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Optimizing the business model of Neobanks in Germany: Ways to reduce dependencies on BaaS providers

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Abstract

The German banking sector is undergoing drastic transformation. Technology has enabled new business models to develop, forcing traditional players to adapt. Neobanks represent the most recent business model in retail banking, but their business model still faces substantial vulnerabilities, limiting sustainable profitability and competitiveness. The aim of this thesis is to make specific recommendations on how the business model of Neobanks can be optimized, by proposing strategies to eradicate current weaknesses. Semi-structured interviews and available banking literature compose the main sources of information to derive information for a superior Neobanking business model.

Keywords: Strategy; Business Model; Business Model Innovation; Banking Industry; Neobanks

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Table of Contents

1. Introduction **3**

1.1 Structure 4

2. Literature Review **5**

2.1 Business Model 5

2.2 Business Model Innovation 6

3. Methodology **8**

4. Evolution of the Banking Sector **9**

4.1 History and Function of the Banking Sector 9

4.2 The German Banking System 12

4.3 The German Banking Sector and European Context 13

5. Variation of Banking Business Models **17**

5.1 Current Trends and Technologies in Banking 17

5.2 Business Models in the German Banking Sector 21

6. In-depth Business Model Analysis of Neobanks **28**

6.1 German Neobanking Landscape 28

6.2 Business Model Canvas Neobanks 30

6.3 Summary of Strengths and Vulnerabilities 41

7. Recommendations on the Business Model of Neobanks **42**

7.1 Ways to Reduce Dependencies on BaaS Providers 43

8. Conclusion **53**

9. Limitations **55**

References **56**

Appendix **96**

1. Introduction

Disruptive technologies and digital transformation have been key drivers for the development of novel business models across various industries. New technologies create the need to innovate and digitalize current business models to stay competitive. It is decisive to link customer value creation with technology to satisfy customer needs and stay a relevant player in the industry. The banking industry currently faces a substantial transformation as new business models have established and existing business models understood the need for innovation to sustain competitive threats (Sund, Bogers, and Sahramaa 2021). For several years Neobanks have been challenging the status quo in the banking sector. Offering frictionless banking services via mobile applications, Neobanks have substantially changed the value proposition of banks (Atca Gorgun, and Wolfs 2021). This thesis aims to give an overview of the evolution and variation of banking business models in the German banking industry. A more comprehensive analysis of the business model of Neobanks is conducted and will form the basis of three recommendations. These recommendations aim to enhance the sustainability of the business model of Neobanks by eradicating major vulnerabilities. The German market is selected for the analysis as it is highly unique compared to other European markets and experiencing a major transformation at the moment. The German banking sector has always been described as overbanked and the emergence of new business models, disrupting the status-quo, creates an even higher pressure for transformation and adaptation. Furthermore, it is the 'home' of one of the largest Neobanks in the world, *N26*, which substantially changed the status quo in banking and is a major driver for future developments in the banking industry.

The interest of the authors for this thesis arises from the banking sector. Several internships in the German financial services industry, either in major banks or consultancy companies have underlined this interest. After graduation the authors seek to start a career in banking or associated industries in Germany and thus a thorough understanding of the industry is key and will display a boost for their career development. Besides, studies and electives were chosen along banking and business model innovation during the studies at *Nova SBE*.

1.1 Structure

First, an overview of recent literature on business model and business model innovation (BMI) is given. Second, the methodology of this thesis is described. The next section is intended to introduce the function and evolution of the banking sector. An overview of the function of a bank and the historical evolution of business models is given. Afterwards, the structure of the German banking sector and its associated business models are described. Besides, a comparison of the German banking sector with other European markets is conducted. It is crucial to be aware of the fundamentals of retail banking, which Neobanks focus on, and the distinctiveness of the German banking sector before connecting current trends in banking to specific business models in the following chapter. The four identified business models of the German banking sector will be analyzed. From there, Neobanks, as the most recent identified business model, are chosen for a more detailed analysis with respect to the *Business Model Canvas* by Osterwalder and Pigneur (2010). This analysis exhibits the strengths and vulnerabilities of the current Neobanking business model. Based on the critical analysis and evaluation of the business model, recommendations for improvement are derived. Those recommendations intend to eliminate the vulnerabilities identified in the previous chapter, while emphasizing the current strengths. When concluding the thesis, an assessment of the before developed recommendations is performed. It is assessed whether the recommendations classify as BMI. The description of the limitations and implications for future research forms the last part of this thesis.

2. Literature Review

In the following, different theoretical approaches regarding business models and BMI are being discussed. These observations will be referred to at a later stage, where they find application and serve to set priorities for the analyses.

2.1 Business Model

The business model concept gained relevance in the mid-1990s with its momentum at the advent of the Internet (Zott, Amit and Massa 2011). Since then, business models have been discussed in numerous publications by scholars in books, scientific journals, and the business press. Within this scope of numerous publications, business models have been referred to as a statement (Stewart and Zhao 2000), a description (Applegate 2000; Weill and Vitale 2001), a framework (Afuah 2004), a representation (Shafer, Smith, and Linder 2005), a conceptual tool or model (Osterwalder 2004; Osterwalder, Pigneur, and Tucci 2005; George and Bock 2009). The different perceptions reinforce the unclarity on the true definition of business models. There is still no consensus in the literature about which components make up a business model (Gassmann, Frankenberger, and Csik 2013). In 2010, the book *Business Model Generati*on by Osterwalder and Pigneur (2010) changed the approach of creating, analyzing, and modifying business models with a one-page business model visualization, the *Business Model Canvas* (Wit and Dresler 2021). It consists of nine elements which jointly frame a business model: value proposition, customer segment, customer relationship, channels, revenue structure, cost structure, key activities, key resources, and key partners. More recently Gassmann, Frankenberger and Csik (2013) came up with the *St. Gallen Business Model Navigator* which looks at business models from four dimensions: the customer segment, the value proposition being offered, how this value proposition is offered, and the revenue model which captures the value for the company.

2.2 Business Model Innovation

While research on business models seems highly present, literature provides less research on BMI. This could be explained by the fact that research on BMI emerged rather recently out of literature on business models (Soares, Saur-Amaral, and Proenca 2018). There is no overarching definition for BMI; it is often defined according to the different research streams (Andreini and Bettinelli 2017). Early attempts connected technological innovations with business models to create value (Chesbrough and Rosenbloom 2002; Morris, Schindehütte, and Allen 2005). Later research started focusing on the transformational aspect of different components of business models (Bohnsack, Pinkse, and Kolk 2014). The *Business Model Navigator* of Gassmann, Frankenberger, and Csik (2013) proposes that BMI is given if at least two of the four components (customer segment, value proposition, value chain, value capture) experience alteration. A more holistic attempt to define BMI was brought forward by Khanagha, Volberda, and Oshri (2014). They describe BMI as the activities ranging from incremental changes in business model concepts to extending current business models, introducing new, or disrupting the established model and potentially even replacing it.

A divergence in literature on BMI becomes further apparent when comparing different research streams that intend to break the topic of BMI into clear parts. Schneider and Spieth (2013) applied three research streams to analyze BMI: the prerequisites of introducing BMI, its elements and processes and after all, the effects of BMI. In contrast, Foss and Saebi (2017) defined four research streams. The first stream focuses on the concept of BMI aiming to provide a definition. The second stream considers BMI as an organizational change process. Similar to the second stream of Foss and Saebi (2017), Frankenberger et al. (2013) define a framework dividing BMI into a process of initiation, ideation, integration, and implementation. The third stream of Foss and Saebi (2017) analyzes the emergence of new business models in different industries. The fourth stream focuses on the consequences of BMI and its implications on business performance.

The lack of congruence in BMI research affects the ability to form typologies and dimensions for analysis. Foss and Saebi (2017) have built on the dimensional approach of Stieglitz and Foss (2015) to develop distinct types of BMI along two dimensions: novelty of change and scope of change. In Appendix 1, the subsequent four types of BMI are presented. Evolutionary BMI is considered the most common type because it typically occurs naturally over the course of a company's lifecycle. Companies make moderate changes to their business model as a result of external influences, for instance new competition or regulatory requirements. Adaptive BMI involves more drastic changes to the whole business model architecture of a company. It is often a response to industry changes and does not entail unprecedented novelty on industry level, but rather just for the company. Adaptive BMI in the context of banking could be illustrated as the integration of corporate banking functions in addition to retail banking. Such a decision has complex implications on the current business model of a bank. It requires alterations in the target segment, distribution channels, revenue structure, cost structure and more. Focused BMI is characterized by the proactive aspiration of management to disrupt an industry or sector. It occurs when firms implement innovations, that are completely new to the entire industry, but on a modular basis. The rarest form of BMI is complex BMI. This form occurs where drastic changes to the business model are required to enable innovations that are new to the entire industry in which the company operates (Foss and Saebi 2017). This literature on business models and BMI will be referred to at a later stage when reviewing proposed strategies on how to improve the current business model of Neobanks.

3. Methodology

The thesis is set on the grounds of a review of literature analyzing the status quo of the German banking sector and associated trends and challenges resulting from increased digitalization and newly arising business models. In order to prevail objectivity, focus was given to peer-reviewed academic journals found in library repositories or academic databases, for instance Emerald, ScienceDirect and Springer. The search has been based on keywords such as German banking sector, Neobanks, future of banking, digitalization and banking. Literature has been gathered, reviewed, and conclusively interconnected. Moreover, data collected by the European Central Bank and Deutsche Bundesbank have been analyzed to provide a better overview of the structure of the German banking sector. Consultancy reports have been considered as they specifically address the future and current challenges faced by the German banking sector. These include Bundesbank (2021) *"Die Ertragslage der deutsche Kreditinstitute im Jahr 2020"*, Oliver Wyman (2019) *"Die Bankfiliale Der Zukunft"*, or the McKinsey Global Banking Annual Review (2021) *"The great divergence"*.

In addition to an extensive literature review, semi-structured interviews have been conducted with experts from the financial sector. In order to achieve high diversity in terms of demographic and professional perspectives, interviews were held with an associate having expert knowledge in information technology in the banking industry, an investment manager in a venture capital company focusing on fintech investments, and a consulting manager of a financial services focused strategy consultancy. The interview partners have been selected due to their knowledge regarding the German banking sector. The interviews were conducted to gain insights on the business model of Neobanks and form a foundation for the recommendations alongside the extensive banking literature review.

4. Evolution of the Banking Sector

The banking sector has a long history that has led to the evolution of various business models. First, this chapter will give an overview about the function of banks in general. Afterwards the evolution of the banking sector and the associated business models are described. Then the German banking sector will be examined in more detail.

4.1 History and Function of the Banking Sector

Banks have increased their share of importance to the economy over the years since their existence. To describe the evolution of banking business models and the growth of their function, it is crucial to understand what a bank is. According to Eilenberger (2012), banks are organizations that take on liabilities (i.e. customer deposits), grant loans, conduct capital market transactions, or offer money-related business activities. This function builds upon the principle of financial intermediation. Banks compensate for information asymmetries in imperfect markets by providing the service of an information intermediary between two market participants (Boot et al. 2021). In this way, banks provide the assurance that all parties have the same level of knowledge and that risks are minimized (Büschgen and Börner 2003). The bank is renumerated by the borrower for taking the risk in the form of interest or fees. Banks play an important role by optimizing the allocation of capital and providing financially effective services for various actors. They safeguard payment transactions and provide financially effective services to allow for a functioning economy (Auge-Dickhut, Koye, and Liebetrau 2014, 59). The majority of banks are classified as retail banks. Retail banks serve primarily the private customer mass market and offer various products and services for individuals. These include lending activities, but also credit cards and money exchange activities (Lee and Lee 2018).

The history of banks dates back to 2000 BC. As forerunners for our current banking business models, the literature refers to Babylonian temples which already offered financial services around 2000 BC (Bromberg 1942). In the Middle Ages, the first European banks were established in Italy. The Banca Monte dei Paschi di Siena which was founded in 1472 is considered the oldest existing private retail bank in the world (Kort 2013).

In the 19th century, a non-private form of banking ownership developed. At that time banking services were solely offered to wealthy citizens and thus, the unbanked population groups relied on private money lending leading to debt and loss of economic livelihood for the majority of them (BVR 2022). Building upon this, with the aim to solve the challenges in the mid 19th century, the first cooperative banks started operating. They set-up on the principle of 'members helping members'. Cooperative banks consist of members who are partially owning the bank but at the same time, act as customers of this bank. This principle spread throughout the world and gained particular momentum in the German banking sector (Schubert 2017). Apart from cooperative banking schemes, local authorities set-up small 'savings banks' to offer banking services to the poorer sections of the population. These banks build upon the principle 'help for self-help'. They do not put the principle of shareholder value maximization at the forefront of business activities, but the creation of value for the population. In this context the term value creation is defined by the offering of banking services to the unbanked population, but also the support of regional ecological or social projects (DSGV 2016; Behr and Schmidt 2016). Besides the similar purpose, cooperative and savings banks have a rather simple business model of serving mainly traditional retail banking clients (Drost and Scheuer 2016). The long history of these traditional retail banks has led to a dominance, especially in the German banking sector. The assets of banks as a percentage of the German gross domestic product increased from 185% in 1985 to 256% in 1997 (Lang 2002). The progress of digitization has led to changes in the banking system (Valero, Climent, and Esteban 2020). Digitization has allowed new, rather small players to gain momentum and create new opportunities in the banking sector (Sund, Bogers, and Sahramaa 2021). New forms of banking services were able to emerge because small organizations did not face barriers such as legacy systems and complexity hindering growth and adaptability (Doz and Kosonen 2010; Varga 2017). The first result of digitization was the emergence of direct banks predominately at the end of the 20th century (Walter 2010). Direct banks put initial pressure on traditional retail banking business models (Bouncken, Komorek, and Kraus 2015). They posed a direct challenge to traditional "offline" banks, as they offered central retail banking services conveniently online, by mail or phone (Sellner 2014). The growing proportion of population connected to the internet contributed to the success of these banks and confirmed the position of this business model in the German banking landscape (Initiative D21 2022). Following the financial crisis of 2007/2008, new challenges emerged for the financial sector and the need to renew and change the banks' dominant business model arose (Cosma et al. 2017). Banks conducted a 360-degree review of their business model and strategy to cope with the new market pressures and regulations resulting in efforts to reduce complexity and increase agility (Cosma et al. 2017; Ernst & Young 2019). As this transition process takes a long time, a new competitive field has emerged. Neobanks have realized that the traditional way of banking, offline in branches, is no longer adequate and have developed new, disruptive, and digital solutions for customers (Niemand et al. 2021). These banking business models leave complexity behind and put customer centricity at the forefront of their activities. Neobanks offer convenient, mobile-only banking and provide greater financial transparency for customers by offering data analytics to understand the customer's current financial situation (Lünendonk 2015). However, since simple retail banking products still require a lot of expertise for back-office operations to comply with regulatory requirements, powerful and sophisticated IT systems are needed but often not present in Neobanks. As a result, these banks do not have their own core banking systems but acquire the banking license and services through a Banking-as-a-Service (BaaS) provider. BaaS moves the entire value chain of banking business models and acts as a back-end banking service provider for other banks. By leveraging the economies of scale of selling banking systems or services to multiple banks, they are able to create exceptional customer experiences and threaten traditional banking models that combine back-office processing with front-office selling (Cowley and Malani 2021).

4.2 The German Banking System

Germany has a rather unique banking system compared to other European countries (Brunner et al. 2004). The German banking sector is composed of three pillars: private commercial banks, public sector banks, and cooperatives (Schmidt 2018; Appendix 2).

The group of private commercial banks, the first pillar, includes mainly traditional banks with extensive branch networks as well as numerous other banks specialized in various respects. The pillar is comprised of big banks, large foreign banks, and private building and loan associations. Typically, commercial banks are organized as joint-stock companies with their business policy being one-sided towards maximizing the shareholder value (Schmidt, Bülbül, and Schüwer 2014).

The second pillar is the network of local, decentral-organized savings banks under public sponsorship, sometimes supplemented by central institutions and a series of specialized financial and non-financial enterprises (Schmidt, Bülbül, and Schüwer 2014).

The third pillar, the cooperative banking system, is structured in a similar way to the public sector banks. The special feature of a cooperative bank is its legal form, which combines elements of a corporation with those of an association. Its main characteristic is the extensive identity between the owners and the customers. The task of a cooperative is to contribute to the economic activity of its customers and thus owners. Like that of the savings banks, the business policy of cooperative banks is therefore oriented towards "stakeholder value" and not "shareholder value" (Schmidt, Bülbül, and Schüwer 2014).

The banks, associations and other companies belonging to the second and third pillar form so-called networks in the ideal description of a three-pillar system. They form networks of interlinked and cooperating organizations, in which certain functions are fulfilled locally by the legally independent local institutes, while others are carried out by joint central organizations. Cooperation in an alliance can only function if the individual local banks do not perceive each other as competitors and behave accordingly. This is ensured in both banking groups by the so-called regional principle, restricting competition within the banking groups (Schmidt 2018).

Recent literature suggests that a fourth pillar is arising in the German banking system. Fintechs (including Neobanks), banking infrastructure providers, and international technology giants are seen to be the key players of this pillar. Although any Fintech so far has failed to threaten the business model of an universal bank, they perform well in specific disciplines of banking. Due to their technological capabilities and financial scope, this group will be a particular threat to traditional banking models (Oliver Wyman 2018).

German banks must expect increasing competition from companies belonging to the fourth pillar. Therefore, as for now, the fourth pillar can be considered as a conglomerate of threateners on traditional business models, and not yet as another supporting pillar in the German banking system. The new pillar is likely to accelerate the transformation of the German banking system by pushing the development of new business models and improved customer experiences (Oliver Wyman 2018).

