DIGITALISATION IN THE BANKING SECTOR – THE NEED FOR NEW CUSTOMER-CENTRIC BUSINESS MODELS

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Abstract: *This publication is part of a broader examination with regards to digitalisation in the banking sector and the necessity of customer centric business models. The study also considers the importance of perpetual alignment between business models and customer needs to avoid market share losses.*

This research paper examines at the extent to which digitisation in the banking sector is needed and why customer centricity plays an important role. In terms of methodology, a divergence analysis between banks' current business models and customer needs will be described which underpins the research question.

This article presents recommendations for banks in terms of how to dynamize business models and optimization of channels. However, digitalisation in the banking sector is not only an ongoing trend, but also poses a significant challenge to most institutions. This article picks up on this and presents key challenges as well as opportunities for financial institutions to deal with it.

An overview of digitalisation in the banking sector will be provided. It then takes a closer look at customer needs and the current business models in banks. The article is rounded off with recommendations for action and challenges for banks in digitalisation. This article supports the wider objective of an elaboration to define a model to enable the banking industry conducting a continuous analysis of defined input factors and resulting from that changed customer behavior to derive recommendations for action to change or keep the business model customer centric.

1. Introduction

The banking and financial industry is undergoing rapid change, driven by evolving customer needs, new technology, the COVID-19 pandemic, new and disruptive competitors, new generations, and new ways of working. Although the environment with regards to disruptive competitors is changing fast, the banking industry seems to be stuck in their traditional role with significant improvable technology and business models. This is causing poor customer experience which ultimately ends up in market share losses in traditional banks in favour of their competitors, quite often non-banks or nearbanks. Although traditional banks have taken measures to become more customer centric, they often face the challenge to win back the customers. So called digital ecosystems or 'digital cages' on the competitors side make winning the customer back very difficult or sometimes impossible. This makes it even more necessary for traditional banks to significantly reduce the reaction time between the changed situation or customer behaviour and to move from a reactive position to a proactive trendsetter position. However, traditional banks struggling to enable a dynamization of their business model based on a changed environment or changed customer behaviour.

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Digitalisation in the banking sector is not only an ongoing trend, but also poses a significant challenge to most institutions. In addition to the growing pressure to comply with regulatory requirements, which means rising costs and declining earnings, the demands of digitalisation are exacerbating the difficult situation of banks. Not only the necessity to consider the topic of digitalisation for one's own institution, but the constant emergence of disruptive technologies puts banks under massive pressure to retain relevant market shares.

In particular, a large number of the newly emerging competitors have the advantage of being able to optimally use the technological progress of recent years as well as the networking possibilities and to integrate these into the business model. Especially the new networking possibilities with customers using the internet enable cross-border competition for the German banking sector. The rapid increase in the internet usage rate underlines this trend: around 71% of the German population used the internet daily in 2019 (Statista, 2021). These developments call for the digitalisation of banks' traditional business models.

In the course of increasing technological change and the spread of the internet, Bill Gates, the founder of Microsoft, made the following statement as early as 1994: "Banking is necessary, banks are not" (Bender, 2013). He has been using this quote to describe the banking sector ever since. With it he expresses that banking is essential, but banks as institutions are not. This sentence seems to be steadily gaining in importance due to ongoing technological progress (Eismann, 2015).

However, it is not only technological progress but also changing customer behavior that poses challenges for banks. Declining customer loyalty, for example due to the increasing turbulence on the financial markets, but also a lack of trust as well as the high price sensitivity of customers are leading to further declining earnings for banks (Grussert, 2009). Customer behavior has also changed in terms of expectations. The basic needs of customers – for example, to keep an account in a secure environment, to carry out the necessary payment transactions or to save money – have not changed. However, the demands of customers regarding interaction with the bank have changed.

Customer centricity is one of the key words in the financial industry however its implementation has not been completed or in some areas not even started. There are multiple definitions for customer centricity. A definition of a customer-centric management system has been, structural aspects that ensure that organizational actions are driven by customer needs rather by the internal concerns of functional areas (Jayachandran *et al.*, 2005). Furthermore, another definition has assumed that customer centricity is also dependent on customers proception. Perceived customer centricity: The degree to which a customer perceives a firm to put customers' interests at the centre of all of its actions (Habel *et al.*, 2020).

The biggest challenge for financial institutions is that customer centricity is an ongoing exercise and not a one-off. It is not just a matter of empowering the frontline staff; it requires a company-wide implementation of the customer-centric mindset, starting with the C-suite and filtering down to all operational and support departments (Ernst and Young, 2013).

