulation	FinTechs
regulation has its price, because it drives up our costs and makes it very bureaucratic	regulation	Challenges
We have always been far too well off and have a long-term business. That leads to the fact that the pressure of the people arrives only very slowly with us and thus the pressure also around us to change. Which leads to the fact that we are much too stolid and inflexible in our own structures.	mindset	Challenges
a little but not really much	competition	FinTechs
players on the market who bring in new ideas, bring in new ways to inspire the customer	innovators	FinTechs

with a lot of venture capital behind it, a lot of venture capital, you can do something like that and try it out - 90% doesn't have to work and the 10 are the ones that then define the industry.	innovators	FinTechs
we develop new innovative products ourselves, we cooperate with FinTechs, we invest in FinTechs - all kinds of cooperation models.	cooperation	FinTechs
DKB and Comdirect had similar ideas back then. Today, the technical possibilities are much more advanced and therefore there are also completely different options (PSD2).	technology	FinTechs
NeoBanks have their market segment in which they are good	customer segment	FinTechs - NeoBanks
traditional banks are now much more forced to change than before	technology	Future of Banking
Paypal has shown that it can work	competition	FinTechs - Shadow Banks
customized products for individual customers	flexibility/individual	Future of Banking
some data is lost, I do not see the problem with it, because the banks have never used it	Data	FinTechs - Shadow Banks
Google is not the world's big data collector, the banks are	Data	Future of Banking
partially slowed down by regulation, but that's always an excuse. Legally, we can use a large part of it. Only the last 10-20% is there really a mismatch between regulated banks and non-regulated FinTechs. But that would only be a problem if banks had already used 80% directly.	Data	Challenges
just a technical advancement - It's a new way to do what banks are already doing today	technology	Decentralized Finance
there is also nothing stopping banks from establishing blockchain-based business models	products & services	Decentralized Finance
the trust center is relocated	trust	Decentralized Finance
where speed is of the essence, the technology simply isn't made for it, or at least not yet.	challenges	Decentralized Finance

banks can serve as customer interfaces and offer a wide variety of products based on blockchain	banks positioning	Decentralized Finance
banks need to stop focusing on their competitors and how they can be better than their neighbor, but instead focus on their customers and try to offer them a better experience.	prioritization	Competitiveness
focus on creating added value for customers	customer centric	Competitiveness
we are not talking about change but about existence	transformation	Challenges
the speed of change is higher, both technical and social change	transformation	Challenges
massive increase in options for the customer	competition	Challenges
Who has the best service? Banks must inspire the customer	products & services	Future of Banking
demographics - old generations die out and new ones bring different ways of thinking	demography	Challenges
to become more efficient in the long term, more flexible, better access to automation and digitalization	technology	Future of Banking

Highlights Interview 7 – Partner at leading European consulting firm for financial services

Date of interview: *08.12.2021*Type of interview: *video call*Position: *Partner*Age: *40-50*Gender: *male*

Tag/Translation	Subcategory, tag related with	Category
digitization	technology	Future of Banking
shifting market structure in the global economy (Asia)	market structure	Challenges
Environmental, Social and Governance (ESG)	products & services	Challenges
Distributed Ledger Technology	DeFi	Innovation
sata administration/data management in many cases the value driver	data	Innovation
more regulated and more closely monitored in terms of data use	regulation	Challenges
How does a bank position itself, that is, to define the goal	positioning	Future of Banking
customer demand on banks is to use data with restraint	Data	Challenges
innovation driver and source of inspiration	innovators	FinTechs
banks found their own startups	cooperation	FinTechs
offer things that old players could not offer so, they did not want or did not see at all	competition	FinTechs
enrichment	innovators	FinTechs
high ratings but earn of no money	competition	FinTechs - NeoBanks
do not really see added value to a classical institute at the long end	no added value	FinTechs - NeoBanks
trading is a huge topic where FinTechs have prevailed	lost market	FinTechs
customer journey central driver behind added value	customer centric	core competencies

PayPal yes a problem but not new - MasterCard and Visa was already the same issue	competition	FinTechs - Shadow Banks
short-term profit more important than long-term growth	strategy	Challenges
scaling of products often only possible if they work across different channels (credit card, PayPal)	technology	Future of Banking
banks must accept that they simply no longer have part of the value chain	competition	Future of Banking
central bank will not allow itself to be deprived of the most important control instrument in money creation and thus inflation control in the long term	regulation	Decentralized Finance
DTL there are exciting use cases	products & services	Decentralized Finance
no one really earns money anymore	challenges	Decentralized Finance
make profits again in the short term, but lose an entire business in the long term	challenges	Decentralized Finance
banks will not be able to resist, because someone will do it anyway	challenges	Decentralized Finance
data management, linking of different data	Data	Future of Banking
assessing risks correctly and acting cleverly on the financial market	risk assessment	Future of Banking
risk taking, basic function of banks (financing real estate, large investment projects).	risk taking	Core competencies
focus on actual core competencies and expand them in relation to customer requirements	focus	Competitiveness
prices become more favorable for the customer and all must go with it	pricing	Challenges
attitude of the employees has changed, they used to see themselves as having secured jobs	mindset	Crisis - Financial

Highlights Interview 8 – ex-banker, now innovation and agile working consultant

Date of interview: 22.12.2021

Type of interview: *video call*Position: *Consultant*

Age: 20-30

Gender: *male*

Tag/Translation	Subcategory, tag related with	Category
Decentralized Finance but role of banks not abolished	DeFi	Future of Banking
Bitcoin as digital gold	crypto	Future of Banking
Embedded Finance	Embedded Finance	Future of Banking
will prevail that can best respond to new customer groups in the long term	customer centric	Core competencies
Neo Brokerage has democratized the financial industry (access to stocks and securities for all)	NeoBroker	Innovation
Robo-Advisor	technology	Innovation
digital transformation	technology	Challenges
change in customer needs	customer centric	Challenges
conditions (fees) can no longer be enforced	pricing	Challenges
a lot will happen and that will be important for banks.	regulation	Decentralized Finance
anyone who attacks the business model of the traditional bank is in a certain kind of competition.	competition	FinTechs
data is the new currency	Data	FinTechs - Shadow Banks
lose customers contact points	less customer contact	FinTechs - Shadow Banks
you just don't have to trust anyone anymore	trust	Decentralized Finance
huge advantage is of course the leap of faith and the history	trust	Core competencies
to deal with the interests of their customers	customer centric	Core competencies
reduce staff	reduce costs	Future of Banking

to be innovative, to be courageous, to get involved in a new age.	innovation	Future of Banking
sales people are the most important people, because service people will be reduced by automation and better processes	products & services	Future of Banking