4.3 The German Banking Sector and European Context

The German banking sector is the largest in Europe with 69.7 million customers in 2019 (Statista 2020). Despite concentration efforts stemming from the financial crisis to increase profitability and enhance risk management (Cosma et al. 2017) the sector continues to be defined as ‘overbanked’ (Koetter et al. 2006). While there were a total of 2,736 banks operating in 2000, the number of banks decreased by 44.5% to 1,519 in 2020 (Appendix 3). However, the second biggest banking market in Europe, Poland, exhibits no more than half of the number with 627 banks (Statista 2021). The high number of banks is also represented in the share of assets of the five largest banks in Germany, which amounts to 34% (European Central Bank 2022). Other European markets already achieved a ratio in assets of more than 80% in 2004, even before the sector was affected by the overarching concentration efforts (Goddard et. al 2007).

The reasons for the low asset concertation lies in the uniqueness of the German banking sector. Although a single supervisory mechanism and the *European Banking Authority* are present (Angeloni 2015) as well as various initiatives such as the *European Banking Union* have been targeted for years, the structure of the German market differs from Europe (Goddard et al. 2007). Germany is the only country in Europe where the number of commercial banks does not dominate over either the number of savings banks or cooperative banks. Approximately 10% of German banks classify as commercial banks while more than 50% of the market are cooperative banks and 35% savings banks. In contrast, in Belgium and France, private banks account for more than 50% of the overall number of banks. In Spain cooperative banks are underrepresented while commercial and savings bank are almost at the same level. Contrary in Italy cooperative banks account for 75% of the market (Girardone, Nankervis, and Velentza 2009).

Similar to the number of banks, the number of branches in Germany has decreased by 44.4% since 2000. At this point, it is crucial to differentiate between the branches of private banks and the savings and cooperative banks. While the number of branches of private banks has nearly doubled, the savings and cooperative banks have reduced the number of branches by more than

50% (Bundesbank 2021). Particularly savings banks and cooperative banks have experienced multiple mergers with the goal to achieve value-adding synergies which include the streamlining of the branch network. The mergers were aimed to generate financial synergies, for instance, through improved diversification in the loan portfolio compared to the individual portfolios. Moreover, the merging of central functions, such as human resources, controlling, or auditing, are plausible examples of operational synergies with a regular positive impact on expenses. On the revenue side, the distribution of existing products through additional distribution channels of the merger partner is an illustration for positive synergies (Auerbach 2009, 43). In the last couple of years private commercial banks have been experiencing extensive restructuring measures which entail the closure of branches, accelerating the overall trend away from comprehensive branch networks towards a fully digital presence (Bundesbank 2021). For many years, total assets have been the key indicator for the size and growth of a bank (Javaid et. al 2011). Despite its peak in 2012, the aggregated total assets of German banks show an overall increasing trend from 2000 to 2020, suggesting market growth conditions. The asset growth has been stimulated by the ongoing low interest policy and the fiscal stimulus with regards to the Covid-19 pandemic in 2020 (Bundesbank 2021; Appendix 4). With regards to the financial crisis in 2008, the perception on different indicators has changed and total assets became more irrelevant, as it disregards the profitability and even the extent to which the assets are financed by debt or equity. A more reasonable source of comparison is the return on equity (RoE). Over the past two decades, the RoE of German banks has decreased, with an extreme low in accordance with the financial crisis in 2008 at around -8%. In the following years the RoE before tax was able to recover to 8% before reaching a plateau at just above 5% until 2017. After 2017, the RoE sank again to 3% in 2020. Since the financial crisis in 2008, the RoE has not come close to the former peaks. The development of the RoE from 2000 to 2020 is a clear indication that the profitability of banks in Germany is decreasing. From 2017 to 2020 the RoE was below the long-term medium of 5.2%. Comparing the RoE of 2020 between the three pillars of German banking, one can observe that big banks are dealing with a RoE of -7.08% while savings banks and cooperative banks display RoEs of 5.36% and 7.33%, respectively (Bundesbank 2021; Appendix 4). In contrast, the top performing banks in Europe are able to generate a return on equity up to 9.82% in 2020 (MacroTrend 2021) which is substantially higher. The same picture emerges for the cost-to-income ratio. The European mean is equal to 62.7% while the mean rate of German banks lays at 72.5%; higher percentages imply a lower performance (European Banking Authority 2022).

To summarize, banks in Germany are facing a saturated but steadily growing market as a result of ongoing low interest policies. However, as profitability keeps decreasing major restructuring projects are pursued with the intention to exploit synergies to maintain competitiveness with European competitors (Bundesbank 2021). The comparison with other European sectors has further underlined the uniqueness of the German banking sector. Moreover, it displays structural weaknesses emphasizing the pressure on banking business models.

5. Variation of Banking Business Models

Different banking business models have developed over the history of banking as introduced in chapter 4.1. The arising fourth pillar in the German banking system, as identified in chapter 4.2., is growing along the recent trends and technologies in banking. That is why this chapter first looks at the current trend and technologies in banking before introducing four distinct banking business models that have developed over time. To gain an even more detailed insight into the individual business models, the current key players can be examined in more detail in Appendix 8.

5.1 Current Trends and Technologies in Banking

Following the analysis of the history of banking and the distinctive banking characteristics in Germany, this chapter examines the current trends in banking. A thorough understanding of the trends in banking will build the base for different business models in the industry which will be introduced afterwards. Two major and three subordinated trends were identified during research. All trends are directly concerned with technology. While the two major trends focus on the shift from analogue to digital banking, the subordinated trends represent highly technological advancements like crypto currencies, decentralized finance, and cost transformations through artificial intelligence.

5.1.1 Transition to Digital Banking and Faster Payments

The first major trend in banking is concerned with the shift from analogue to digital banking. It has shaped the banking sector over the past decade and been a concern to every German bank. Within 10 years, from 2010 to 2020, 39 million customers were attracted by digital banking products and services, which shows the high demand of customers for a digital solution in banking (Capgemini 2022a). Overall, Fintechs obtain three to five percent of total banking revenues in 2021 in the United States. In Western Europe already 30% of retail customers are customers of a Fintech which offers banking services (McKinsey 2021). As this trend has not been undetected by banks that offer analogue banking products and services, most of them are planning to launch digital subsidiary banks. This serves to deliver fast and digital journeys to their customers. The intention of traditional players to establish digital subsidiaries is also evident from a survey conducted by Capgemini and Efma (2021), in which 57% of banks stated to be considering the set-up of a digital-only entity, whereas for example three big banks launched digital subsidiaries in Europe: *Deutsche Bank*, *Santander*, and *BNP Paribas* (Fyrst 2022; Santander 2022; Capgemini and Efma 2021). A shift which is mainly driven by the change in consumer demands. The shift is emphasized by a customer survey of McKinsey (2021), where 89% of the respondents stated to be using mobile banking. 97% of millennials and 91% of Gen Xers are using mobile banking. According to a McKinsey study, the pandemic was the main driver that the "rate of digital banking adoption has doubled" (McKinsey 2021) and "has also reinforced the digital trend in payments and retail commerce across payment types, demographics, and geographies" (McKinsey 2021). Therefore, banks must make the shift into digital retail banking to stay relevant and to further develop the tools and features to continue satisfying the needs of their customers (Meola 2022). In addition, the shift to digital banking, the demand for faster and real-time payments has increased (Shevlin 2021). One trend that supports this change is the new network standard 5G. The network standard is still in its infancy, but consultancies are convinced that 5G will drive hyperconnectivity with real-time banking as well as the need for faster customer satisfaction (Capgemini 2022a). Therefore, many banks launch their real-time payment services or at least strategies and they will focus on building anytime and anywhere banking solutions (Kapoor 2021). To cite the CEO of *Modern Treasury*, Dimitri Dadiomov: "Accelerating the deployment of real-time payments puts those at the front at a competitive advantage to secure more of tomorrow's fastest-growing companies, who are looking for this capability." (Shevlin 2021). Through the revolutionary solutions in the last decade, consumers are now able to pay whenever they want, wherever they want. The next step is to enable customers to pay in whatever way they want to pay (Abbott 2022).

5.1.2 Embedded Finance, Open Banking, and Banking-as-a-Service

The second major trend is built around the complex topic of embedded finance. "Embedded Finance, also known as embedded banking, is seamless integration of financial services into a traditional non-financial service" (Kapoor 2021). Companies like *Netflix* and *Apple* have transformed existing services into digital experiences. Fintechs integrate this principle into financial services, where the focus is on the customer and less on the product. Traditional analogue banking products are becoming less relevant for consumers (McKinsey 2021). Established banking players have a good infrastructure as well as the network and manpower to serve the embedded finance ecosystem. In addition, many Fintechs play a vital role in the embedded finance ecosystem as well, offering digital capabilities that traditional banks cannot serve with (Kapoor 2021). According to McKinsey (2021), traditional banks are far away from offering a future-proven business model, which contains "customer ownership with embedded digital financial services, an efficient economic model that fosters growth, and tech-enabled innovation and speed" (McKinsey 2021).

Open banking is just slightly different than the definition of embedded finance. Comparing the two definitions it is recognizable that open banking is a subtopic of embedded finance. The common point is the merger of financial services with non-financial services. Very precisely, open banking is "the use of APIs (application programming interfaces) to open up consumers' financial data (with their permission) to third parties, enabling those companies then to create and distribute their own financial products." (Kearney n.d.). Fintechs seem to be in the leading position with regards to providing open banking capabilities (Shevlin 2021). At the same time, other Fintechs make high usage of the data provided by larger financial institutions through APIs (Kapoor 2021). Nevertheless, the Chief Strategy Officer of a leading consultancy firm in the sector of digital transformation, Scott Harkey, thinks, that banks will build these services too and monetize the access (Shevlin 2021).

"While open banking provides third parties access to the data of existing bank customers, BaaS provides third parties access to bank functionality, so that non-bank companies can connect users outside of the bank's existing footprint to banking services" (Anderson 2020). BaaS providers experience high demand because it is not possible for everyone to open a bank, especially from the regulatory perspective. They deliver the regulatory infrastructure (Meola 2022) and are therefore an efficient and cost-effective way to connect third parties via API with bank systems and to build financial services products with them (Kapoor 2021). After the strong growth in the last years, in 2022 a big profiteer will be the BaaS infrastructure providers (Shevlin 2021). The potential of new revenue streams leads to a rising interest of traditional banks to offer Baas services (Capgemini 2022a). It is a critical component of the digital transformation roadmap and therefore, crucial for the success of traditional banks in the future (Kapoor 2021). This is underlined by a recent survey of *Cornerstone Advisors*: 10% of banks are developing a BaaS strategy and 20% are actually pursuing one (Shevlin 2021). An example of a bank that is pursuing a BaaS strategy is *Goldman Sachs* with its brand *Marcus*. Through the BaaS model, traditional banks can monetize their data and infrastructure, for instance, by revenue share agreements and subscription fees. Besides the monetization of the data, traditional banks are able to white-label their services (Capgemini 2022a).

5.2 Business Models in the German Banking Sector

This thesis has identified four main banking business models: traditional banks, direct banks, Neobanks, and BaaS. The history of banking and its deriving trends suggest that technology has been the enabler for new business models to develop. This is coherent with findings from the literature review which identified technology as the key promoter for BMI and the arise of new business models (Chesbrough and Rosenbloom 2002; Morris, Schindehütte, and Allen 2005). In the upcoming chapter, the four different business models will be explained by applying the *Business Model Navigator* by Gassmann, Frankenberger, and Csik (2013), which has been introduced as part of the literature review in chapter 2.1. An illustration of the *Business Model Navigator* can be found in Appendix 16.

5.2.1 Traditional Retail Banking

Traditional retail banks are considered the archetype of banking business models. Thus, the majority of German banks can also be classified into this category (see also chapter 4.2). As traditional retail banks have a universal offering, the business model is targeting a broad variety of customer segments. Despite general digitalization initiatives, the target customer group are individuals which lay importance into premium advisory especially in one-to-one contact with advisors (Sinn et al. 2012) – mainly offline in branches (Dunger 2019). This group of the population ranges from low household incomes with a small number of banking products to traditionalists with high household incomes and a cross-sell ratio of 4.6 products (Roland Berger 2015). Especially the elderly population prefers to have offline-service offerings as they do not value online banking services (Holzinger, Searle, and Nischelwitzer 2007). According to Sinn et al. (2012), traditional retail banks also have primary direct bank and Neobank customers as there is an increasing share of second- or third-bank relationships in these customer segments. Although having primarily a savings or brokerage account at one of the latter, these customer groups maintain a relationship with a banking institute of a traditional retail banking business model for more complex advisory products (Mihm 2012). Based on the need of its main customer groups, the value proposition of traditional banks lays in the offering of personal advice for various banking products. Other forms of banking are rather used for simple activities such as transfers and payments as well as displaying account balances (DeYoung 2001). Traditional banks act like a universal bank, which means that services also encompass products and services for non-private customers i.e. business and corporate clients increasing the value for the customer (Auge-Dickhut, Koye, and Liebetrau 2014, 95). Traditional banks are able to provide this value to the customers by offering a full-product portfolio. In contrast to other players, traditional retail banks can advise and serve the client in every stage of its lifecycle or rather customer journey. The offering compromises simple banking products, for instance savings accounts or credit cards, but also includes advisory for investment- or credit decisions as well as dedicated wealth management services for affluent clients. Another value driver is the network of physical branches with knowledgeable and trustful advisors. Since the traditional business model of banks places physical branches ("offline banking") at the center of their activities, revenues are also predominantly generated in branches (Boot et al. 2021; Varga 2017). In general, revenue generation is based on the traditional banking concept of financial intermediation (DeYoung and Rice 2004). In addition to the interest income generated by these financial intermediation activities, traditional retail banks also generate a growing proportion of their revenues from non-interest income (Radecki 1999). In retail banking, revenues from interest income primarily include mortgages, individual loans, or special credit facilities for high-net-worth individuals (Vesala 1993). The second source of revenue, non-interest income, results from activities such as interchange fees, commissions for brokerage services, or fees for savings accounts and related credit cards (Omarini 2014). Traditional banks have recognized the importance of online and mobile banking, yet these channels are currently mainly focused on providing account transparency to the customer and enabling service requests (Nüesch, Puschmann and Alt 2012; Klimontowicz and Harasim 2019). The channel branch still accounts for 74% of sales with an even higher percentage for complex product transactions. (Roland Berger 2015). This phenomenon applies not only to traditional retail banking customer groups, but to the entire banking clientele.

5.2.2 Direct Banking

The business model of direct banks is set-up on technological advances. Niemand et al. (2021) highlights, that digital offerings have become today's standard and thereby challenge traditional 'offline' business models by providing new revenue streams and opportunities in the 'digital world'. The ongoing digitalization made it crucial for banks to react to these changes in behavior and anticipate new arising customer needs, i.e. online offerings (YouGov 2020). Direct banks understood this need and successfully have setup digital offerings of key retail banking products (Bouncken, Komorek, and Kraus 2015). Direct banks are defined by a focus on retail customers, a lean banking philosophy and a customer-friendly service handling (Swoboda 2000). Their target customer segment is characterized by a high tendency for online purchases and usage of alternative payment providers. Digital affine banking customers account for 60% of the overall total income in Germany and have a high cross-sell ratio ranging from 4.0 to 5.8 products (Roland Berger 2015). Especially young clients have a tendency to be a customer of a direct bank (Dunger 2016). However, a high percentage of customers of direct banks has a second or third relationship with another bank in contrast to traditional retail banks (Dziggel et al. 2018). The online offering allows direct banks to target customers in any region, in contrast to traditional retail banks which need a branch presence (DeYoung 2001). Direct banks provide the advantage / value to clients to perform their banking activities without leaving home (DeYoung 2001). They do not have physical branches as all customer interactions, be it the sale of banking services or customer inquiries, are handled via internet, mail, or telephone. Direct banks deeply analyzed customer needs and developed efficient and holistic IT systems for banking products needed by customers (Hagemann 2006). Direct banks have a lean product offering, targeted to the key customer group (Härtl 2003).

The value proposition of direct banks lays in the provisioning of its digital offering. The offered value of direct banks imposes another threat to traditional banks in form of a reduced cost structure (Boot et al. 2021; Schöning 2000). As the offered products do not differentiate from traditional retail banks, sources of income are similar to traditional retail banks. This reduced cost structure, however, helps to offer better conditions to customers compared to traditional banks. These better conditions can either be expressed in lower interest rates for loans or lower fees for savings accounts or brokerage activities, or by providing better interest rates on savings accounts (Sellner 2014; DeYoung 2001). As 52% of German banking customers are price sensitive and willing to change the bank for better conditions (Mihm 2012), direct banks experienced rapid growth (Statista 2022a). The standardization in products is another lever for a reduced cost structure. Direct banks also attach importance to high transparency aiming to gain new customers without any advisory efforts (Teske and Wilgeroth 2007).

5.2.3 Banking-as-a-Service

New banking business models, primary Neobanks, often rely on BaaS to provide the bank's banking license and sometimes even its entire financial services infrastructure (InvestGlass 2021). Neobanks and BaaS providers serve retail customers in combination with each other, as a traditional bank does on its own (Jones, Pardiwalla, and Zanichelli 2021). They can therefore be seen as another important business model in the German banking sector.

The definition of BaaS providers is as follows: “BaaS is an end-to-end model that allows digital banks and other third parties to connect with banks’ systems directly via APIs so they can build banking offerings on top of the providers’ regulated infrastructure, as well as unlock the open banking opportunity reshaping the global financial services landscape" (Dolan 2021). Most BaaS providers are Fintechs with agile structures. Fewer regulation than traditional banks allow to offer new specialized products and create an individual proposition in a very efficient manner. Traditional banks are working on creating the agile infrastructures which would allow them to provide a similar product offering to the market. For now, Fintechs such as *Solarisbank* represent the key players to offer BaaS. Nonetheless, traditional banks have realized the potential behind BaaS which is why the first traditional players like *Goldman Sachs* and *Deutsche Bank* are entering the market as well (Cowley and Malani 2021).