Client behaviour as well as the external environment is changing steadily which requires a dynamic adjustment of the business model. Client centricity is not a program it is a change in mindset and behaviour which requires fundamental commitment from the whole organization to think and act differently. Consequently, customer-centricity has changed from being a buzzword to a strategic business imperative if companies wish to attract, retain and evangelise customers i.e., being sustainable profitable and competitive

(Valls Giménez, 2018). This requires a steadily adjustment of the value proposition and marketing mix (Valls Giménez, 2018).

Several publications around client centricity and organizational change have been underlining the necessity to consider client needs along the entire value chain. It is a proactive approach that harnesses the power of analytics to understand the customer profile and journey in order to design the experience based on anticipated needs; it then encourages the right behaviour among staff to ensure customer satisfaction; and finally, uses customer feedback to drive real-time improvements (Deloitte, 2014).

However, it is questionable whether and to what extent the traditional business model of banks is threatened by technological progress and the resulting changes in customer needs. Furthermore, this paper will contribute to answer the following research question:

Whether and to what extent does the banking industry need to change its current structure to ensure a future-viable business model and consider any disruption?

Research questions

The aim of the wider elaboration where this article contributes to, is to define and evaluate a dynamic and data driven methodology to enable banks to continuously react and anticipate customer needs through a signal model. This model will enable banks to adjust their business models in time to avoid market share losses through reduction of reaction time to a minimum and ensure perpetual customer centricity.

Banks hold quite a significant amount of unstructured data which causes a poor data quality hence not only inefficient and expensive operations but also less customer centric processes. Newly established large corporates “newcomer” have revealed business models with leveraging data to offer their clients with customized products and services. This challenge for banks or advantage for newcomer steadily increases the pressure for banks to react. This pressure for banks alongside the already challenging financial environment due to the ongoing low interest rate phase, high operations costs, steadily increasing regulatory requirements and market share losses driven through suboptimal customer centricity even increase the challenge to free up time and budget for necessary business model adjustments. This vicious circle nevertheless does not allow banks to refrain from efforts to retain their customers through customer centricity.

The model within the wider elaboration will define its radar through situational factors, which will consider both external factors and internal factors. The model is known as situational model or contingency model. The "situation" basically includes all internal (e.g., company size, product programme, management philosophy, etc.) and external factors (e.g., economic situation, competitive situation, technology etc.) that are relevant for the design of the organisational structure. In reality, an organisation is not confronted with just one factor, but with a multitude of influencing variables at the same time (Grussert, 2009). In this respect, a mono-causal characterisation of the situation is insufficient.

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This article contributes to the main objective of the wider elaboration which is to define a model to enable the banking industry conducting a continuous analysis of defined input factors and resulting from that changed customer behaviour to derive recommendations for action to change or keep the business model customer centric. Customer centric business models are essential to retain market shares or increase those (Oppold *et al.*, 2021).

To be able to conduct qualitative research in a targeted manner and to address the research gap, it is essential to define one or more research questions that reflect the core of the investigation. Both the questions and the applied methods for the later evaluation and analysis of the research results will be based on the five postulates of qualitative research according to Philipp Mayring.

This article will contribute to provide further clarity to the following questions, which are part of the research questions set in the wider elaboration and which will be considered in more detail there.

1) Whether and to what extent does the banking industry need to change its current structure to ensure a future-viable business model and consider any disruption?
2) Which key prerequisites in banks must be met to enable a dynamization of the business model to ensure its customer centricity?
3) The following graph summarizes the objective of the elaboration.

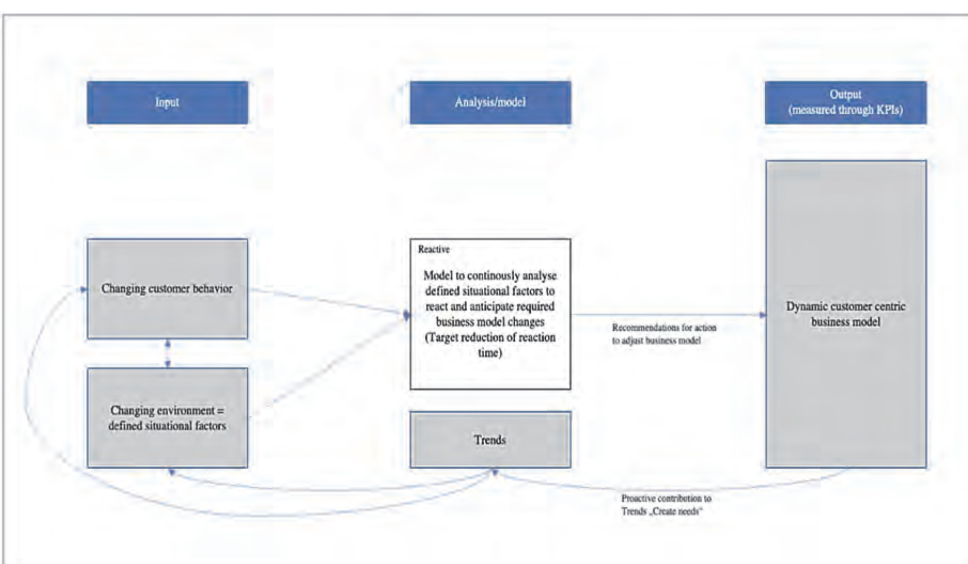

Figure 1: *Objective of the elaboration, Own illustration.*

2. Digitisation at a glance

2.1. Definition of terms

When defining the term digitalisation, it quickly becomes clear that this topic is currently not only of great interest, but also characterized by a rapid pace of development. A generally applicable definition of digitisation is not available. Rather, there is a multitude of definitions that have their origins almost exclusively in the definition of the term digitisation in the narrower sense. In the literature, digitisation in the narrower sense is understood as the conversion of analogue data into digital data that can be processed with the help of a computer (Wittpahl, 2016).

A broad definition of the term digitalisation describes the change of business models through the optimization of business processes due to the use of information and communication technologies (Deloitte, 2014).

An extended definition describes digitalisation as a process of change brought about by the introduction of digital technologies (Jackson and Carruthers, 2019). However, newly developed digital technologies will only lead to a change if they satisfy the needs of the customers. A new technology without taking the needs of the customer into account would not be used and would therefore not lead to any change. Digitalisation would therefore not take place. For this reason, the inclusion of customer needs seems to be indispensable in the development of digital technologies. Since the customer and thus also customer behavior represents a significant determinant in the business model of banks, it can be assumed that a change in customer behavior also requires an adjustment of the respective business model of the bank. Consequently, the term "digitalisation" is defined as follows in the context of this paper:

Digitalisation describes the process that leads to a change in business models through the introduction of digital technologies, which have been developed with customer needs in mind.

2.2. Development of digitisation

The topic of digitalisation is widely discussed in society. For example, the Federal Government published a digital agenda in 2014. The digital agenda is a concept of the federal government to positively accompany and promote further developments in digitisation (Bundesministerium des Innern, 2014). This signal shows the explosive nature of the topic, as well as the need for scientific research in this area.

One basis for digitalisation is the internet, which was already used by 71% of the German population daily in 2019, with an upward trend (Statista, 2021). The intensity of internet use is intensified using smartphones and tablets, the so-called mobile end devices. In 2018, there were around 60.7 million smartphone owners in Germany (Statista (a), 2021). This number has more than doubled since 2012 (in 2012 there were around 24 million). A similarly rapid development can be seen in tablets, which, with around 40 million users (as of 2019) in Germany, are also increasing the pressure on digital innovations (Statista (b), 2021). Due to these developments, digitisation, comparable to globalization, can no longer be stopped. It is leaving behind changed structures, values, and norms, which are forcing both customers and banks to rethink (Dapp, Stobbe and Wruuck, 2013).

Some providers who could only react with little flexibility to digitalisation were wiped out of the market; new providers such as streaming services came along (Dapp, Stobbe and Wruuck, 2013). Only a massive adaptation of the business models as well as the consolidation of the market secured the existence of the remaining companies (Dapp, Stobbe and Wruuck, 2013).

2.3. Digitisation in the banking sector

The digitalisation requirement has arrived in the banking sector. The first measures, such as the expansion of online banking or the implementation of mobile banking, have already taken place. The communication possibilities between bank and customer have also changed fundamentally using smartphones and tablets (Quitt, 2014). Many banks have implemented the topic of digitalisation in their strategic development and are making a huge amount of money available for the digitalisation of their services.

The banks have tackled the issue of digitalisation. Nevertheless, the financial sector has considerable deficits regarding digitalisation compared to many other sectors. The internet business of German retail banks is merely reactive (Heinemann, 2013): customers receive information on products, prices and fees, services, and special offers when they search on the respective websites. Customers are expected to know what information they are looking for. More advanced providers offer a wide range of information and transactions, whereas less advanced providers offer only the bare essentials on their websites (Heinemann, 2013).