The customer segments of the BaaS solution are, on the one hand, non-financial companies who want to offer their customers a bigger value through their own financial service solutions. *IKEA*, for instance, offers their customers a credit to pay for their purchases: a 'buy now pay later' solution. On the other hand, there are Neobanks like *Penta*, which focus on the distribution of their solution and not on the backend. The partnership allows that they do not need to obtain their own banking license (Verifiedmarketresearch 2021). The value proposition of BaaS providers is the usage of the cloud and digitization to allow non-financial companies to offer financial products without the need of a banking license (Beatty 2022). Together with their customers they are creating new propositions and bring this solution faster to the market. They are often focused only on one, maximum two, stages of the value chain, unlike traditional banks (Cowley and Malani 2021). The BaaS value chain mainly consists of four parts: provide, aggregate, distribute, and experience. Provide incorporates the creation of the core elements of the banking product and to be able to operate within the banking space. The next part, aggregate, is the combination of the traditional banking product with the innovative solution. This is where the BaaS platform comes in place. The third part of the value chain is the distribution part, where the BaaS solution is distributed B2B to other companies like new banks or non-financial companies. The last part is the experience of the end customer, which can be either a retail customer or small and medium-sized businesses and corporate clients. In this entire value chain, companies can focus only distinctive parts and do not have to cover the entire chain as traditional banks had to in the past (Cowley and Malani 2021). By using BaaS, traditional banks can reduce their costs significantly because it is a channel with low capital expenditure. Moreover, through the BaaS solution a lot of data can be collected from digital transactions, which has a high value for the providers (De Backer et al. 2022). For BaaS solutions, the revenue is mainly generated from recurring fees from the B2B customers, one-time setup charges, and individual agreements which can include revenue shares or transaction shares (Moneythor 2020). In 2020 the BaaS market was valued at around 350 billion US-Dollar and is projected to grow to 2,300 billion US-Dollar until 2028. The compound annual growth rate is set at more than 26% between 2021 and 2028 (Verifiedmarketresearch 2021).

5.2.4 Neobanking

"Neobanks represent a financial institution (with or without banking license) offering its services fully online without a network of physical branches. This bank model employs innovative technology to provide personalized services to targeted niches" (Temelkov 2020a). They belong to the category of Fintechs and they have developed a new business model with purely digital offerings as a result of the extensive trend of digitalization in banking. In the following, key aspects of the business model of Neobanks will be introduced, according to the *Business Model Navigator*, before looking at the business model of Neobanks in more detail in chapter 6.

Neobanks differ from traditional and direct banks in several aspects of their business model. They diverge in the way they are regulated, their offering and in the customers they target. Some Neobanks have specialized on small and medium-sized enterprises, but most Neobanks serve the private retail banking sector. They aim to provide their services to the mass market, yet directly focused on digital affine generations (Prove 2021). All processes are designed purely for digital use. Customers can obtain the services solely digitally, most typically via their smartphone. This means that everything from opening a new account to daily payment transactions and lending is handled through an online application (Hopkinson et al. 2019). Accordingly, unlike traditional banks, Neobanks do not have physical branches that can be visited for advice or support. Furthermore, Neobanks usually do not operate service centers and in some cases do not even offer a desktop banking option, limiting usage solely to smartphones (Brockhurst 2019). Neobanks typically have a freemium pricing structure, offering basic accounts for free and additional services in a premium version. Apart from the premium version, other revenue streams include interchange fees, credit cards and revenue from affiliates (Schwarz, Atzler, and Schier 2022). The following chapter provides an extensive analysis on the business model of Neobanks.

6. In-depth Business Model Analysis of Neobanks

After an analysis of the different banking business models in Germany, this chapter focuses on the business model of Neobanks. First, the Neobanking sector in Germany will be presented before analyzing the elements of the business model by applying the *Business Model Canvas* by Osterwalder and Pigneur (2010). The *Business Model Canvas* provides a more thorough segmentation of business models compared to the *Business Model Navigator*. An illustration of the *Business Model Canvas* is provided in Appendix 15. The advantages and vulnerabilities of the business model of Neobanks will be pointed out and summarized.

6.1 German Neobanking Landscape

Neobanks in Germany can be classified into three main clusters. The first cluster includes Neobanks that can officially be classified as a bank, as they hold a valid banking license (Finnovate Research 2018). The second cluster includes Neobanks that do not hold a valid banking license for the countries they operate in. They are dependent on relationships with traditional banks or BaaS providers that provide and facilitate the financial services in the background. Thirdly, the final cluster entails digital-only subsidiaries of traditional banks. Appendix 5 is an illustration of the three clusters, their characteristics, and examples of Neobanks in Germany.

N26 and *bunq* are considered as full-stack Neobanks as they possess a valid banking license for the markets they operate in (Finnovate Research 2018; Bunq 2022). They control most of the value chain from front- to back-end, reducing the dependency on partnerships. This is different to *Penta, Tomorrow* and *Vivid* which do not have a banking license. All three Neobanks have partnered with the German BaaS provider, *Solarisbank*, to facilitate the financial services in the background (Penta 2022; Tomorrow 2018; Vivid 2022a). It is creating a vulnerability, as they do not control the core of the value-chain, but just the front-end. *Fyrst* and *Openbank* are

Neobanks that belong to the cluster of fully digital subsidiaries of traditional banks. *Fyrst*, a subsidiary of *Deutsche Bank,* launched in 2019 (Fyrst 2022). *Openbank* belongs to the *Santander Group* and entered the German retail banking market at the end of 2019 (Santander 2022). Both banks operate under the banking license of its parent company, but they constitute with a separate identity and brand to its customers and the market. The extent to which these Neobanks are separate from the parent bank, or if there is any intersection of resources is unclear. Another digital-only subsidiary of a bank is planning to enter the German market in 2023: *NiCKEL* (BNP Paribas 2022). It was acquired by BNP Paribas and kept as a separate entity (Capgemini and Efma 2021). As for the purpose of this thesis, these digital subsidiaries are also regarded as Neobanks without individual analysis. *Fyrst* and *Penta* are both less focused on the private retail banking sector, but they specialized in serving freelancers and small businesses (Fyrst 2022; Penta Fintech n.d.).

There is not much public information on the market of Neobanks in Germany and its growth, but literature confirms that most Neobanks in Germany are experiencing high growth. *N26* has increased its user base over a one-year period from 2020 to 2021 from 5 to 7 million customers. (N26 2021c). Similarly, *Tomorrow Bank* is growing its customer base by around 10% each quarter (Pastoors 2021) and *Revolut* has publicly announced strong growth ambitions in the German market (Schlenk 2017).

Another indicator for the momentum in Neobanks is the extraordinary amount of funding that Neobanks receive from venture capitalists. *N26* and *Revolut* have collected the largest funding of the Neobanks operating in Germany. Both have raised around 1.7 billion USD. Including Series E, a valuation of more than 9 billion USD has been achieved for *N26* (N26 2021a) and 33 billion USD for *Revolut* (White 2021). More information about the key players in the market of Neobanks are available in Appendix 8.

6.2 Business Model Canvas Neobanks

As introduced in the literature review (chapter 2.1), the *Business Model Canvas* breaks down business models into nine elements. Osterwalder and Pigneur (2010) suggest central questions to be considered when analyzing each of the elements. At the end of the analysis, the advantages and vulnerabilities will be summarized and categorized, building the basis for the recommendations in chapter 7. The order of the elements in the *Business Model Canvas* is according to Osterwalder and Pigneur (2010).

6.2.1 Customer Segments

The element customer segment deals with the questions "For whom do you create value? Who are your most important customers?" (Osterwalder and Pigneur 2010). Neobanks are B2C-oriented and focus on the mass market of digital banking users. By focusing on customers who are aware of digital banking, they target a rather young customer group (Prove 2021). The main customer group is Gen Y and Z. They mainly have four reasons why they prefer Neobanks over other banking business models. The first reason is ease of access. This primarily includes the uncomplicated and hurdle-free registration process but also the ease of use of an app. The second reason is the intuitive use of the technology. Tolerance for non-functioning technology is becoming lower, which is why Neobanks score points with directly comprehensible use among Generation Y and Z. The third reason is digitization. Everything is offered online without any analog touchpoints. The final reason is the all-around attractive offer that Neobanks provide to Generation Y and Z, as they meet their needs perfectly (Appendix 12). These are, for instance, transferring money within a few clicks, making payments online or being able to benefit from favorable foreign currency transactions with the debit card when traveling abroad. In general, Neobanks currently lead the field when it comes to transaction and processing fees as well as hidden costs due to less favorable exchange rates (Statista 2022c; Duttenhöfer 2019).

According to the digital association Bitkom's 2019 study on the transformation of the financial industry, 14% of eligible customers already have their main banking connection with an online-only bank. A further 13% have firm plans to do so in the next 12 months and another 19% can imagine doing so. Together, this adds up to a potential 46%, which threatens to erode traditional business models through the loss of the anchor product of savings accounts (Bitkom 2019). A clear strength of the business model of Neobanks is that they are targeting a young audience, mostly students and people under 30. This makes the orientation of Neobanks very future-oriented, as they target customers with a high life expectancy. Thus, the customer lifetime value is highly increased. In addition, customers will not change the bank without any major reasons. Accordingly, the bank with which the customer is first has a clear advantage. Neobanks fully exploit this advantage (Bitkom 2019).

6.2.2 Value Proposition

The value proposition entails the actual 'reason for being' of a company. More precisely, it covers the questions: "Which one of the customer's problems is being solved by the product or service? Which customer needs are being satisfied? And what exactly is being delivered to the customer?" (Osterwalder and Pigneur 2010).

According to Hopkinson et al. (2019) the value proposition of Neobanks is based on innovation in different key areas. First, Neobanks have set new customer experience benchmarks in personal retail banking. A key aspect here is accessibility; any task related to private customer business can be completed quickly at any time and from anywhere. Even the opening of a new bank account is fully digitalized with few simple steps to be followed, typically not taking longer than ten minutes. Neobanks have made personal retail banking fast, convenient, and simple (Temelkov 2020a; Appendix 12). According to a study by Bitkom Research (2022) the customers of Neobanks highly value the intuitive design of the applications and the information they receive on personal finance. This is another indication on the high level of customer experience at Neobanks, but it also leads to another key area supporting the value proposition of Neobanks. Innovative features and money management tools are differentiating applications of Neobanks from the mobile banking applications of traditional and direct banks. The features provide detailed insights into spending habits, allow to allocate money to specific savings goals, or receive real-time spending notifications (Hopkinson et al. 2019). These features appeal to the main customer segment of Neobanks as 79% of Neobank users that participated in the Bitkom Research (2022) study stated to have a particularly good overview about their personal finance. In order to keep this part of the value proposition, Neobanks have to stick to agile structures with the intention to preserve the level of innovativeness and the innovation gap to traditional and direct banks. It is important to continue responding quickly to the market, new features or changing customer demands (Smith 2021; Appendix 13). Thirdly, another key aspect of the value proposition of Neobanks is the low price. In times where traditional and direct banks in Germany are charging the customer for basic checking accounts (Ernst & Young 2022), most Neobanks offer a basic account for free (Hopkinson et al. 2019; Revolut 2022; N26 2021b; Vivid 2022a). The Bitkom Research (2022) study has revealed that 38 % of participants view the low price as one of the key advantages of Neobanks. The importance of this part of the value proposition is underlined by a recent study of Ernst & Young which found out that every second traditional or direct bank is increasing prices for savings accounts in 2022 (Ernst & Young 2022). This will widen the gap between the price for checking accounts at Neobanks and the price for checking accounts at traditional or direct banks, potentially leading to more price sensitive customers to opening an account at a Neobank.

6.2.3 Channels

The *Business Model Canvas* of Osterwalder and Pigneur (2010) covers the following questions: “Through which channels do our customer segments want to be reached? How do we reach them now? How are our channels integrated? Which ones work best? Which ones are most cost-effective? How do we integrate them into customer workflows?”.

Neobanks' customers mainly want to be reached via digital channels, as the product itself is a purely digital product. Examples of channels through which customers want to be reached is advertising on social networks (Facebook, Instagram, LinkedIn). An aspect, which speaks in favor of these channels, is the cost efficiency, since the customer segment can be targeted more specifically, for instance compared to television advertisements. Other distribution channels are affiliate marketing and word-of-mouth, since there is the possibility to achieve a high level of awareness if the product is good and delivers quality. The purchase itself is made through the app and the customer can upgrade the service at any time in the app (Lin 2022; Kizilpinar 2020).

In contrast to traditional banks, Neobanks do not have branches as a distribution channel. This means that sales and subsequent customer service as well as the use itself, take place completely digitally (Appendix 12). The absence of branches saves Neobanks considerable costs in terms of rent and staff (Harker 2020; Blessing 2022).

With regards to the strengths of the Neobanks' business model, the digital focus of the sales and advertising channels is an advantage. As a result, Neobanks attract mainly digitally affine customers and offer a fast onboarding process that takes only a few minutes. This is one reason why the larger Neobanks can quickly attract more than 10,000 new customers per day. Thus, it is an easily scalable business model that can also be scaled internationally. In addition, Neobanks are future-oriented with their advertising and sales channels. However, a main weakness of the channels of Neobanks is the fact that they do not seize the opportunity to fully tackle offline channels as well. Therefore, a large potential customer group is left out (Filmer n.d.; Blessing 2022; Kizilpinar 2020).

6.2.4 Customer Relationship

The segment on customer relationship deals with the questions: “What type of relationship does each of our customer segments expect us to establish and maintain with them? Which ones have we established? How are they integrated with the rest of our business model? How costly are they?” (Osterwalder and Pigneur 2010)

Since Neobanks solely rely on digital channels it is more difficult to create meaningful relationships with customers. Neobanks try to overcome this initial hurdle of missing personal contact by encouraging open and transparent communication in a less corporate tone but more direct manner (Hopkinson et al. 2019; Clerk, Moraglia, and Perron 2020). Yet, Neobanks are still experiencing difficulties to build trust with potential users (Finanical Times 2021; Bitkom Research 2022). Customer service typically relies on self-service. Customers use in-app services to receive guidance on solving their individual problem themselves. If that does not solve a particular problem some Neobanks offer ‘live chat support’ (Chong 2020). It is highly adequate to the target segment of Gen Z because a recent survey by LivePerson (2021) has revealed that more than 75 % of Gen Z prefer text messaging over other forms of communication. However, this approach to customer support is likely to hold back older generations from opening an account at a Neobank. Nonetheless, it contributes to the low-cost and asset-light structure of Neobanks because ‘live chat support’ is much cheaper and less capital intensive. However, according to Chong (2020) live chats are considered the bare minimum of customer support at Neobanks. Availability and personalization are factors to improve the level of customer support. Interactions should feel as personal as possible, and the live chat should be an available point of contact 24/7. Due to the fact that Neobanks typically offer simple banking products in form of savings accounts, customers are not expecting personal advisory services. It can be regarded as one of the greatest weaknesses in the business model of Neobanks that traditional and direct banks are able to establish lasting relationships with customers as a result of personal contact and advisory. Neobanks are not an option for customers that are in need of more complex banking products (Dziggel et al. 2015; Appendix 13). Furthermore, as easily as customers are acquired and as simple as the onboarding process is designed, customers can also switch banks again. Compared to traditional and direct banks, Neobanks have a rather weak lock-in effect for customers and switching costs for customers are low (Nitsche and Wienecke 2021).

6.2.5 Revenue structure

The next element is concerned with the revenue streams: “What values are our customers really willing to pay for? What are they paying for now? How do they pay now? How would they like to pay? How much does each revenue stream contribute to total revenue?” (Osterwalder and Pigneur 2010).

Neobanks offer their customers a free basic version or an entry-level rate. Besides the free basic version, paid account variants are offered which include advanced features such as more savings accounts, extra insurance, or an additional credit card. These premium accounts form a major revenue stream for Neobanks. Interchange fees are another source of revenue which are the fees that Neobanks earn for payments made with the payment cards it issues. When a customer pays with the Neobank payment card, the bank usually receives a small percentage of the turnover from the respective retailer (Schwarz, Atzler, and Schier 2022). Credit cards are another source of revenue. Most Neobanks receive an annual fee and interest charges apply if a customer does not repay his balance within one month. There are also interchange fees charged by merchants or the credit card-issuing bank with which they have partnered (Davidsen 2022; Sauer 2016). Furthermore, Neobanks earn money when a customer overdraws his account. This works via the overdraft facility, which is usually around 9% (Surf n.d.a; Davidsen 2022).

Another money stream to be mentioned is not a natural source of income. Since most Neobanks are not yet publicly listed, they are funded by institutional investors such as venture capital (Appendix 12). Since the funding is in the triple-digit millions in the later series, this is a non-negligible income stream at the moment. Another big source of revenue result from collaborations with other companies such as large insurers through bancassurance activities (Norrestad 2022a) as well as the loan business (Lunden 2021). In addition to accounts for private customers, there are a few Neobanks offering accounts for small-sized companies. In this segment, higher prices can be charged than for private customer accounts and thus a good income stream can be built up.

With regards to the revenue streams, the biggest weakness is the less diversified income. Most Neobanks are gaining revenue out of B2C activities and some out of B2B activities, but in almost every case it is on or the other. Therefore, the income of most Neobanks is highly dependent on B2C revenues which could display a high risk. On the other hand, the strength of this concentration of B2C revenue provides a better potential to scale. The risk of complications is reduced, and the simplicity exposes new potentials. Another strength is the combination of revenue streams through on the one hand subscriptions, and on the other hand cooperations with big corporations in other markets (Exton Consulting n.d.; Davidsen 2022).

6.2.6 Key Resources

The key resources are concerned with the resources business models possess to pursue the activities needed in order to fulfill the value proposition (Osterwalder and Pigneur 2010).

Neobanks rely heavily on human capital (Stalf 2022). They have changed the way a bank is structured and operates (Affleck 2021). Neobanks do not manage their own physical infrastructure, for instance IT-servers or buildings (Glushchenko, Hodasevich, and Kaufman 2019). The banking license or extensive regulatory and product knowledge is further not a prerequisite for the opening of a Neobank. Neobanks make use of the principle of open banking and thereby source the required banking license via partners (Kasradze 2021; Abhishek 2019; Molnár 2018). They orchestrate several banking services in a convenient way in its application and thus the employees being able to build this technological platform and application are the decisive resource (Temelkov 2022; Haas et al. 2015; Appendix 14). In addition to technology-driven human capital, marketing skills are another success factor for Neobanks. Besides building a superior banking app Neobanks aim to promote their offered value in a most efficient and modern way. As Neobanks target mainly digital channels, search engine optimization and social media marketing skills are favored (O'Neill 2020). The last major resources are financial resources. The business model of Neobanks is not yet fully profitable and the constant expansion of the offering requires a lot of capital. Neobanks usually start with offering of savings accounts but they need to continuously expand their product portfolio to be profitable and retain customer value. Thus, enormous financial resources in the form of financing from investors are required to overcome high costs during this development phase. The capital needs are further increased by the extensive marketing efforts Neobanks pursue (Temelkov 2022; O'Neill 2020).

6.2.7 Key Activities

Key activities encompass the activities performed to achieve the value proposition and with that, generate success in the marketplace (Osterwalder and Pigneur 2010).

The growth of digital communication channels has enabled Neobanks to establish themselves alongside the traditional banking environment in Germany and offer financial products without actively exercising the principle of financial intermediation (Boot et al. 2021). The key activity of Neobanks is not to offer complex banking services but building simplistic customer experience (Martin 2016). Neobanks offer standard banking products via mobile application

(Valero, Climent, and Esteban 2020). They focus their activities on combining banking products, being inhouse or sourced from partners, with highest customer experience on the application (Kasradze 2021). Depending on the degree of sophistication of the Neobank the actual product offering of banking services may differ. The main products are comprised of savings accounts with money transfer as well as payment functions (Koibichuk et al. 2021; Appendix 14). Moreover, superior solutions for brokerage activities are offered (Kasradze 2021; Appendix 9). The sole digital offering allows for high customer satisfaction as customers can access banking services at any time (Martin 2016; Varga 2017). In order to provide highest customer value Neobanks streamline their product offering to focus on the development of features customers really need – these include for instance financial analysis and management tools as customers perceive them highly valuable (Kasradze 2021). Neobanks focus their activities on the development of a cutting-edge banking experience. Besides product management, on the operational side customer-centric software development (especially with regards to the mobile application) is the key activity of Neobanks. They are focused on developing an individualized platform which integrates seamlessly all customer touchpoints through cloud-based systems (Hopkinson et al. 2019). To fully fulfill their value proposition Neobanks follow a customer-centric design and development progress. They constantly innovate the customer journey by challenging the status quo and identifying and resolving frictions for customers (Varga 2017). The highest importance for every activity performed lays in the delivery of value for the customer. This helps Neobanks to standout from competition and form a solid position in the German banking sector (Klimontowicz and Harasim 2019). The streamlined product portfolio builds the advantage of a simplified technological and operational structure. Paired with a strong focus on open banking Neobanks have cost efficiencies (Temelkov 2020a; Temelkov 2020b). Furthermore, the lean organizational set-up allows for a fast delivery of activities and constant innovation (Varga 2017). Nevertheless, the associated disadvantages are expressed in a low monetarization of existing clients (due to a low cross-sell ratio) and losses in the customer relationship. The reduced product offering creates the need for customers to open a second or third bank relationship to receive all required banking products. The need to maintain a relationship with another bank reduces customer satisfaction and further imposes the risk of customer churn. The amount of customer with a second bank relationship is 50% lower for traditional banking customers compared to digital business models (Dziggel et al. 2015). As Neobanks challenge the status-quo of banks an additional major activity is marketing (Stalf 2022). The challenge for Neobanks is to attract new customers by explaining their superior value compared to other banking business models. As comparably new players in the German banking sector, Neobanks are in need to convince customers to switch from traditional banks in order to reach a critical number of customers in a short time period (Temelkov 2022).

6.2.8 Key Partners

Besides internal resources there is the possibility to rely on partners to assure the delivery of the value proposition and perform the key activities. Key partners describe the network of suppliers and partners that are vital for success of the business model (Osterwalder and Pigneur 2010).

Neobanks use the principle of open banking and therefore have various partnerships with vendors, in some cases even with competitors or other Fintechs. Although the offering of most banking products requires a banking license in Germany, the banking license is for many Neobanks not considered as requisite. In order to be able to accomplish a rapid market entry Neobanks have partnered up with other providers which provide the banking license and fulfill all regulatory requirements (Abhishek 2019; Molnár 2018). Nevertheless, it does also come with the disadvantage that for instance the absence of the banking license reduces the possibility of funding as deposit funding is not possible (Boot et al. 2021). Neobanks which obtain their own banking license are able to offer their products and services without an additional partner, reducing dependency (Koibichuk et al. 2021). Many Neobanks make use of the principle of open banking to allow for fast deployment of new products (Camerinelli 2017; Appendix 14). These Neobanks often form partnership to offer products in fields where the bank has not enough resources or does not see efficiencies in developing these inhouse (Sontanam 2021; Temelkov 2020a). Following this strategy Neobanks can reduce the time-to-market of new products and reduce hiring pressures for specialized knowledge. Especially during the growth phase with a small customer base, the cooperation of partners also allows to offer product features to customers which otherwise could not be offered due to constrained resources (Varga 2017). Nevertheless, with a growing size it may be favorable to develop own products or IT features to allow for individualization and reduce dependency risks from external providers (Hornuf et al. 2020; Javeed et al. 2022). This would also reduce the regulatory requirements associated with outsourcing in the banking industry (European Banking Authority 2019). Other alliances include payment service providers such as *Mastercard* and *Visa* which provide the basis for payment schemes for banking customers (Herkenhoff and Raveendranathan 2019). Depending on the offered product range further partnerships are formed with the providers of different products, for instance insurance companies or trading houses (Temelkov 2022). On the technological side partnerships with cloud providers are formed. These allow for cost reductions compared to the set-up of own IT-servers. Cloud providers are continuously increasing analytics skills with regards to banking services increasing the value of being in the cloud (Saal, Starnes, and Rehermann 2017).

6.2.9 Cost structure

Osterwalder and Pigneur (2010) suggest the following questions to be considered when analyzing the cost structure: “What are the most important costs inherent in our business model?

Which key resources are most expensive? Which key activities are most expensive?" (Osterwalder and Pigneur 2010)

Most Neobanks operate under a low-cost and asset-light structure. They benefit from high-cost efficiency. Neobanks have much leaner IT infrastructures, a simpler product set-up, streamlined operating models, fewer legacy and compliance issues and significantly lower administrative expenses with regards to real estate and branches (Finnovate Research 2018; Appendix 12). The streamlined operating models in combination with the employment of technology and APIs have allowed Neobanks to achieve an average cost efficiency ratio of 46%, compared with a range between 50 – 60% at traditional banks. Leaner structures in combination with viral marketing and social media advertisement result in lower customer acquisition costs (CAC) for Neobanks than for traditional banks. While the average CAC lies at around EUR 30 at Neobanks, traditional banks pay EUR 200 on average (Finnovate Research 2018; Temelkov 2022). However, the average customer lifetime value (LTV) at Neobanks lies at around EUR 15. This suggests a negative LTV / CAC ratio (Lochy 2020). Most Neobanks rely on external partners to provide core financial services. Neobanks have outsourced technology stacks leading to a lower capital expenditure but regular subscription fees (Temelkov 2020a). Another cost driver is commission they have to pay when customers make use of ATMs of competitors. As Neobanks do not have their own network of ATMs these commissions are a significant cost driver. *N26* closed 160,000 customer accounts as they were making too many cash withdrawals from ATMs (Finnovate Research 2018).

6.3 Summary of Strengths and Vulnerabilities

By analyzing the business model of Neobanks, several strengths and vulnerabilities of the business model have been identified. The biggest strength of the business model is the pure digital focus. It allows to perform activities agile and fast. Through state-of-the-art banking systems with modern and fast IT, Neobanks have a significant technological advantage. The combination ensures a fast time to market with a low use of resources therefore low costs. An overview of previously described advantages including a clustering is found in Appendix 7.

On the other hand, vulnerabilities have been identified that seriously threaten the existence of Neobanks in the future. Neobanks do not offer the full range of services and products as traditional banks. Customers can make use of banking services provided by Neobanks very well in their daily life however more complex products are not offered (which include for instance individual credit, mortgages, or advisory services). Besides the missing exploitation of revenue potentials there is the risk of customer churn. This is supported by the low switching costs for users of Neobanks as the current customer relationship is not creating a strong lock-in effect. Another major weakness is the focus of revenue streams only on B2C. B2B services are not offered by almost all new banks which creates a great dependency on B2C customers. This could be changed by a new product offering in the B2B market and the dependency as well as the risk could be decisively reduced. Thus, Neobanks would compete with traditional banks in another area. The third major weakness identified relates to the dependency on technological suppliers. The outsourced backend and the banking services infrastructure lead to a high level of dependency on the suppliers, such as BaaS providers. In addition, these systems cannot be easily customized as they are not managed in-house. Reducing the dependency on these suppliers is thus a key priority. These, as well as further vulnerabilities are clustered in Appendix 6.

7. Recommendations on the Business Model of Neobanks

In the following, the three beforementioned weaknesses and vulnerabilities will be analyzed with regards to the impact on the business model of Neobanks. Accordingly, different mitigation strategies will be proposed and evaluated before analyzing the implications of a chosen mitigation strategy on the business model of Neobanks

7.1 Ways to Reduce Dependencies on BaaS Providers

As part of the analysis on the business model of Neobanks, a high dependency on third-party providers has been identified. In particular chapter 6.1 on the Neobanking landscape and 6.1.8 on key partners emphasize that Neobanks rely on BaaS providers to facilitate the financial services infrastructure of the bank. In many cases Neobanks operate under the banking license of the BaaS provider, making Neobanks highly dependent on the constant, and reliable provision of these services (Temelkov 2020a). This chapter will first set out the problems that Neobanks face as a result of the dependency, before proposing three strategies to mitigate the problems. The different strategies will be briefly evaluated and the most applicable will be chosen to illustrate potential implications on the current business model of Neobanks.

7.1.1 Problem Statement

The dependency on BaaS providers comes along with many disadvantages and risks for Neobanks. If all back-end and financial services operations are sourced from a single BaaS provider, Neobanks are giving away full control of the core banking operations to just one player. In case of any default from the BaaS provider the core operations of the Neobank are at risk, potentially meaning that the Neobank cannot longer provide its services as promised, up to the point where it has no license to offer banking services (Temelkov 2020a; Koibichuk et al. 2021).

Furthermore, the analysis has shown that Neobanks are under pressure to keep the pace of innovation high. New tools and features and a superior user experience make Neobank's mobile applications stand out from the mobile applications of traditional banks and direct banks (Hopkinson et al. 2019; Appendix 12 and 13). However, by being dependent on BaaS providers, Neobanks limit their back-end to the capabilities of the provider. This limits Neobanks in terms of what features can be offered, and in the time-to-market of new features. In addition, BaaS providers have multiple customers. This entails that the back-end of different Neobanks is built on the same capabilities and there is less opportunity to differentiate between Neobanks (Arthur D. Little 2022).

Previous analysis in chapter 6.1.4 has also shown that trust is a key concern for many potential clients of Neobanks (Finanical Times 2021; Bitkom Research 2022). While this is largely influenced by the fact that Neobanks are rather new players in the banking sector and by the fact that Neobanks do not have physical branches, the involvement of multiple players is another contributor. The more players involved the greater security concerns and the greater the likelihood for confidential data leakage (Kaur et al. 2021).

Another main disadvantage of Neobanks relying on BaaS providers is that the market of BaaS has low concentration. As stated in chapter 6.2.3 traditional banks are beginning to enter the BaaS market which is currently occupied by Fintechs like *Solarisbank* (Cowley and Malani 2021). The total number of players in the BaaS market is still considerably low. From the Neobanks perspective a low concentrated market of BaaS providers means lower bargaining power over suppliers (Capgemini 2022b; Johnson 2022). Ultimately, BaaS providers have higher power on the prices that they charge for their services, leading to decreased margins for Neobanks.

To summarize, the high dependency of Neobanks on BaaS providers represents a fundamental operational risk that can threaten the operational functionality of a Neobank. It limits the Neobank's innovation to the capabilities of the BaaS provider and reduces the potential for differentiation between Neobanks. The low concentration of the BaaS market suggests low bargaining power over providers and the provision of core banking services by a third-party comes along with security concerns.

7.1.2 Mitigation Strategies

This chapter looks at what Neobanks could do to mitigate the high dependency on BaaS providers. What strategies could Neobanks pursue to antagonize the problems incurred with this high dependency on BaaS providers? Three possible strategies have been identified and their advantages and disadvantages with regards to the business model of Neobanks will be presented in the following.

7.1.2.1 Diversifying BaaS Providers

The concept of diversification was extensively researched by Ansoff (1958) and is being applied in different settings and industries. Investors use diversification as a principle to spread risk across different assets (Lekovic 2018); companies use diversification to spread market risk across different products, services, or markets (Ansoff 1958); and farmers use diversification to reduce the risk of crop failure (Lakhran, Kumar, and Bajiya 2017). Neobanks can use this concept of diversification to reduce the risk arising from the high dependency on BaaS providers by selecting multiple BaaS providers. Different BaaS providers could be appointed according to different core banking services, but also according to different geographies. Neobanks could rely on different banks to provide the banking license in the different countries they operate in. They could also break down the banking stack into individual parts and choose different BaaS providers according to different services like compliance, financial crime, payments, treasury, or general ledger. In case of default of one of the BaaS providers, a part of the core banking infrastructure will suffer instead of the full system. As a result, the Neobank is no longer highly dependent on a single BaaS provider but rather on a set of providers, and the operational risk is reduced (Kariuki 2021).

This strategy comes along with a set of advantages and disadvantages. First, the diversification of BaaS providers does not entail capital intensive investment. Disregarding the time it takes to find suitable BaaS providers for different services or locations and the time it takes to make their offering available to the Neobank, no other investments need to be made. However, the orchestration of different BaaS providers is likely to increase complexity for the Neobank and will increase the need for alignment between the different stakeholders (Arthur D. Little 2022).

Diversifying BaaS providers would also allow Neobanks to reduce the operational risk while sticking to the agile and low-asset approach which has been identified as a key strength in the previous analysis along the *Business Model Canvas* (Smith 2021; Appendix 13). But, the diversification would still not give Neobanks full control over their back-end/ banking infrastructure. That is the reason why it would only reduce the operational risk of the high dependency, but the other aforementioned vulnerabilities (chapter 7.3.1) are not being resolved. More precisely, the Neobanks would still be limited to the capabilities of the BaaS providers in terms of innovation. Furthermore, differentiation between Neobanks' core banking capabilities would still be rather low and security concerns might be rising. While outsourcing in general is under strict supervision and investigation of regulatory authorities (European Banking Authority 2019), the fact that many different players are involved is an impediment to gaining trust, which represents another weakness to the business model of Neobanks, as identified in chapter 6.1.4.

As this proposed strategy does not entail heavy investment while reducing operational risk, this could be a strategy applicable to Neobanks at any stage and of any size. But, as stated previously, diversifying BaaS providers does not provide Neobanks with any direct control over the core banking infrastructure, as opposed to the following strategy propositions.

7.1.2.2 Gradually Building Inhouse Capabilities

Neobanks could gradually build the capabilities that are being provided by BaaS inhouse. This would benefit Neobanks in a way that they have full control and ownership over the core banking infrastructure and, once full capability is achieved, there is no more dependence on BaaS providers (Koibichuk et al. 2021). Chapter 6.1 has introduced three different clusters of Neobanks (Finnovate Research 2018). With respect to this clustering and Appendix 5, front-end focused Neobanks should be looking to gain more control over the full value chain as they are growing. The biggest players in the Neobanking sector have all developed into full-stack Neobanks, meaning that they have full control over most parts of the value chain from front- to back-end and they hold a valid banking license for the markets they operate in. *N26* and *bunq* follow the asset-light platform model but they all operate under their own banking license and under their proprietary back-end / banking infrastructure (Finnovate Research 2018; Bunq 2022). They have recognized and antagonized the vulnerabilities from high dependence and the corresponding operational risks. Full-stack Neobanks are no longer limited to the capabilities of the BaaS provider, but they can control the pace of innovation and prioritize projects according to their own needs. In addition, there is more room for differentiation between the Neobanks, because the banking infrastructure of *N26* and *bunq* is independent and therefore unlikely to be same. Full control on the value chain also reduces security concerns of external stakeholders e.g. customers and regulatory authorities, because the process is more centralized and less players are involved (European Banking Authority 2019). According to the Finanical Times (2021), Nik Storonsky, the CEO of *Revolut*, stated that acquiring a banking license is an important step to build consumer trust.

Gradually building the capabilities to operate the back-end infrastructure takes time. It took *N26* more than a year to successfully apply for a European banking license. Despite the fact that there is no high lump sum investment, building the inhouse capabilities is comparable with a complex project that needs financing over time. The bank needs to provide the resources and hire the right human capital to pursue this transformation. In the case of *N26*, it began with building a team of experienced experts, and the appointment a former CEO of a renown direct bank in Germany as the managing director to lead the transformation (N26 2018).

Ultimately, the provision of resources and human capital to drive the transformation towards no dependency on BaaS providers represents an investment case for itself. In the long-run it is likely to increase costs as a result of increased complexity, greater supervision, and more requirements. But two of the three largest Neobanks operating in Germany have undergone this transformation in order to not be dependent on BaaS providers and have achieved full control over the majority of the value chain (Bunq 2022b; Finnovate Research 2018).

7.1.2.3 Vertical Backward Integration

Instead of gradually building the capabilities of BaaS providers inhouse, another strategy Neobanks could follow to gain more control over the banking infrastructure is acquiring a bank that already has the capabilities. In Mergers & Acquisitions (M&A) terms this strategy would be referred to as vertical backward integration. Literature often illustrates vertical integration along the example of a manufacturer, where backward integration entails taking over a supplier, and forward integration entails taking over a retailer (Lin, Parlaktürk, and Swaminathan 2014). Stuckey and White (1993) have defined vertical integration as an ability of a business to significantly influence or control the supply of input or output chains. Backward integration is a strategy whereby a business takes direct control on how its input is supplied (Lin, Parlaktürk, and Swaminathan 2014). Applying this to the case of Neobanks, input corresponds with the services provided by BaaS. Therefore, backward integration would allow Neobanks to directly control the services provided by BaaS, typically referring to the core banking infrastructure.