The reasons for this poorer level of development are manifold. In addition to typical industry reasons - for example, that products and services are immaterial and thus abstract, money matters are regarded as confidential transactions and financial services products are to be classified as uninteresting products - there are also institution-specific reasons, e.g., a business model that is strongly product- and service-focused or less customer-centric (Heinemann, 2013). The reactive behavior of banks in an environment of constantly emerging threats, for example from new competitors, increases the pressure to innovate. These competitors are often start-ups. Due to their lack of offerings so far, they cannot engage in evolutionary innovation. In the context of evolutionary innovation, an existing product or service offering is improved, made more efficient or cheaper. Consequently, these competitors are active in the market with transformative (transfer of previous products and processes into the digital world) or disruptive innovations (existing products or services are completely replaced) (Wings and Kleine, 2015). There are many providers who apply a disruptive strategy in the context of digitalisation. These disruptive strategies pose a threat to retail banks. Retail banks are established financial service providers that are forced by the high pressure to innovate into evolutionary innovations (Wings and Kleine, 2015). The innovation activity of banks varies within the German banking system. The German banking system is based on three pillars: Cooperative banks, savings banks, and private banks. For some years, these pillars proved to be stable and helpful (Boden, 2016). The savings banks and cooperative banks usually have a large branch network because of their desire to offer corresponding customer proximity. Private banks also generally have branch networks, but these are - relatively speaking - significantly smaller than those of savings banks and cooperative banks.

In addition to a large branch network, retail banks usually also have many advisors. With the first developments in digitalisation and the growth of direct banks (banks without a branch network), the banks with large branch networks also had to introduce the online channel. As a result, customers' visits to branches decreased and shifted to the online channel. Approximately 56% of Germans used online banking in 2017 (Eurostat, 2021). This large increase in users of the online channel inevitably led to branch closures at banks. While there were still 63,000 bank branches in 2008, there were only about 35,500 in 2018 (Grussert, 2009). This corresponds to a decline by more than half. However, a complete transformation from branch banks to direct banks is not possible, as up to twelve percent of customers leave for every branch closure (Mihm, 2012).

Direct banks are another group that belongs to the established financial service providers. They are characterized by the fact that they offer their products and services without their own branch network. They thus limit themselves to direct banking as a new distribution channel offered for banking transactions. Direct banks allow their customers greater flexibility regarding opening hours. Customers of direct banks can conduct banking transactions independent of time and place. Their growth correlates strongly with the development and spread of the internet. Due to the cost savings resulting from the elimination of branches, they have been attacking the banking sector with an aggressive pricing policy for several years. In the decade since 2005, the number of direct bank customers has grown from 8.2 million to 19 million users (Statista (c), 2021).

Divergence analysis between customer needs and the banks' current business model

2.4. Development of the business model of banks

One of the most important basic functions of banks is the intermediation function. The revenues for fulfilling this function continue to decline. Customers have the possibility to obtain relevant information and developments almost free of charge at any time and from anywhere. The function of the financial intermediary, e.g., lot size[2] and maturity transformation[3] or risk transformation[4] , is becoming increasingly less important from the customer perspective (Auge-Dickhut, Koye and Liebetrau, 2014b). This creates pressure on margins and digitisation for banks. Banks are required to focus on their core competencies and consider a division of labor along their value chain.

When considering the core functions of banks, the advisory function, product development or provision, and basic and execution transactions can be identified (Auge-Dickhut, Koye and Liebetrau, 2014b). The retail banks have concentrated on all three segments of the value chain in the past. Only specialized institutions such as asset managers have focused exclusively on the advisory function. In the past, there was a trend towards centralization of activities within the value chain through the establishment of internal service providers.

Banks are pursuing the trend of specialization and focusing on individual segments of the value chain, for example through the targeted outsourcing of activities. Economies of scale and other synergies are then achieved through insourcing, i.e., offering services to other companies as well. Banks have recognized that the formation of value-added networks in transaction processing or product development is indispensable for long-term competitive success. The smaller retail banks in particular are interested in joining a value network, as they themselves do not reach the critical mass in the area of transaction processing or product development (Auge-Dickhut, Koye and Liebetrau, 2014b). In some specialized institutions, e.g., providers in the private banking segment, transaction and product services are often bought in.

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[2] Lot size transformation refers to the conversion of relatively small amounts into the necessary larger sums (Adrian and Heidorn, 2000).

[3] Term transformation means that short-term funds are used for longer-term loans (Adrian and Heidorn, 2000).

[4] Risk transformation means that the money given to the banks by customers is distributed among a large number of credit seekers so that the overall default risk is reduced (Adrian and Heidorn, 2000).