As with every strategy, it comes along with advantages and disadvantages. Backward integration and M&A transactions in general are typically capital intensive. Acquiring a Fintech that is capable of providing BaaS is likely to require high investment. Referring to the clustering of Neobanks in Germany in Appendix 5 and chapter 6.1, front-end focused Neobanks are the ones in need of gaining more control on the parts of the value chain that are being provided via BaaS. It is questionable if this cluster of smaller Neobanks, as compared with the cluster of full-stack Neobanks, is able to raise or access the necessary funds for a M&A transaction like this (Temelkov 2022). Recent history has not seen a merger or acquisition between a Neobank and a BaaS provider. But *Solarisbank*, the leading BaaS provider in Germany, has raised EUR 190m in a Series D funding round in 2021 with the clear intention to buy a smaller peer *Contis* (Solarisbank 2021). There is evidence for M&A deals in the BaaS sector. However, a loss of focus away from the core business and more towards the M&A deal itself might be a key restraint for Neobanks to approach the strategy of vertical backward integration (Ott 2019). It is critical that Neobanks stick to the current strengths of the business model as identified in the aforementioned analysis in chapter 6 to maintain their positioning in a growing market.

Nevertheless, backward integration as a form of M&A can be a faster solution to gain full control over the BaaS capabilities than gradually building the capabilities inhouse. If for a reason a Neobank is under pressure to mitigate the risk of high dependency in a shorter period of time, M&A might be more applicable then gradually building the capabilities inhouse (Ortiz-de-Urbina-Criado and Guerras-Martin 2014).

Additionally, taking over a BaaS provider would open a totally new field of revenue streams. The target is likely to serve an existing B2B customer base with its BaaS solutions giving the Neobank access to a vast amount of data and knowledge, while diversifying the product portfolio of the bank (Grabowski 2021).

To evaluate, it is rather unlikely that a front-end focused Neobank takes over an established BaaS provider under the driving motive of reducing dependency on BaaS providers. The access to capital for such high investments is a key constraint leading to this assumption (Temelkov 2022). A potential loss of focus on the current strengths and value proposition is another factor limiting the likelihood for vertical backward integration of Neobanks (Ott 2019). Nevertheless, depending on regulatory authorities, this strategy cannot be fully disregarded. In a scenario where the Neobanking sector keeps getting higher concentrated and customer growth stagnates, Neobanks will keep looking for opportunities of diversification to keep growing (Ortiz-de-Urbina-Criado and Guerras-Martin 2014). In this case the advantages and disadvantages weigh differently and require reconsideration. But in such a case the motives for such a deal have changed. Solely for the purpose of reducing dependency on BaaS providers, vertical backward integration is unlikely to be a strategy of mitigation followed by Neobanks.

Gradually building inhouse capabilities represents an approach that the largest Neobanks in Germany have successfully followed recently. They have achieved to gain full control over the majority of the value chain and reduced their dependency on BaaS providers (Bunq 2022b; Finnovate Research 2018). It is a process that should be early addressed at front-end focused Neobanks because it takes a considerable amount of time. The Neobank is in full control with regards to the time it takes and the expenses that occur as part of this transformation. Resources can be allocated specifically to topics that need to be addressed according to the priorities of the Neobank right from the start of the transformation. It needs to be said that this mitigation strategy entails much less risk than backward integration in form of M&A. It is not a one-time capital-intensive investment like M&A but rather a process that can be influenced along the way of progression (Ott 2019; Ortiz-de-Urbina-Criado and Guerras-Martin 2014).

Finally, diversifying BaaS providers has the least significant effect of the three mitigation strategies, because it only reduces operational risk but does not provide full control over the core banking infrastructure. But, as compared to the other strategies, it requires the least time to implement and the lowest cost. Therefore, it is a strategy that can be followed by smaller Neobanks that do not have the resources and capital to invest in either building inhouse capabilities or backward integration (Arthur D. Little 2022; Koibichuk et al. 2021).

7.1.3 Implications for the Business Model

The implications for the business model of Neobanks depend on the different mitigation strategies. As a result of the evaluation in the previous chapter, the implications on the business model of diversifying BaaS providers and gradually building the inhouse capabilities will be brought forward in the following with respect to the parts of the *Business Model Canvas* that experience significant alteration.

Diversifying BaaS providers would entail alteration to the category of key partners. Instead of relying on a single or few providers to facilitate the core banking infrastructure, the core banking stack is broken down and sourced from different suppliers (Kariuki 2021). The number of key partners increases and thus, the need for coordination and alignment increases. This increase in complexity is likely to also impact the key activities. The coordination of different services from different providers will represent a key activity to achieve harmonization of the core banking system. As mentioned on several notes before, trust is a key concern for Neobanks, and increasing the number of players involved is increasing security concerns (Arthur D. Little 2022; European Banking Authority 2019). The category of customer relationship will be confronted with this change and will have to push trust building measures. Finally, the cost structure will not significantly change but it is likely that the costs of key partners are rising as a result of having to maintain several relationships. The customer segment, the value proposition, the channels, the key resources, and the revenue streams, will not be impacted as part of this mitigation strategy.

Gradually building the capabilities of running the core banking system would have a significant effect on the category of key resources. Particularly the need to hire people with the skills and knowledge to push the transformation as well as the provision of relevant IT infrastructure will require a shift in key resources, or at least the allocation of new key resources. Over time, the number of BaaS provider would be decreased, reducing the number of key partners. But the activities that have previously been provided by the BaaS partners will then switch to the key activities of the Neobank. The customer segment, the value proposition, the channels, and the revenue structure will remain unchanged. But the cost structure is likely to also experience significant changes. The new set of key activities and key resources, as part of the transformation towards more independence and greater control over the core banking system, will drive costs. This transformation is a gradual and continuous investment into strengthening the current business model of Neobanks (Finnovate Research 2018; Hon and Millard 2016; N26 2018).

7.1.4 Limitations

The applicability of each of the mitigation strategies and the analysis provided in this chapter has its limitations. Different strategies might be more applicable than others, depending on the size of the Neobank and its stage of the lifecycle. As previously mentioned, not all of the strategies are completely new and some have already proven successful to some extent. The analysis further depends on the access to funds of Neobanks and the necessary liquidity to make an M&A deal or sponsor a project to build the capabilities of BaaS providers inhouse. In addition to this, the regulatory aspect of potential M&A deals between a Neobank and BaaS providers has not been covered as part of this analysis, and recent history cannot provide a relevant example. Lastly, literate on the topic of M&A related to Neobanks is rare. Cross-references have been made where possible, but the feasibility of M&A deals at Neobanks is not presented in current literature.

Nevertheless, with the fundamental analysis and the corresponding evolution in this chapter, spreading risk across different BaaS providers and building capabilities inhouse represent two relevant mitigation strategies to overcome the high dependency on BaaS providers.

8. Conclusion

This thesis deals with the optimization of the business model of Neobanks in the German banking sector. Based on a description of the evolution of the German banking sector, the prevailing variation of business models in the German banking sector has been described. Technology has been a key driver for novel business models and had significant influences on the German banking sector. In recent years, digitalization and technological trends have led to the emergence of new business models, BaaS and Neobanks, which challenge the status quo of prevailing business models, Traditional Banking and Direct Banking. Following a short analysis of each business model, Neobanks have been analyzed in more detail as they have been identified as the most recent business model. While analyzing the business model, applying the *Business Model Canvas,* the strengths and vulnerabilities of the business model have been highlighted. Besides various advantages, Neobanks face substantial weaknesses which need to be resolved. Low monetarization of customers, low diversification of customer segments, and high dependency on BaaS providers have been identified as the three most threatening vulnerabilities of the business model. The identified vulnerabilities should be eliminated to secure the future operations, profitability, and competitive position of Neobanks over other business models in the German banking sector.

Three recommendations to eliminate these vulnerabilities have been introduced, analyzed, and critically discussed. Furthermore, it is evaluated whether the recommendations classify as BMI. As introduced in the literature review (chapter 2.2), Gassmann, Frankenberger, and Csik (2013) suggest that BMI takes place when at least two of the four business model components (customer segment, value proposition, value chain and value capture) experience significant alteration (Gassmann, Frankenberger, and Csik 2013). The first recommendation, expanding the product offering and implementing advisory services, has several implications for the business model. Advisory services increase revenue streams and thus increase the monetization of clients while capital investments are comparably low. The introduction of a combination of digital and personal advisory allows to intensify the customer relationship and overcomes issues of trust and customer loyalty Neobanks currently face. As analyzed before several changes occur for key activities, partners, and resources of Neobanks. Moreover, the expansion of the value proposition to advisory enforces a competitive threat to other business models in the German banking sector. Applying these to the concept of Gassmann, the recommendation can be classified as BMI. Since it is not completely new to the banking sector but involves more drastic changes to the current business model, this recommendation can be categorized as adaptive BMI according to Foss and Saebi (2017). Similarly, the second recommendation, the introduction of investment banking services at Neobanks, can be classified as BMI because it significantly changes all four business model components of the *Business Model Navigator*. The offering of investment banking brings a strong diversification of the revenue streams. Neobanks can disrupt the investment banking product through the digitization of the process and automation of the product to a high extent. Therefore, Neobanks would have a more efficient cost structure and could offer the clients better prices, wherefore they could compete with other players. All in all, investment banking in Neobanks brings several changes in all areas of the *Business Model Canvas*. Differently, the third recommendation, either diversifying BaaS providers or gradually building inhouse banking infrastructure, cannot be classified as BMI according to Gassmann, Frankenberger, and Csik (2013), because only the value chain is significantly changing from external supply to inhouse operations. Yet, the business model of Neobanks is optimized because in both cases Neobanks would be less dependent on BaaS providers and the operational risk is reduced. If categorized according to Foss and Saebi (2017) this recommendation is most likely to belong to the category of evolutionary BMI, because it is not new to the market and involves moderate changes to the business model.

9. Limitations

Looking ahead, it will be interesting to observe how Neobanks will counteract the vulnerabilities in their business model. Further research should focus on each of the three recommendations. Their feasibility could be evaluated in more detail, and concrete implementation plans could be created to advance the recommendations. In addition, this thesis only touched on the three main weaknesses. Future research could address the other identified weaknesses and possible mitigation strategies. An objective and comprehensive evaluation of the severity of various vulnerabilities could provide clarity on prioritization and indicate which vulnerabilities should be addressed next.

There are some limitations to this thesis that need to be considered. Neobanks are the most recent business model in the German banking sector which entails that the amount of academic literature is still limited. In order to combine the literature on business models and BMI with current information on Neobanks, this thesis includes current secondary sources. Moreover, Neobanks are privately held organizations, wherefore the amount of data in the form of detailed financial reports is limited.

The number of expert interviews conducted as part of this work is limited. In order to eliminate bias, interviews were conducted with experts from different backgrounds to bring out different perspectives on the Neobanking business model and its strengths and weaknesses. Due to a low response rate, only three interviews have been conducted.

Lastly, the complex regulatory environment in banking was addressed as part of the recommendations, but it was not possible to fully ensure the regulatory feasibility of the recommendations presented. Regulation can be a significant driver for and against the different business models and new legislations can drastically change perspectives.

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Appendix

List of Appendices

Appendix 1 – Four Types of BMI 116

Appendix 2 – Three-Pillar Banking System in Germany 117

Appendix 3 – Number of Banking Institutions & Branches in Germany 117

Appendix 4 – Return on Equity & Total Assets of German Banks 118

Appendix 5 – Three Clusters of Neobanks operating in Germany 118

Appendix 6 – Summary of Weaknesses from Business Model Analysis 119

Appendix 7 – Summary of Strengths from Business Model Analysis (TBD) 120

Appendix 8 – Information on Key Players across Different Business Models 121

Appendix 9 – Comparison of Product Offering of Neobanks in Germany 125

Appendix 10 – Overview Interviewees 125

Appendix 11 – Question catalogue interview 126

Appendix 12 – Transcript interview with Interviewee 1 126

Appendix 13 – Transcript interview with Interviewee 2 138

Appendix 14 – Transcript interview with Interviewee 3 145

Appendix 15 – Business Model Canvas 151

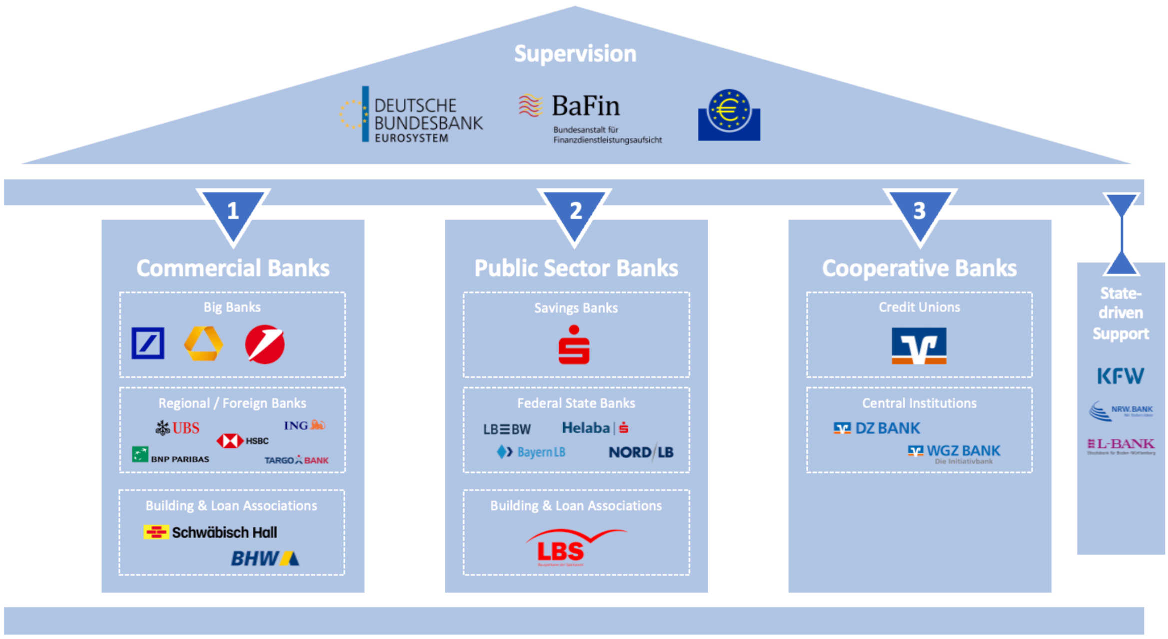
Appendix 16 – Business Model Navigator 151

Appendix 1 – Four Types of BMI

Novelty of change / Scope of change	New to Firm	New to Industry
Modular	**Evolutionary BMI**	**Focused BMI**
Architectural	**Adaptive BMI**	**Complex BMI**

Source: Foss and Saebi (2017)

Appendix 2 – Three-Pillar Banking System in Germany



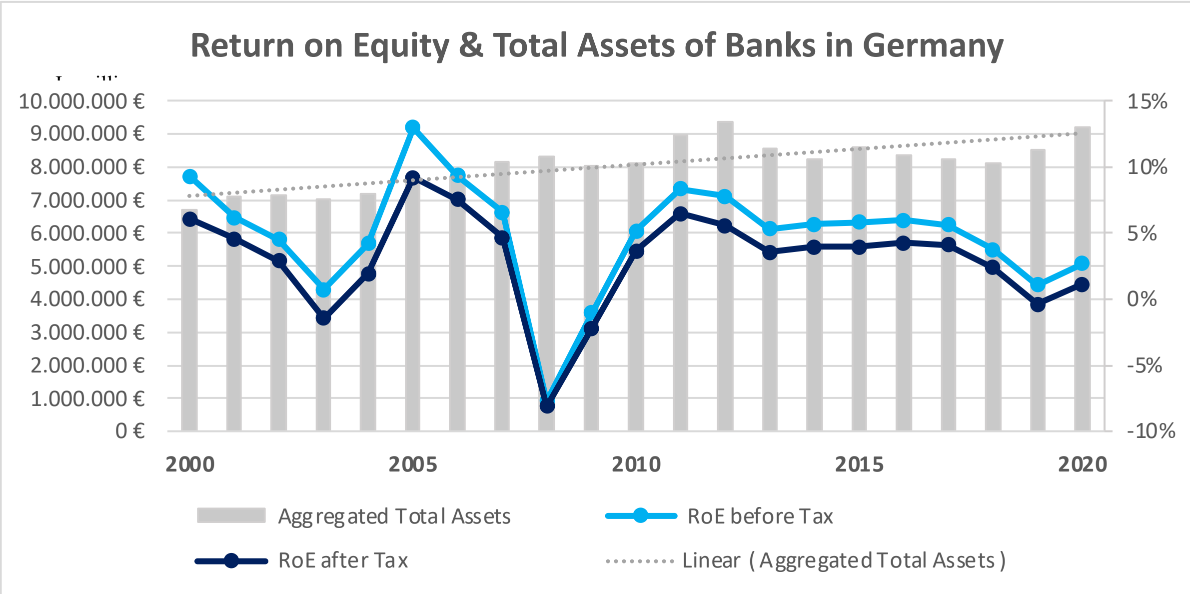
Source: Own depiction of Bofinger 2010

Appendix 3 – Number of Banking Institutions & Branches in Germany 2000& 2020

	Institutions				*Branches*			
	2000		*2020*		*2000*		*2020*	
	number	*(%)*	*number*	*(%)*	*number*	*(%)*	*number*	*(%)*
Private commercial banks	294	10,7%	270	17,8%	6.520	15,1%	6.453	26,8%
Big banks	4	0,1%	3	0,2%	2.873	6,6%	5.146	21,4%
Regional banks and others	200	7,3%	151	9,9%	3.567	8,2%	1.142	4,7%
Branches of foreign banks	90	3,3%	116	7,6%	80	0,2%	165	0,7%
Savings banks group	575	21,0%	383	25,2%	17.530	40,5%	8.528	35,4%
Savings banks	562	20,5%	377	24,8%	16.892	39,0%	8.318	34,6%
Landesbanken and DekaBank	13	0,5%	6	0,4%	638	1,5%	210	0,9%
Cooperative banks	1.792	65,5%	818	53,9%	15.332	35,4%	7.765	32,3%
Other banks	75	2,7%	48	3,2%	3.887	9,0%	1.314	5,5%
Realkreditinstitute	31	1,1%	10	0,7%	192	0,4%	37	0,2%
Bausparkassen	31	1,1%	18	1,2%	3.677	8,5%	1.259	5,2%
Banks with special tasks	13	0,5%	20	1,3%	18	0,0%	18	0,1%
All banks	2.736	100%	1.519	100%	43.269	100%	24.060	100%
		-44,5%				-44,4%		