The question of the right business model is individual and cannot be answered in a general way. Some banks are currently searching for the right business model (Oehler, 2015). A business model is a basic principle by which an organization creates, conveys and captures value (Osterwalder *et al.*, 2011). From the reactions of retail banks regarding business models so far, the trend can be seen that they try to focus on a certain part of the value chain and isolate the other parts.

As can be seen, the current trend is for specialized sales banks to concentrate on the advisory function or on the customer interface and to make use of the services of other providers in the value creation process. The product specialist focuses on product development and should have the objective of producing the best products in the market. The end customer distribution would be done by a partner in the value network. The transaction service provider aims to be the cost leader in transaction processing. This can only be achieved if high quality, for example using modern technologies, can attract many partners and thus reach critical mass. This would achieve high synergies and economies of scale.

The trends described so far result from the generic strategies defined by Porter. He defined three promising strategies (Müller, 2007):

- Cost leadership
- Differentiation
- Focusing

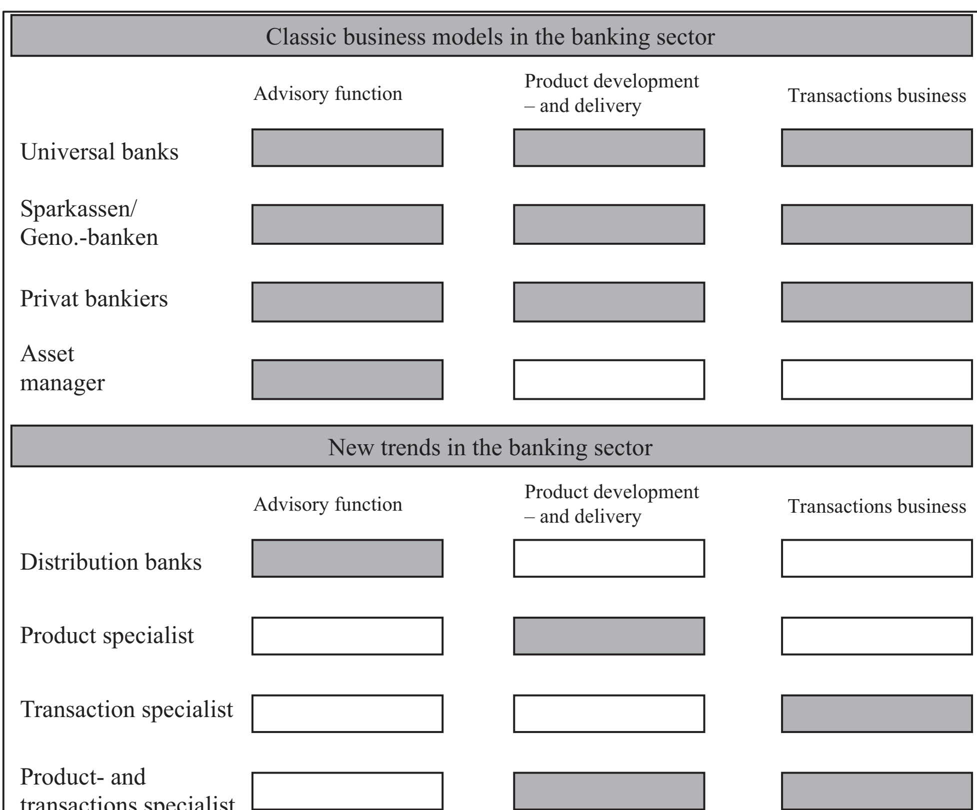

Figure 2: *Development of business models, own illustration according to: (Auge-Dickhut, Koye and Liebetrau, 2014b).*

From the previous presentation, trends in all three strategy areas can be recognized. While, for example, transaction processing must pursue the cost leadership strategy or product specialists the focus strategy, banks are forced to implement a differentiation strategy. Differentiation is considered to be those advantages that achieve a unique added value for customers and thus satisfy their needs (Müller, 2007). A meaningful differentiation strategy can therefore only be implemented if customer needs are focused within the business model.

The previous adaptation of the business model through specialization in the value creation process has the disadvantage of superficial consideration of customer needs. It is an inside-out perspective: the companies determine from within how a customer process is and should proceed. Particularly in the context of digitalisation, it is highly important to focus on the customer and their needs and to align products and services accordingly. The future trend regarding business models is therefore to move away from an organization-centric orientation of business models and towards a customer-centric design of business models.

Technological progress means that customers are more independent and hardly need any contact with the bank or the customer advisor. This leads to the fact that the loyalty of the customer to the bank decreases and thus the negotiating power is transferred from the bank to the customer. The situation is aggravated by the fact that the number of competitors from the non-bank and near-bank sector is constantly increasing. Customers have a high level of transparency in addition to the high range of banking services, so that the willingness to switch is further spurred.