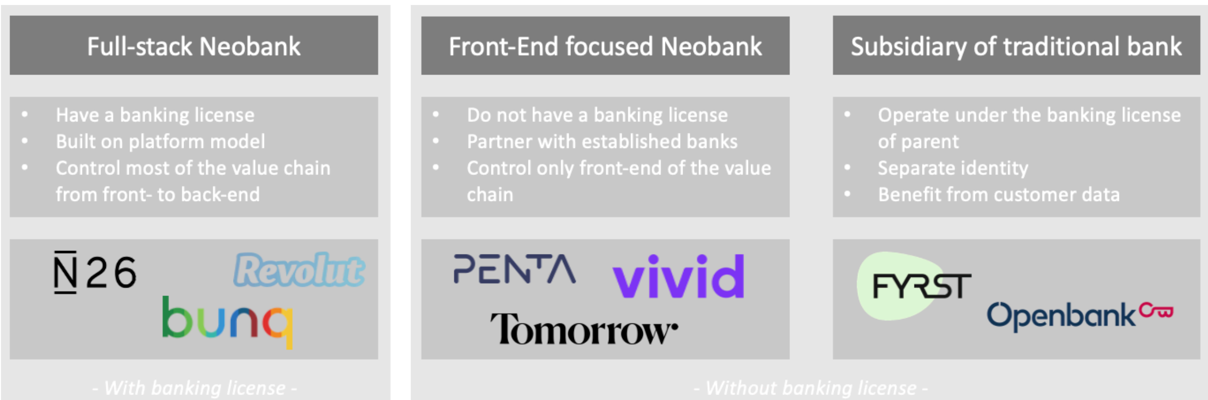
Source: Own illustration of Bundesbank 2021

Appendix 4 – Return on Equity & Total Assets of German Banks 2000 to 2020



Sources: Own illustration of Bundesbank 2005, Bundesbank 2009, Bundesbank 2014; Bundesbank 2021

Appendix 5 – Three Clusters of Neobanks operating in Germany



Source: Own depiction of Finnovate Research 2018

Appendix 6 – Summary of Weaknesses from Business Model Analysis

Description of Weakness	**Generic Implication**	**Type**
Neobanks do not offer the full product range of a bank thus customers need to maintain at least a second relationship with another bank for more complex products.	Missing out on revenue and growth potential and improved customer relationship.	Revenue potential / Churn
Service handling is perceived as low as a direct communication channel to service agents is often not present.	Potential customer churn	Churn
Outsourced technological back end and banking/ financial services infrastructure – not holding a banking license.	High dependency on partners.	Risk
Outsourced banking activities or core banking systems cannot simply be individualized. It is up to the partner what is possible and what cannot be achieved.	USP only built on front end - individualization can improve the value proposition and lead to differentiation to competition.	Risk
Customer segmentation is rather narrow and neglects many segments that traditional banks are targeting. Digitally less-affine customer groups are neglected, such as customers over 40-50 years of age.	Missing out on revenue and growth potential.	Revenue potential
Product offering is much less diversified than the portfolio of traditional banks. Service areas like investment banking, asset management and real estate are not targeted/provided by Neobanks.	Higher risk from less diversified revenue streams and potentially missing out on revenue streams with greater margins than retail banking and checking accounts.	Risk
As Neobanks are growing, they have to keep a high level of innovativeness in order to not allow traditional or direct banks to catch up or close the innovation gap.	Risk of losing the value proposition as traditional banks improve their mobile applications.	Risk
Lack of trust of potential customers because of exclusive digital appearance and less	Missing out on revenue and growth potential.	Revenue potential

time on the market to build a trusty image like traditional banks.		
Switching costs for users of Neobanks are low. As fast as you can open an account with a Neobank, you can close it and choose a different bank. Customer relationship is not creating a strong lock-in effect.	Missing out on revenue and growth potential.	Revenue potential

Appendix 7 – Summary of Strengths from Business Model Analysis

Description of Strengths	**Generic Implication**	**Type**
Fast time to market of new products and features even with low inhouse ressources as Neobanks embody the principle of open banking and make use of partnerships	Revenue and growth potential, improving customer relationship	Revenue potential / Customer
State of the art banking systems with modern and fast IT as they source their banking systems mainly externally from BaaS provider which have technological advantages. Also comes with lower cost at the beginning as everything is set up in modern architecture with cloud, API's and thus no old legacy system costs and complexity	Revenue and growth potential, reducing costs	Revenue potential / Costs
Neobanks are also having superior resources as they have a branding	Higher profitability	Profitability
High focus on Gen Y and Z through customer-friendly design of the application and unique features which are tailored to this target group (target group of the future)	Improving customer relationship and reducing costs	Customer / Costs
Completely digital processing and presence of Neobanks; customer group appreciates this digital focus	Improving customer relationship, reducing costs, and higher profitability	Customer / Costs / Profitability

Purely digital focus of the sales and advertising channels is an advantage (future-oriented with their advertising and sales channels)	Revenue and growth potential, reducing costs, and higher profitability	Revenue / Costs / Profitability
Fast onboarding process that takes only a few minutes (Neobanks can quickly attract more than 10,000 new customers per day); easily scalable business model that can also be highly scaled internationally	Revenue and growth potential, improving customer relationship, and less churn	Revenue / Customer / Churn
Through focusing on one revenue stream a faster growth is possible and therefore reaching faster international relevance	Revenue and growth potential	Revenue potential
Can combine revenue streams through on the one hand subscriptions and on the other hand cooperation with big players in other markets (cross-selling)	Revenue and growth potential, improving customer relationship	Revenue potential / Customer

Appendix 8 – Information on Key Players across Different Business Models

„According to the *BaFin*, short for Federal Financial Supervisory Authority, the German financial industry currently consists of 1.647 credit institutions, among 270 of them are private banks, 1.275 financial services institutions, 562 capital management companies, 248 insurance companies as well as 82 payment and e-money institutions“ (Deller 2021). To get a clear picture about the key players in the market, we will first divide the key players between the four presented business models and afterwards compare them across the business models. Regarding the market share in 2017 the biggest traditional bank was *Deutsche Bank* with 19.12%. A specialty of the German market are the regional banks, so-called “Landesbanken”, which are in the different states, but count as on association and therefore have an added market share. Summed up the *Landesbank Baden-Württemberg* (LBBW, 3.07%), *Bayerische Landesbank* (BayernLB, 2.77%), *Norddeutsche Landesbank* (NordLB, 2.13%), and *Landesbank Hessen-Thüringen* (Helaba, 2.04%) having a market share of 10.01%. Moreover, the *DZ Bank* with

6.52%, the *Kreditanstalt für Wiederaufbau* (KfW) with 6.09%, and the *Commerzbank* with 5.88% are the biggest player in the market (Norrestad 2022c). Together with *Commerzbank*, *Deutsche Bank* is the oldest major bank in Germany, both established in the spring of 1870 and headquartered in Frankfurt, Germany (pdf.co n.d.). The core business of *Deutsche Bank* is investment banking, but they also play a significant role in the retail client business as well as in the other areas of a traditional bank. *Commerzbank* is more focused on the retail business but also active in the other traditional areas. *Deutsche Bank* employees more than double as much as *Commerzbank*, with 85000 respectively 39000 employees. Moreover, *Deutsche Bank* has more than double as many total assets and a positive net income of half a million euros (CFI Education n.d.c). *KfW* is founded nearly half a century later after the second world war with the intention of financing the reconstruction of the German economy. Since then, *KfW* is supporting innovation, change, and breakthrough ideas (KfW n.d.). The main activities of *KfW* are the financial support of projects of European companies, financing initiatives in emerging countries and investments, as well as providing advice. With 6700 employees the *KfW* is relatively small but handles the same amount of total assets as *Commerzbank* does. Additionally, the net income of *KfW* is nearly triple as much as *Deutsche Banks*' is. The *Landesbanken* are mainly focused on the retail and middle-class business. Cumulated the *Landesbanken* are handling around 30000 employees and have a combined net income of 661 million euro. Some of them, as *Helaba*, have an international presence, others are focused on Germany like *NordLB*. Lastly, a big player in the German market is the *DZ Bank*, founded in 2001 as a cooperative bank. *DZ Bank* "serves as the central institution for more than 1,000 cooperative banks in Germany." (CFI Education n.d.c). Therefore, they employed a staff of 31600 people and operating mainly in Germany, but also internationally. With a net income of 872 million euros, the *DZ Bank* has the second-highest number in the ranking (CFI Education n.d.c).

The second sector we look at is the direct banking business model. Here we also have a clearly leading bank, like *Deutsche Bank* in traditional banking, which is the *ING*. Regarding statista, they had in 2020 nearly twice as many customers as the second-largest direct bank, the *DKB* which has 4.8 million customers. In third place comes the *comdirect* bank, which is a subsidiary of *Commerzbank* (Statista 2022d). *ING* was founded as one of the first direct banks in 1965. This is comparably early because other direct banks like *DKB* and *comdirect* were founded in the 1990s (grin, 2007). In 2019 the net income of *ING* was 4.8 billion euros (ING-DiBa 2020). Compared to *DKB* with 223 million euros and *comdirect* with 164.1 million euros the net income is much higher at *ING* (DKB 2020; comdirect 2020). In terms of the employed staff *ING* bank is also leading with around 57000 employees, whereby *DKB* has only 4500 employees and comdirect even less with 1278 employees. Compared to the direct banks, the *ING* bank is by far the largest bank and is a real competitor to traditional banks (ING-DiBa 2020; DKB 2020; Statista 2022e).

The third business model, Neobanks, has not that many big players so far in the German market. The first Neobank in Germany was *N26* which is founded in 2013 and active since 2016 and the second most valuable Neobank active in Germany (Norrestad 2022d; N26 n.d.). Unlike the two other business models, traditional banks and direct banks, the business model of Neobanks is not even ten years old. Therefore, most Neobanks are not making profits and are financed by venture capital funds. In the case of *N26*, this means, that the company had a revenue of 72 million euros and a net loss in 2020 of around 150 million euros, whereas the net loss decreased about 30% compared to 2019. All over, *N26* has an increasing sales number and decreasing costs, wherefore it is a matter of time until they are profitable (N26 2022). Up to then, the company raises the capital of leading external US investors such as *Third Point Ventures* and *Coatue Management*. Lastly, they closed their latest funding round (Series E) of more than 900 million US dollars, which is the largest funding round to date for a digital bank in Europe. With this funding round, *N26* is now valued at over 9 billion US dollars, making it the most valuable Fintech in Germany and among the top 20 globally (N26 2021a). Regarding the customer base, *N26* has 5 million users in 2020, which is the second-highest number of all Neobanks in Europe. The highest number has the Neobank *Revolut* (Statista 2022f). *Revolut* is a British Neobank that is active in most European countries and beyond that. Compared to *N26* they have even more impressive numbers with a revenue of 222 million pounds, around 265 million euro, and an adjusted operating loss of 122 million pounds, around 145 million euro (Revolut 2021a). In 2021 *Revolut* raised a bit smaller financing round than *N26* in terms of the amount, which was raised, 800 million US dollars in a Series E, but the valuation of *Revolut* is more than triple the valuation of *N26* with 33 billion US dollars. The most prominent investors are *Softbank* and *Tiger Global* (Revolut 2021b). The valuation of 33 billion US dollars makes *Revolut* the most valuable Neobank in Europe and the second most valuable Neobank in the world Norrestad 2022d).

Without the players in the BaaS industry, Neobanks would not be able to exist with the business model they have at the moment, which is designed for not having an own banking license. The biggest player in Europe is *Solarisbank*. As it is with Neobanks, also BaaS is a not even ten years old field, wherefore most companies are not making profits. Therefore, BaaS companies are also backed by external investors. *Solarisbank* raised in summer 2021 a Series D of 190 million euro which put *Solarisbanks*' post-money valuation to 1.4 billion euro. With 552 employees and a revenue of 45 million euros in 2020, *Solarisbank* is a big player in the sector of BaaS solutions. After having a net loss in 2019 of about 23 million, which is compared to the net loss of Neobanks low, *Solarisbank* is almost profitable in 2020 with a net loss of only 23000 euros. The most prominent investors are *Lakestar*, *HV capital*, and *Yabeo capital* (PitchBook Data n.d.a). A direct competitor to *Solarisbank* is *Railsbank*, founded in 2016 in London. Compared to *Solarisbank*, *Railsbank* is lagging a bit behind. They also raised in summer 2021 a Series B with 70 million euro, reaching a post-money valuation of nearly half a billion euro. They employed 388 people and are already operating internationally. In 2019 they reached a revenue of more than 3 million euros and a net loss of 3 million euro (PitchBook Data n.d.b).

Appendix 9 – Comparison of Product Offering of German Neobanks

	Saving account	Payment cards	Brokerage	Individual Credit	Advisory services	Bancassurance
N26	X	X		X		X
bunq	X	X	X			
Revolut	X	X	X			
vivid	X	X	X			X
Tomorrow	X	X				
Openbank	X	X	X		(X)	

Potential product categories for expansion

Sources: N26 2021b; bunq n.d.; Revolut 2022; vivid 2022b; tomorrow 2022; openbank 2022

Appendix 10 – Overview Interviewees

Interviewee	**Rolle**
1	Investment Manager Venture Capital (Germany) – Focus FinTech (2022)
2	Manager Strategy Consulting (Germany) – Focus Digital Banking (2022)

3	Associate Network Architect in a Bank (Germany) – Focus Information Technology (2022)

Appendix 11 – Question catalogue interview

1. What is your relation / level of knowledge to banking / Neobanking and in which role are you currently active? What is your level of knowledge about Business Model Innovation?
2. What do you see as the advantages and disadvantages of Neobanks versus traditional banks and direct banks?
3. What potential do you see to expand the current business model of Neobanks?
4. How do you estimate the potential of Neobanks to challenge traditional banks / business models?
5. How do you assess the dynamics and current trends in the Neobanking scene at the moment?
6. Which business models will prevail in the future and which have the greatest potential to radically change the industry?
7. Do you think that Neobanks will completely replace traditional banks and direct banks in Germany or will they position themselves alongside them (complementary or competitor)? Why?

Appendix 12 – Transcript of interview with Interviewee 1

[Interviewee]: Hi, can you hear me?

[Interviewer]: Hello [Interviewee 1]: I hear you, yes.

[Interviewee 1]: Ah perfect. Wait, I'm going to turn on my video too. Start video, perfect. Hi!

[Interviewer]: Hello!

[Interviewee 1]: How are you doing?

[Interviewer]: Super and you?

[Interviewee 1]: Yeah, pretty good. Long days at the moment, but otherwise everything is fine. It's just kind of an insane amount now because we still have two notary appointments. But yeah, it's all going well. Sorry I put it off last week, but I couldn't make it.

[Interviewer]: No problem at all! Super. Thank you so much for even taking the time. Therefore, no problem at all that you postponed it, of course I totally understand. I'm sure you have a lot to do. Yes, I would like to say a few words about the procedure and then we can actually start directly. I would like to introduce myself. Then you can also introduce yourself in two or three sentences and then I would start directly with the interview questions. And you are welcome to answer them in detail. I would always ask you one question and then you can answer it. And even if you repeat yourself or something that's not bad at all. So, if you have already answered a question that comes later, just summarize it again in two or three sentences. And yeah, right, I'll just get started then. My name is [Interviewer]. I'm a third semester Master's student in Management in Lisbon at Nova SBE and I'm currently writing my Master's thesis. How I came to the topic: I worked in Venture Capital as a working student for half a year and I get in touch with business model innovation there every day. In the past, I also had various contact points with banking through internships and working student positions, and that's how I got into this field. In addition, I have already written my bachelor's thesis on InsurTechs and therefore also have a connection to business model innovation.

[Interviewee 1]: Yeah cool, Lisbon is great. So, it's definitely cool when you do your Master's degree. The city is exhausting, because there's a lot of up and down, but Lisbon is cool, I've been there a few times. Yeah, cool. I can also tell you two sentences about me. So, in 2012 I made my bachelor. I studied business administration. I don't know if you know it in [city 1]. I then did a SIM, so Strategy Innovation Master in [City 2] at [University 1]. I then started working at [Venture Capital 1] but then went back to [City 1]. I then worked at [Venture Capital

2] for just under two years and now I've been at [Venture Capital 3] for about ten months, but I've always focused on FinTech in all three positions. Different areas. At [Venture Capital 2] it was more like insurance - everything along the value chain, meaning that in an insurance company it's somehow everything from marketing at the very beginning to asset management to claims and now I also do FinTech mainly and now and then a bit of DeepTech topics that somehow have a connection point in a FinTech. In the FinTech space we had major fundings of Neobanks and in general FinTechs in the last years. It is a very interesting space, so I am really looking forward to our interview and your questions.

[Interviewer]: Yeah, great, cool. Then you've already answered half of the first question, so you don't have to repeat everything. Then I ask the first question again briefly for the sake of formality and you can then simply add where you think that is still missing.

What is your relation / level of knowledge to banking / neobanking and in which role are you currently active? What is your level of knowledge about Business Model Innovation?

[Interviewee 1]: Okay, so we have already dealt with the reference, so to speak, so I work in a venture capital and have contact there every day with different business models, which are mostly also somehow disruptive, so innovative. From time to time, one or the other neo-bank is also there. Sometimes a bit more innovative and sometimes just a copy of the existing one. We have already invested in a neobank directly and in a large BaaS provider. Therefore, I actually know my way around quite well. I also gained experience in banking during my studies. Once at [Bank 1] in an internship and then in both consulting internships I did. Yeah, what else is there to say. Business Model Innovation we already had, I think I have a pretty good knowledge of that. And yes. I think that answers it quite well. Or do you think there's something missing? By the way, may I call you "you"?

[Interviewer]: Of course. So, I only read the questions to "you" because that's how they're worded.

[Interviewee 1]: Nah, sure. Okay, perfect.

[Interviewer]: Yeah great. Then the second question:

What advantages and disadvantages do you see with neobanks as opposed to traditional banks and direct banks?

[Interviewee 1]: Okay. I think, so let's start with Neobank. I think advantage: No legacy tech, meaning technical solution can be integrated somehow quickly and well. I think the main problem is, that is not only with banks but also with insurance companies for example, that there are these data silos. In other words, there are an insane number of data blocks, some of which do not speak to each other, and then you somehow have the problem of very separate data blocks. That's not the problem you have with a new bank. As a rule, innovative approaches to solutions, short paths are, I think, an advantage. The "user experience", "user interface", intuitiveness is often somehow an advantage and that the products that they can ultimately provide are just partly cheaper or free because all the costs that are saved by the employees that they don't need or by the tech costs or whatever, are gone. It's all digital. That's what the target audience likes then. You've got a super fast process, from signup to problem resolution. And I think that's also another benefit is that products can just be made available in a much more individualized way. Talk about the whole trend of "customization" and so forth. Of course, that's somehow easier to implement with neobanks. And of course you have the latest tech. Especially also through the BaaS providers most of them work with. Disadvantages: Often the reputation is missing a bit. I mean, if you look at Deutsche Bank, they've been around for ages, they somehow have a big brand, what they can invest from the balancesheet is just an insane amount of money, can generate an insane amount of marketing spend, but still be profitable at the same time. It's just a little bit difficult for a start-up and also for a start-up I would see the regulatory requirements rather as a disadvantage, because especially for a young start-up it's just a little bit difficult to be able to deal with it somehow and the risk capital that they need. And especially if you talk about the venture capital area, then you also have to raise regulatory capital and that's just not that attractive. And then it becomes somehow more expensive for the start-up when they do that. In terms of customers, of course, you somehow have a preselection through digitality. I don't know but that is also an advantage for the future. And the customers can of course come to you super fast, as just mentioned but also be gone again quickly if you do something wrong. And I think disadvantage of a neobank, whereas that's more a disadvantage maybe of a start-up in general, it's just more risky than a traditional bank. And you're very dependent on the few products that you offer. So your product offering is kind of not that diversified right now. And if we talk about dependency, this of course also goes together with the BaaS providers. You're also dependent on them. Now advantages and disadvantages of banks. Advantages and disadvantages of insurers: I think banks, established banks at least, has a brand, has a reputation, has a track record. That "too big to fail" is kind of true there too. It's profitable, insane amounts of experience, insane amounts of data that they can theoretically work with. And they also have the possibility to cooperate with start-ups or to buy start-ups. I think this is also going in the direction that more and more innovation departments or venture capital or whatever are being introduced at banks. The disadvantage is, as I briefly mentioned earlier, that there are long ways, it is usually bureaucratic, many decision-making processes, old tech systems and also these data that they theoretically have through these data silos that they have, so that all the systems communicate poorly with each other and therefore the potential that could actually be used, can be used poorly. Because I can't confirm this prejudice that no such good people work at a traditional bank. I was somehow at the venture arm for two years, and there are really good people working there. It's really more the case that bureaucracy, tech and "systems don't communicate with each other" is the problem.

[Interviewer]: Okay, great. Then the third question:

What resulting potential do you see to expand the current business model of neobanks?

[Interviewee 1]: Well, of course you can either focus on the strengths like I said the brand, customization and so on or you try to eliminate one or more weaknesses. I know the saying "Strengthening strengths is always useful" so I would probably recommend that. So that the neobanks focus on delivering an even better customer experience with their branding. With different new products and co. And that they of course use their agility that they have because they don't have a legacy so they implement things quickly, go into something like crypto fully, that kind of thing. Anyway, they have to stay digital, that's one of the USPs with the target audience. And then they will grow and grow and then we will see how that develops, where they go then, so whether they then approach traditional banks again or are still in a different space. But I think the weaknesses are very difficult to pinpoint. So something like regulation you just have. That's something that venture capital investors have to live with and they do. And the reputation will come over time. And as I just mentioned, they will also expand their product offering and perhaps become more like a traditional bank in terms of B2B offerings. But they will and must always remain digital. That is at least my opinion.

[Interviewer]: Yeah, all right. Then the fourth question:

How do you assess the potential of neobanks to challenge traditional banks / business models?

[Interviewee 1]: Yes you, it depends on which area I would have said now. So the neo-banks can already compete somewhat with the traditional insurers in the standard accounts. You can see that in the current figures. I think a Nubank in Brazil is already competitive and also a Revolut and N26 are getting better and bigger. Of course, the question is whether they will be able to prevail in the end and maintain this growth. But what I find even more interesting are the neobanks like Vivid, which also offer cashback. Or crypto banks. I think in that space neobanks have a real chance. Cashback is already relatively widespread in America and totally accepted by the people there. This is now also gradually coming over to us in the DACH region. However, I don't think that traditional banks will offer this in the near future. The neo-banks are in pole position there. Also in the long term, because they are targeting a younger group and it's them who use something like this and think it's good.

[Interviewer]: And how do you see it all working in traditional products from traditional banks, like B2B products?

[Interviewee 1]: Well, most neobanks are not active there at all. They are more in the B2C segment. But Penta, for example, with its business accounts, I think it also appeals to a younger target group. I think that separates the young from the old target group. So younger entrepreneurs go to a Penta and older ones to their savings bank around the corner. I think that would be one of the next steps that new banks could take, to move into the B2B segment. But before that they will probably build up their product portfolio in B2C a little bit. Or slowly ramp it up at the same time. Good question.

[Interviewer]: And what do you think about traditional bank products like investment banking or asset management?

[Interviewee 1]: Investment Banking. Phew. So until they get in there I think it's going to take some time. If at all. So in the long term it can be. A Deutsche Bank also started small back then and built up the products and departments bit by bit, but in the short term I definitely don't see it. If then with a 10 year horizon or so, when neobanks have a really relevant size in the market and a very consistent customer group. Only there's the problem that it's just an insanely difficult place for a startup to get a foothold because you need a relatively large amount of capital for all this life insurance. I think it's just insanely difficult for start-ups to get a foothold in that space because it's just very complex. That's why no startup is driving. So, I don't.

[Interviewer]: Yeah. So, bottom line, you don't see a neobank completely taking over a sub-sector?

[Interviewee 1]: So, I don't think any neobank is going to completely take over a sub-sector. I think neobanks will continue to exist alongside traditional banks and definitely have their raison d'être, but they won't displace traditional banks or anything. But, to come back to your original question, they are already challenging the traditional banks and will continue to do so in the future.

[Interviewer]: Good. Then the fifth question:

How do you assess the dynamics and current trends in the neobanking scene at the moment?

[Interviewee 1]: So, I think the neobanking sector will definitely continue to grow. Now just in general. I think it will continue to grow because digitization continues, technological advances continue. I think in different business areas there are different growth rates. Nevertheless, I think it will continue to grow. I think in Germany as well. Especially if you look at the banking market kind of over the last 20 years. But also other European markets are interesting. I haven't really looked at other European markets in the FinTech area, but France, Belgium, the UK. All relatively interesting. Partly difficult geographic expansion, because the banking market works differently in some cases. So, growth rates I think in general there, I can't tell you a percentage, but I would have said it will continue to grow in double digits over the next few years. On the trend in general in the Fintech space. So, generally the trend that I've seen is that more established startups that were already bigger got a lot of funding and smaller companies got less. So the companies that already kind of had a certain size, there was more focus on them, they got more funding. They got through this whole corona phase relatively well. In general, I felt that fewer new deals were made. In other words, they concentrated more on their own portfolio and looked: Okay, where can you maybe still get in cheaply now somehow with discount somehow. My view here now so global but, not necessarily only related to Germany. In general, 2021 was also such a record year. I do not know if you have looked at a few studies but yes. There have never been so many big deals as this year. Which kind of underscores the trend that there was a lot of focus on existing and less focus on brand new. So, there's, I think, both, but that speaks more to, less focus on brand new stuff or early stage, more on stuff that was already a little bit bigger, more established and then again kind of double down on that stuff.

[Interviewer]: Alright. Then we come to the sixth question:

Which business models will prevail in the future and which have the greatest potential to radically change the industry?

[Interviewee 1]: Enforce? So in itself I think neobanks and traditional banks will coexist. I don't think one will displace the other. The focus of both is too different for that. However, in order for neobanks to really stay in the market in the long term, they have to expand and diversify their product portfolio, as I mentioned earlier. Otherwise, customers will eventually go elsewhere. I also see a big future in cashback and crypto. I think if neobanks catch the right angle they can profit very well from it because traditional banks will not dare to do it so quickly. But in general I think neobanks have had and still have a very good impact in the banking industry as a business model. I think that one effect that neobanks have definitely had is that they have somehow opened the eyes of the established companies, whether it's the banking industry or whatever industry, to what needs to be done, what can be done. And I think that's kind of borne a lot of fruit over the last few years. Like I said, there are an insane amount of banks that have started venture capital's or even just partner with startups without kind of having their own venture fund now. And if they don't have that, they often kind of have digitization departments, digitization officers and so on. I think in the long run, neobanks will already influence banks in the sense that banks have just learned to stay more informed and implement and promote tech-driven solutions. I also think that the integration of tech solutions along the value chain will increase in the long run. I don't think that was such a one-off trend now. I think that venture capital departments might be gradually dismantled again by banks. So, could happen, doesn't have to happen. But the cooperation with start-ups as a long-term trend and integration of tech solutions along the value chain, I think that increases in the long term. So, in the long term, the business model of neobanks has triggered the banking industry in general to rethink and has already changed it.

[Interviewer]: Great. Then we come to the seventh and last question:

Do you think that neobanks will completely replace traditional banks and direct banks in Germany or will they position themselves alongside them (complementary or competition)? Why?

[Interviewee 1]: So, neobanks would theoretically be a competitor, of course, but I think that it doesn't cause so many bellyaches for most banks, at least from what I've seen now. It's more the belly aches that come then, for example, if another bank buys a startup, that's more the belly aches that come, but not from the banks per se. So, I think that in any case there is a rethinking and I think that comes back to what I said earlier, that the banks are founding venture capital's, that they are focusing on the digital and also partly try to build up digital banks themselves, so direct banks, where you can also conclude contracts as a customer of a large bank somehow directly. As a traditional bank, such as Deutsche Bank, I would have little fear of losing significant market share, because in the first sense I would not know to whom I should lose it. There are already players, such as N26, Revolut, which have their raison d'être. But they focus on a different target group than the traditional banks and also have different products. I think if you ask young people, a lot of them have an account with a new bank. But if you ask older people, they hardly ever have an account with a new bank and they don't know what it is. And they don't want to. That's why I think neobanks run alongside traditional banks. They may compete with the direct banks of the traditional banks, but again, I think the neobanks have more of an advantage. But I don't think they will scare the established banks in the near future. How it will look in 10 years I don't know but for that they have to expand their product portfolio and as I just mentioned the B2B area. That could be exciting again.

[Interviewer]: All right. Thank you! Apart from that, a personal question: Why did you go to [Venture Capital 2] back then?

[Interviewee 1]: Um, so I was at [Venture Capital 1], I could have stayed at [Venture Capital 1], but I wanted to continue FinTech, but then I went to [City 1] for personal reasons and then I just looked what's in [City 1] that I think is good. And at [Venture Capital 2], I just think it's pretty good. So, at [Venture Capital 1] I did very "early stage" stuff and at [Venture Capital 2] it was more like "latestage". You could say from low risk and time to look at datarooms, to high risk and no time to look at everything. After I saw both worlds I then thought to myself: Okay, what do I want to do? And then "early stage" is a bit more exciting.

[Interviewer]: But then you saw everything once and you could say that because of that, that's good then.

[Interviewee 1]: Exactly. Nah, that's pretty cool. How many interviews have you done now?

[Interviewer]: You're the third interview now, I mean. And also, unfortunately, the last one. So more have not reported back, unfortunately.

[Interviewee 1]: Ah yes too bad. That's probably not so easy.

[Interviewer]: Yes, unfortunately. But better three than none.

[Interviewee 1]: Yeah, sure. Okay, cool.

[Interviewer]: How did you actually get into FinTech in general?

[Interviewee 1]: The industry? You, that was actually completely by chance. I find FinTechs very exciting. I also find FinTech more exciting than other areas. And I got a job in the FinTech team of [Venture Capital 1].

[Interviewer]: So, you kind of slipped in more?

[Interviewee 1]: I slipped in more, exactly. For example, I also find Consumer Products very cool. It's very different, but I think that's also very good.

[Interviewer]: I did my consulting internship and then, as I said, discovered a bit of venture capital for myself. That's why I find it quite interesting what your career was like.

[Interviewee 1]: Well, I completely fall into it. I had no idea in which field I wanted to work until I got my Master's. I also did internships in banks, I did internships in consulting, but the internship I did in my last semester at [Venture Capital 1] really catched me because I had the first time really fun at work. That's why yeah. So, it was a total coincidence, also that I stayed now in this space.

[Interviewer]: Yes, but in the end also through trial and error. So, by doing all the internships. I think that's a bit of the key, to keep looking for something and to cover as much as possible during your studies.

[Interviewee 1]: Yeah, but venture capital is a super exciting industry. I think sooner or later you have to go to some bigger start-up to learn this whole operational thing a bit. I don't have that side yet either. Of course you learn a lot by supporting portfolio companies operationally, but it's not the same as working directly in a start-up. But let's see. Maybe, maybe not. Maybe just venture capital. Maybe just venture capital. Cool.

[Interviewer]: Yes, thank you very much for your time then.

[Interviewee 1]: I'd love to!

[Interviewer]: Exactly. It's been great. You helped me a lot.

[Interviewee 1]: Perfect. Then all the best for your Master's thesis.

[Interviewer]: Thanks. All right. Take care.

[Interviewee 1]: See you then. Bye.

[Interviewer]: Bye.

Appendix 13 – Transcript of interview with Interviewee 2

[Interviewer]: Hello [Interviewee 2].

[Interviewee 2]: I can't hear you, unfortunately.

[Interviewer]: Yes, I can hear you now.

[Interviewee 2]: Now? Yes, wonderful.

[Interviewer]: Yes, great that it worked out for you. First of all, thank you very much for your time.

[Interviewee 2]: Very, very much appreciated.

[Interviewer]: I'd like to say a few words about the process and then we can actually jump right in.

[Interviewee 2]: Yes, absolutely.

[Interviewer]: I would like to introduce myself briefly. Then you're welcome to introduce yourself again in a few sentences and then I would go right into the interview questions. I would always ask a question, then you can respond to the question. Feel free to go into detail. If you repeat yourself on any question, because some of the questions build on each other, so that a question can be answered beforehand, then you can simply summarize that again briefly in two or three sentences. Otherwise, I would do a bit of a timekeeper. That is, if I notice that we have to move forward somehow, I would let you know. Exactly, then I would start directly. My name is [Interviewer]. I am now writing my master's thesis in my third semester at the Nova School of Business and Economics in Lisbon. Before that, I completed my bachelor's degree in business administration in Cologne. Together with two fellow students we decided to write our master thesis in the area of Business Model Innovation and to focus on the retail banking sector. All three of us have completed internships in the financial services sector and will, in all likelihood, begin our professional careers in the banking environment. Right, and then I would ask you once to introduce yourself.

[Interviewee 2]: Yes, [Interviewee 2], manager at [Consultancy] in [city]. Strategy consultant for more than 4 years now. [Consultancy] is a leading strategy consultancy in FS with focus on Germany, Austria and Switzerland. I joined here directly after my studies, and have been enjoying my time here ever since. Since the beginning of my consulting career, I've been dealing a lot with newer banking models, and I'm part of the "Digital Banking" Practice Group at our company. So past projects have focused a lot on mobile banking solutions and optimization at established German banks. What exactly are you doing now? Are these several interviews, is this a series? Or what is the approach now?

[Interviewer]: Exactly, we conduct several interviews, which we then analyze and derive the key messages.

[Interviewee 2]: Okay, great. Do you write that down then, somehow?

[Interviewer]: I'm running an audio recording right now, then I would transcribe that afterwards and then of course I have to go over it again.

[Interviewee 2]: So, otherwise feel free to send it, if there's any inconsistencies or if there's anything I'm struggling with in the language, feel free to get back to me.

[Interviewer]: All right great. Thank you very much. You have now anticipated some of my first question, but no problem, maybe asked again a little bit more specifically, "What is your relation / level of knowledge to banking / Neobanking and in which role are you currently active? What is your level of knowledge about Business Model Innovation?"

[Interviewee 2]: Well, I've been working for 4 years in a leading strategy consultancy in the banking environment, and I'm in the Digital Banking Practice Group there. The practice group deals with the latest topics in digital banking, conducts studies, and publishes reports such as the Mobile Banking Report for retail banks. Inevitably, one also looks at Neobanks and often seeks comparisons with these digital and mobile pioneers. By coincidence, I also wrote my master's thesis on mobile banking a few years ago. I don't have any concrete concepts or frameworks in mind regarding BMI. I would simply define it as the development of new business models. Business models as an individual component of BMI can be analyzed in different ways, and the most common method I have in mind is the Business Model Canvas.

[Interviewer]: All right. Great. Then the second question, "What advantages and disadvantages do you see with the business model of Neobanks as opposed to traditional banks and direct banks?"