The banks are called upon to show clear differentiation within their business model in addition to constant cost optimization. The differentiating features must be so advantageous for the customer that even a cost optimization, for example by shifting from the cost-intensive offline channel to the low-cost online channel, does not lead to a loss of customers (Bischofberger, Kobler and Steiner, 2005).

Based on this realization, some banks have already started to consider corresponding customer needs. At present, however, this is often done from the inside view of the respective institution. Especially in times of increasing competition and rapid changes in customer needs, it is necessary to define a bank's strategy outside-in, i.e., from the outside in. This approach is also described in Michael E. Porter's Market Based View. The strategy should be derived from the market within the MBV. The market includes, among other things, customer needs. However, it must be taken into account that customer needs are constantly changing, so that the corresponding business models must also react flexibly and dynamically to the changes and thus require effective customer centricity (Auge-Dickhut, Koye and Liebetrau, 2014a).

The speed of adaptation of the respective bank is also decisive. Fig. 3 an overview of the importance of the speed of change.

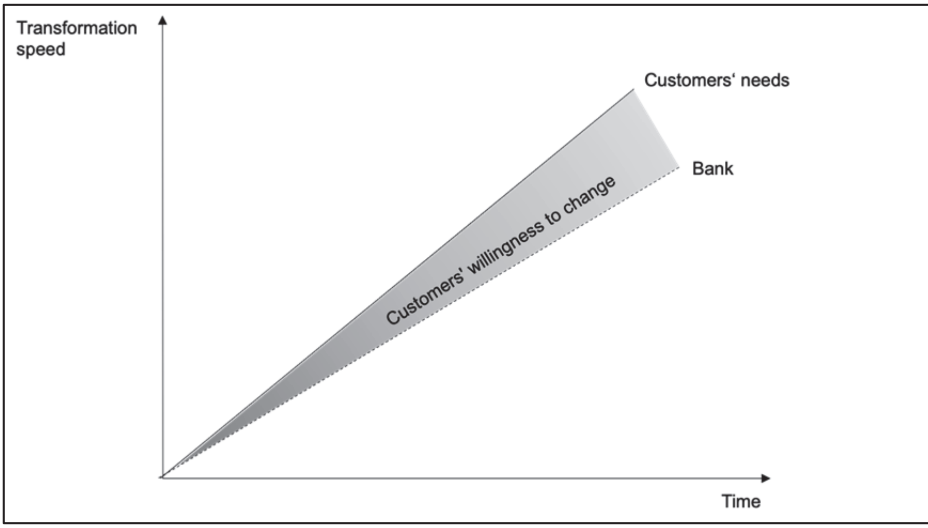

Figure 3: *Importance of conversion speed, own illustration.*

As shown above, a higher rate of change in customer needs can be assumed. The delayed adaptation of the business model increases the risk that customers will switch to a competitor who fulfils customer needs better. The already high willingness to switch due to the decreased loyalty because of the lack of contact with the house bank is strengthened by the higher transparency of other providers, by comparison portals and possibly by the influence of social media.

2.5. Changing customer needs

As already explained, customer needs are an essential determinant of the respective business model. In the past, the goal was to have as many non-imitable resources as possible to establish a successful business model. While this requirement is still an important determinant today, it is no longer the only one. Successful business models must satisfy demanding customer needs and offer an attractive range of products and services (Reichmayr and Baur, 2015). This requires banks to deal with customer needs more than ever before. Customer needs analyses are therefore indispensable. These analyses must take place regularly and integrate the relevant conclusions into the business model. Customer needs are mentioned in almost every business model. However, the actual consideration of these varies in maturity (Reichmayr and Baur, 2015). Customer centric business models are essential to retain market shares or increase those (Oppold *et al.*, 2021).

3. Recommendations for action and challenges for the banking sector

3.1. Dynamization of the business model

To secure future competitive advantages, it is indispensable for banks to understand the customer and to place him at the center of all their actions. Banks that understand the customer's needs and are thus able to make tailor-made offers or communicate via the desired channels achieve higher customer loyalty and thus a lower willingness to change as well as higher customer penetration (Kern, 2015).

Banks must constantly monitor customer needs and consistently incorporate them into the business model. In addition to surveying and evaluating customer needs, the right conclusions for the business model must be derived. An exclusive consideration of customer needs is not sufficient. Rather, customer needs must be considered in connection with the megatrends of digitalisation.

In addition to focusing on customer needs and the megatrends of digitisation, it is necessary for banks to have a dynamic business model.

They should implement change as a normal cultural element in the corporate philosophy (Reichmayr and Baur, 2015). In addition to low complexity, the business models must also be easily changeable and adaptable (Kern, 2015). The traditional business models of banks are highly complex. Individual products and services are mapped via separate processes and technologies. The consequence of this is that the bank must bear higher costs in addition to high operational risks. For customers, the complexity and lack of flexibility in the cooperation with the bank are visible and often lead to a poor customer experience. This is exacerbated by the lack of transparency of products, services, and conditions. Emerging competitors do not need digitisation. They are already fully digitally founded and know nothing other than digital infrastructures and business models

3.2. Optimization of the distribution channels

Especially for banks that must serve several customer groups at the same time, it is necessary that customers are offered a high degree of flexibility in terms of channel selection.

Media channels such as the telephone, online and mobile banking as well as self-service devices emerged over time (Brock, 2015). For a long time, the bank branch was the central contact point for customers. It was a mono-distribution and communication channel. The role of the branch as the dominant channel is now in transition. The trend with regards to bank branches is that the bank branch is one channel of several. Fig. 5 is intended to illustrate this.

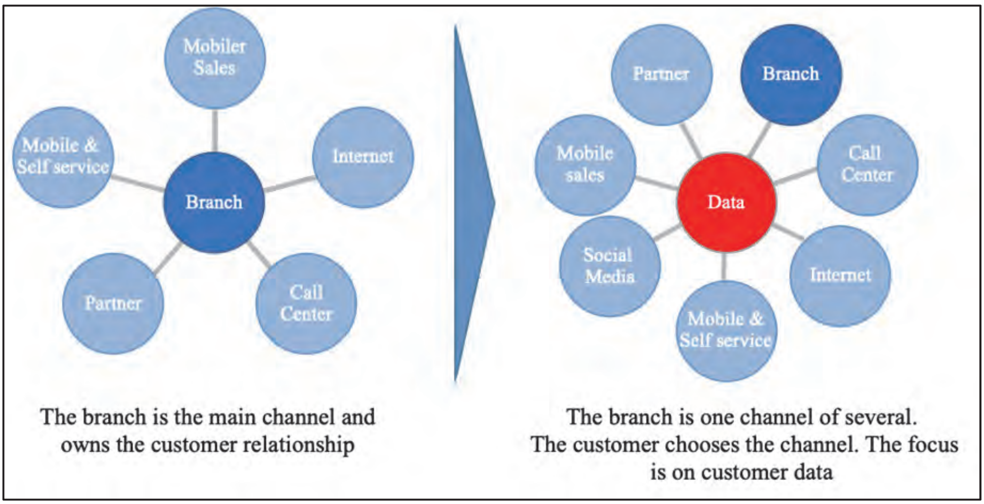

Figure 4: *Position of the bank branch in transition, own illustration based on (A.T. Kearney, 2012).*

As can be seen in Figure 4, the bank branch has always been seen as the „owner" of the customer relationship and has used other supporting channels to maintain the customer relationship. However, the development is moving in the direction of having a data household that holds the customer relationship and provides all eligible channels with the necessary data. The advantage would be that these can be used as sales and communication channels. Accordingly, it would be conceivable that, in addition to the exchange of reviews, product deals could also be concluded via a social media platform.

Several terms have become established in the past for the use of diverse channels. Terms such as multi-channel and omni-channel are often mixed. However, these terms must be considered separately. The omni-channel approach is an extension of the multi-channel approach. In the multi-channel approach, the individual communication and distribution channels are considered in isolation from each other. Individual measures are optimized and introduced on a channel-specific basis. There is a risk that customers perceive the channels in isolation and do not recognize the multiple channels in context (Stalla, 2015). In the omni-channel approach, it is important to present the communication as such to the customer across channels. Measures and campaigns or offer extensions must be optimized across channels (Stalla, 2015). For example, the customer expects that the option to set up or change a standing order is not only available in the online channel, but also via all other channels. An important prerequisite for this is that the information about the customer is available centrally.

To reduce the discrepancy between the current business model of the German banking sector and customer needs in channels, an expansion of the currently available multi-channel strategy into an omni-channel strategy is indispensable. However, it is crucial that a bank's omni-channel strategy is only the means to an end. Customers do not think in terms of channels, but in terms of product or service desires (Stahl, 2014). Fig. 6 intended to illustrate this.