[Interviewee 2]: That's a pretty extensive question. You had sent me a few questions in advance, so I could at least prepare for them. I would divide my answer into two parts here. If we first look at the advantages, I see above all a strong target group orientation. Neobanks are clearly targeting younger and digitally savvy retail customers, aside from a few examples that focus on small businesses. This targeting comes with a chain of benefits, which is also reflected in the bank's structures. First of all, this focus means less complexity in the product range. Typically, Neobanks offer only very simple banking products such as checking accounts. This in turn means that Neobanks are built on lean and agile structures. Coupled with start-up mentality, this makes Neobanks very flexible and innovative and it is logically cheaper than the complex structures at established banks. In my opinion, these structures are essential to maintain the gap to more traditional banks. In studies in which we compare the mobile applications of banks in Germany, we see that the older banks are following up and logically also developing their mobile applications further. Mobile banking is also a big topic there and is being driven forward accordingly. In terms of new banks, I therefore believe that it is important to maintain or even expand the lead that is still achieved today with individual features and a very good user experience through new, innovative and future-oriented features. Because it is clear that traditional banks are expanding their mobile banking capacities and structures. On the other hand, I consider the lack of profitability of Neobanks as an acute weakness. Despite the comparatively lower-cost structures, few Neobanks manage to make the business profitable. In my view, this is mainly due to the fact that Neobanks do not make enough money from individual customers. Most Neobanks offer normal checking accounts at zero cost. Apart from interchange fees, there is not much they can do there in terms of value. The customer lifetime value to customer acquisition cost math doesn't add up yet.

[Interviewer]: All right, thanks for the really detailed answer. The third question would be, "Do you see any potential to improve the current business model of Neobanks?"

[Interviewee 2]: I think something has to happen there on the revenue side without affecting the cost side too much. Some Neobanks are doing it today with new ideas to expand their revenue streams. Many are now selling and distributing partner products through their applications. Cross-selling and affiliate can also be another revenue stream. I don't have any concrete suggestions in mind, but of course it would be even better if you could cross-sell your own products to achieve even better margins. At this point, however, you have to be careful right away that the agile and lean structures don't suffer.

[Interviewer]: Okay, great. Yes, then the fourth question: How do you assess the potential of Neobanks to challenge traditional banks / business models?

[Interviewee 2]: I have a relatively clear opinion on that. I don't think Neobanks can replace traditional banks in any way. If you look at the major German banks, they offer a variety of products, both B2C and B2C. This diversity is increasingly being digitized, that's true, but I don't consider a fundamental and complete digitization of the entire product range of major banks to be feasible. Should Neobanks eventually reach the point of also offering non-digital products, they are deviating from the core of their value proposition. As I mentioned at the beginning, I think Neobanks are so good at what they do because they are so focused on one customer group. Nevertheless, I don't want to deny that Neobanks may be taking over more and more parts of private retail banking, offering more products there, and thus increasingly competing with more traditional banks in retail banking. In the long run, I believe that both business models can coexist.

[Interviewer]: Okay, so you've already answered parts of the fifth question. The fifth question would have been, "Do you think that Neobanks will completely replace traditional banks and direct banks in Germany or will they position themselves alongside them (complementary or competition)? Why?" Would you like to elaborate on that?

[Interviewee 2]: It's a topic that's talked about a lot. For me, there are only two obvious scenarios? Either Neobanks and traditional banks co-exist in the medium and long term or traditional banks develop the capabilities to offer retail customers the same UX as Neobanks do. Then I assume that Neobanks will have a very hard time establishing themselves in the longer term. Simply for the reason that traditional banks still offer the full range of products. Many Neobank customers have their checking account with the Neobank but maintain relationships with traditional banks for other, more complex banking products because they feel better advised there. So, as I said, I can imagine the co-existence in the medium and long term. But I doubt that Neobanks can replace traditional banks.

[Interviewer]: Then the sixth question, "How do you assess the dynamics and current trends in the Neobanking scene at the moment?"

[Interviewee 2]: There are really quite a few Neobanks on the market now. I'm curious to see who will win the race among the big Neobanks. They are all expanding, so the European Union is a real advantage for opening up new markets quickly. Banking regulation is an issue in itself, but the recent past has shown that Neobanks struggle to enter markets outside of the European Union. N26, for example, pulled out of the States after a short time. So I'm really curious if global players will emerge here in the future. I see N26 and Revolut in pole position here. At the same time, however, we should not underestimate the Asian fintechs. However, regulation will always play a major role in their spread. And if you look at traditional big banks, many operate internationally but have never lost their country affiliation. That being said, I'm curious how the crypto topic and also the digital euro will affect Neobanks in the future. Will that be used as an opportunity to expand the level of innovativeness, or will such future topics open up opportunities for, again, new banking business models that may challenge Neobanks.

[Interviewer]: Then the seventh and already last question: "One can observe that most Neobanks are B2C focused, offering a rather narrow product line, typically checking accounts? Are you aware of Neobanks with B2B focus and what B2B products do you see Neobanks offering?"

[Interviewee 2]: Right, Fyrst and Penta come to my mind, for example, offering business accounts. The business accounts, can be linked directly to accounting programs and so Fyrst and Penta are trying to make it easier for small business owners and freelancers. For me, this is on the edge between B2C and B2B. I am not aware of Neobanks with large business customers. As a classic business model in banking with a B2B focus, there is a lot of talk right now about fintechs in BaaS.

[Interviewer]: Great! Now I would still like to ask a final question. When you think about the topic of the future business model of Neobanks in Germany, can you think of anything else that pops into your head or that you would like to say about it?

[Interviewee 2]: I briefly thought about how my approach would be to identify and work out potentials in the business model of Neobanks. I would take a closer look at the current business model and then work out the strengths and weaknesses. Then I think there are two options. Either optimize the strengths or eliminate the weaknesses.

[Interviewer]: No, absolutely. So, we did that exactly as you said. We did a detailed business model canvas on Neobanks, highlighting the strengths and weaknesses of each segment. Then we each grabbed a weakness and based on that we came up with strategies with the intention of eliminating the weaknesses. Of course, it is not possible to look at all the weaknesses in the context of such a project.

[Interviewee 2]: Yeah, that's right.

[Interviewer]: Great. Good. From my side, that's it so far. If you don't have any more questions.

[Interviewee 2]: No, so I don't have any for now. I think it's really great that you're doing this, that they've taken on such a topic. Banking is basically something that few university graduates find incredibly attractive, including me personally. When I was allowed to do my first banking project, I also thought: Okay. So, in that respect, I think it's great because it's a relevant and exciting topic. I wish you much, much success with it.

[Interviewer]: Thank you!

[Interviewee 2]: Connected of course with the offer, if you have again somehow questions about whatever, around the topic. Feel free to write to me. Feel free to give me a call. Anytime.

[Interviewer]: Great. Thank you. Yeah, great. All right. All right, well, have a good day.

[Interviewee 2]: Thank you. Good luck to you and all the best with your writing.

[Interviewer]: Yeah. Thank you.

[Interviewee 2]: Same to you, thank you. Bye.

Appendix 14 – Transcript of interview with Interviewee 3

[Interviewer]: Hello, thank you very much for your time. Before we start with the interview, I would like to give you a short overview about the thesis and the idea behind the interviews. The thesis deals with the analysis of business models in the German banking sector. Part of the thesis was first an analysis of the evolution and variation of different business models in the German market. After that we analyzed Neobanks as the most recent business model. Our goal is to understand which elements best define the business model of Neobanks. During the analysis we also put focus on advantages and weaknesses of the business model. In addition to further assessments of the analysis of the business model, we also hope to gain input for possible improvements to the business model of Neobanks through this interview.

I hope this has given a good overview and would start with the interview. As requested we will anonymize the interview and only provide general information regarding your background and demographic facts.

[Interviewee 3]: Let’s get started.

[Interviewer]: To start with an overview of your function and stations in banking I would be interested to know what role you are currently in?

[Interviewee 3]: I am an Architect in a cluster that deals with Network Infrastructure of a bank on a daily basis. I don't know if it's mentioned before by you in the intro, but I work for a major German bank, sort of the opposite of Neobanks. At least that's what most of the population thinks. But I think that through my different stations, which I could already complete, I got a very good overview of what banks are currently dealing with. On the IT side, but in the end that's the crucial side nowadays. Namely, no matter what product, app features or whatever is to be offered, in the end it has to fit and be integrated in our IT infrastructure/ in our bank network. And even if such a big tanker of a big old bank seems different from a flexible Neobank, we still care about the same issues. Of course, with fintechs in general everything is always faster, but I think that is less due to the business model or people but rather that larger banks are simply historically more complex.

[Interviewer]: On the other hand, complexity can actually be the attraction of the work?

[Interviewee 3]: Definitely. But there are always two sides: Sure it is fun to solve problems, but problems also cause headaches that sometimes you don't want to have.

[Interviewer]: As you just mentioned, Neobanks or fintechs have fewer historical complexity compared to traditional banks and can therefore act faster. So, what advantages do you see with

Neobanks in general? And what do you see as the advantages of other forms of banking business models? Or rather, what disadvantages do you see?

[Interviewee 3]: Definitely complexity. And this complexity prevents legacy banks from adapting faster. The trend especially in IT towards APIs, cloud and automated development is present for everyone. But Neobanks, for example, have built on that because as they are so young, and do not have to migrate our systems like we do. It is costly in terms of time, and it is not as easy to do. And that just creates this time difference in developing new features, whether for products or features on the digital channels. And of course, it costs more money. I need a lot less on-premise servers, as well as staff, with a full cloud setup, and so I save money. On the other hand, our goal is not to migrate everything to the cloud because there are simply also security risks. That's where our role as a trusted banking partner is more important to us. And that is why we sometimes say that we would rather do it ourselves than outsource it. This is exactly the kind of analysis we are always intensively involved in. It is important to see how we can create great customer value, be cost-effective on the road, and at the same time have good integration in our network. Sometimes it is better to do it yourself. But I think you probably already had such make-or-buy decisions in your studies.

[Interviewer]: Absolutely. Once you get away from the pure IT side: Where else do you see advantages but also disadvantages?

[Interviewee 3]: I think what else is a big factor for the old banks is that we are a full-fledged bank and not just a checking account. I mean Neobanks are expanding their product portfolio, but it is just much smaller than that of big banks in Germany - no matter which one you look at. Do you need that? Partly. I think everyone sees the current advantage of having a checking account at a Neobank or even online bank. At some point, however, I need more from my bank. I need help in the form of an advisor and the right banking products or services for my problem. That has always been and will always remain the USP of big banks. And even if you read the press and branches are being closed, advice is not being abolished. Advice is one of the most important tasks of a bank and is simply becoming digital/remote. The sheer number of regulations in the banking industry is always a sign of the relevance of something. In the case of advisory or the mortgages business, two top products of banks, this is exactly the case.

Otherwise, you could also look at the customers themselves. I mean N26 and Co offer accounts for private customers. Maybe smaller entrepreneurs are still included, but these always fall into the private customer segments of banks, because the need for differentiated advice is not really present. What is missing are 'real' corporate customers. Sometimes profit drivers, sometimes loss drivers - at least for German banks.

[Interviewer]: What resulting potential do you see to expand the current business model of Neobanks?

[Interviewee 3]: As just mentioned, Neobanks can expand in two fields. On the one hand, what they offer, i.e. more products, and on the other hand, for whom they offer it, i.e. other customer groups.

[Interviewer]: Can you say which products should be included?

[Interviewee 3]: I have my personal opinion there, but I think those are the products that I need right from a bank right now. Objectively, you should look at what is optimal for the Neobank. Thus, understanding what knowledge sits in the bank or the partners the neobank has. The hobbyhorse of the banks at the moment is the mortgages business, but I would not recommend that directly to any neobank now.

[Interviewer]: Is there a reason for that?

[Interviewee 3]: Well, we just had the topic of complexity. The mortgages business is much more complex, just looking on the risk side.

[Interviewer]: You have already mentioned some advantages and disadvantages. How do you assess the potential of Neobanks to challenge the rest of the market, i.e. other present business models?

[Interviewee 3]: I think they already challenge. But I think in the long run every banking business model will all have a raison d'être. But all of them will change in some way. I think the status quo is not healthy for any form of banking in the German market.

[Interviewer]: How do you assess the dynamics and current trends in the Neobanking scene right now?

[Interviewee 3]: I have a feeling that the momentum of the Neobanks themselves is weakening. I think the attack mode has reduced and the daily doing is kicking in. On the other hand, we are currently building up our digital competencies more and more. And thus, hopefully, we can start to attack. The ECB decision this summer will also be decisive. A possible interest rate increase will change the picture drastically once again.

[Interviewer]: You already mentioned that every business model has their raison d'être, but also mentioned the attack mode. So, for you, is there no business model that will prevail in the future? Or which one do you see as having the greatest potential to change the industry?

[Interviewee 3]: I think the industry has already been changed by Neobanks. I mean 20 years ago that was also said about direct banks, which have a raison d'être, but have not substantially changed the industry. At least not at the pace that Neobanks have. I think Neobanks have shown that banking is simpler and easier. Did we have the ability before to access our account easily and quickly with our smartphone? At the same time, you also get told where you spent your money. But what I think is not to be neglected is that old banks have now finally understood the new customer need. So. I think they will all be there in the future. The question is just in what size and specialization.

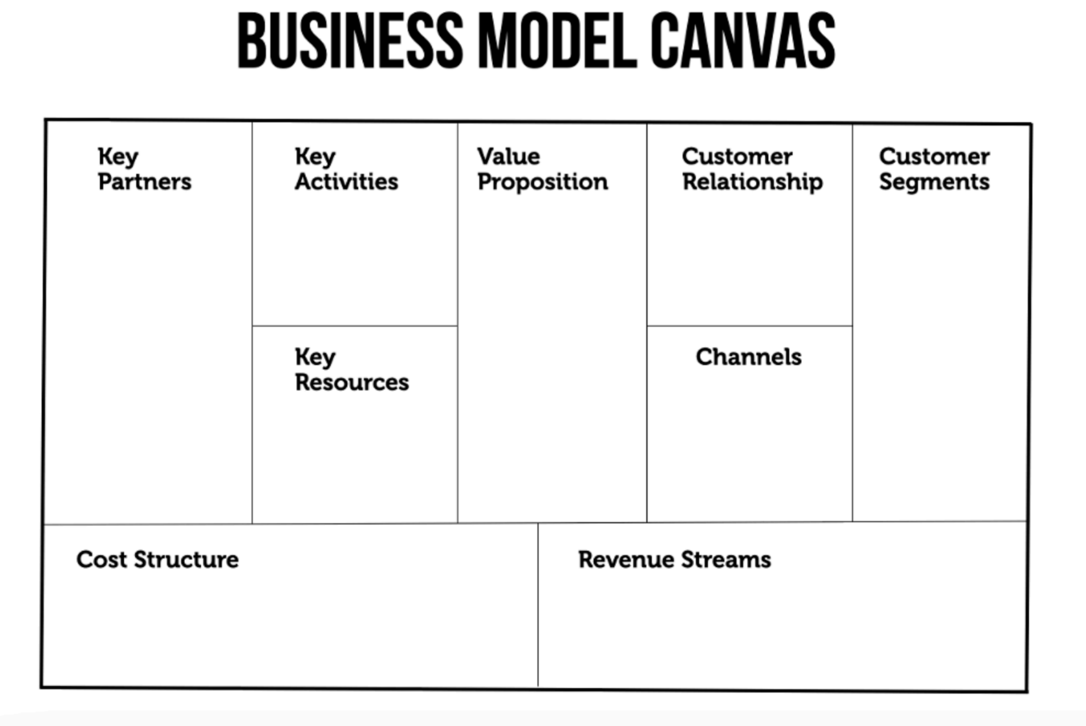
[Interviewer]: The last question also touches on the topic. Do you think that Neobanks will completely replace traditional banks and direct banks in Germany or will they position themselves alongside them (complementary or competitor)? The last sentence will probably already be the answer to that.

[Interviewee 3]: Exactly. But complementary or competition is another important point. And there the picture is more differentiated. There are banks that aspire to become an open banking ecosystem player, but others do not. Tech companies like Amazon have shown that network orchestrators are the future. On the other hand, the banking market is simply special - especially in Germany. Thus, I think only time will tell what happens.

[Interviewer]: Thank you very much for the time and the interesting insights, especially the insights from the IT direction. Have a good afternoon.

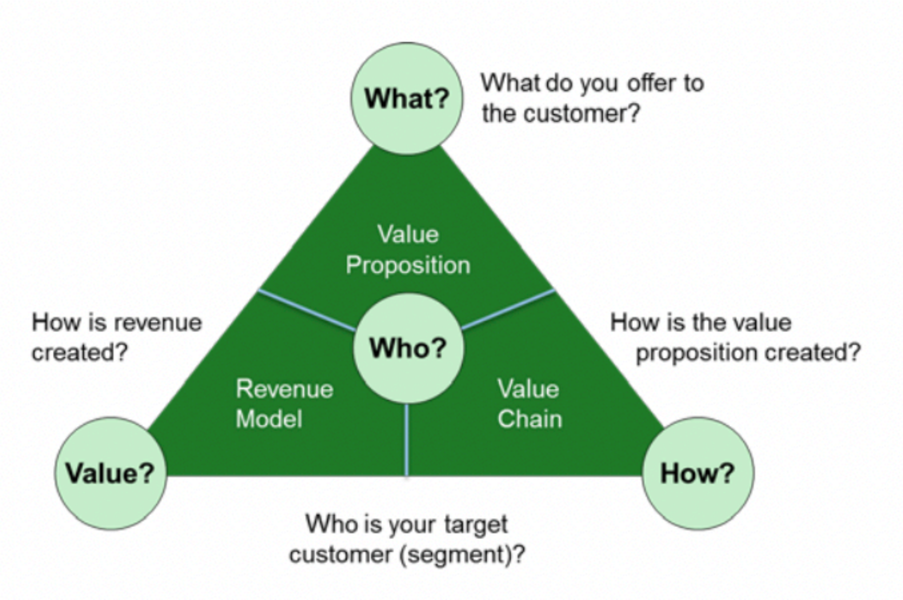
[Interviewee 3]: Thank you. Bye.

Appendix 15 – Business Model Canvas



Source: Depiction of Osterwalder and Pigneur (2010).

Appendix 16 – Business Model Navigator



Source: Gassmann, Frankenberger, and Csik (2013)