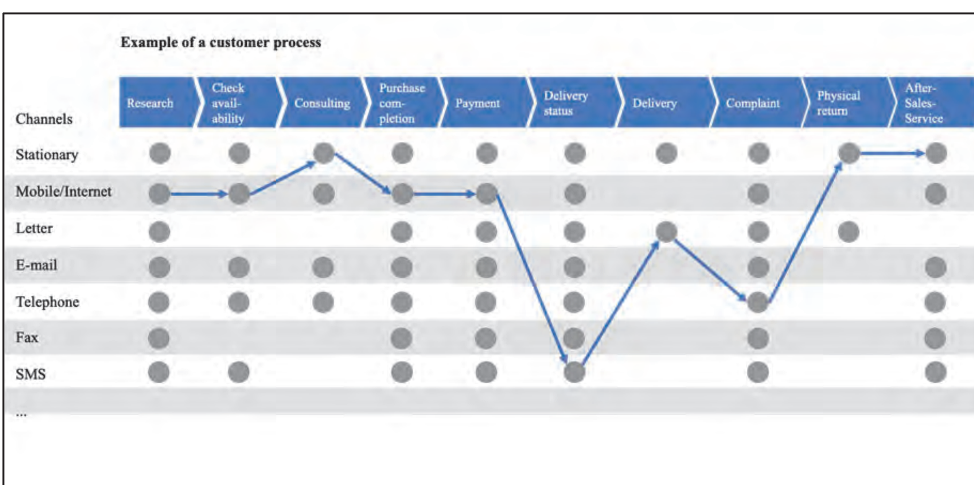

Figure 5: *The channels as a means to an end, based on (Stahl, 2014).*

As shown in Fig. 5, a customer process can use several channels. The customer is interested in the respective product or service and uses several channels throughout the entire customer process, which can be combined in different ways. The combination can depend, among other things, on the service or product as well as on the customer's state of mind. It is important for banks to provide a variety of different channels to offer customers the desired flexibility in terms of communication and distribution. All channels must be interlinked via an efficient omni-channel strategy and enable customers to carry out banking activities, including advice, independent of time and place (Kern, 2015). The right choice of channels as well as the corresponding marketing must be considered by the banks on an institution-specific basis and be in line with the respective customer structure.

3.3. Discussion of challenges in the context of digitalisation

Digitisation is a major challenge for banks in several respects. First, it is a high-cost driver for the banks, which must be borne. Especially in the current environment, banks are under a lot of strain. Constantly growing regulatory requirements, the low interest rate environment, volatile global markets, and declining customer confidence are just a few examples from the banking sector.

One consequence of the current market situation and the cost constraints is staff reductions. Despite the poor situation of the banking sector, banks are expected to make high investments regarding digitalisation. For the digital transformation, in addition to the high financial investment, a build-up of knowledge is also necessary, which can often only be achieved by recruiting new employees. This poses new hurdles for the banks, because hiring new employees while simultaneously cutting jobs is not possible for various reasons. In addition, the declining attractiveness of the banking industry makes it more difficult to recruit the necessary resources (Burgmaier, 2013).

While the banking sector is in this difficult situation, non-banks and near-banks have almost optimal framework conditions. Google and its parent company Alphabet announced in 2016 that they were nominated as the most valuable listed company in the world, just ahead of Apple (Fuest, 2016). However, not only the non-banks and near-banks have a better starting position, but also the direct banks, in Germany. Direct banks, such as Comdirect Bank AG, have a head start in terms of digitalisation that the branch banks in Germany first must catch up on.

Furthermore, the system architecture is also a major challenge. Among other things, self-developed software solutions from the 1980s are still in use in the German banking sector for existing customer management or payment transactions. Emerging non-banks and near-banks are starting in a clearly evolved era, which is an advantage in this case. Thanks to the new possibilities and their own innovative strength, they can create lean solutions tailored to current customer needs and megatrends. This makes them much more agile than the majority of the banking sector in Germany (Grobe and Steinkühler, 2015).

In the context of digitalisation, it is of high importance to consider the issue of security. Trust and security of transactions and data are a necessary basis for a customer relationship. For this reason, banks must give priority to the protection of customer data and transactions. Banks in particular are often affected by fraudulent attacks, which are used to spy on personal data, for example, to steal money (Dapp, Stobbe and Wruuck, 2014). In addition to an innovative digitalisation strategy, banks should ensure adequate IT security. This challenge is not only characterized by a high initial investment, but also by constant monitoring (Dapp, Stobbe and Wruuck, 2014).

Despite the high challenges, the pressure for banks to act should be taken seriously and a radical renewal should be pursued. An adjustment of the business model or a strategic positioning in innovative markets and technologies can also take place through cooperation’s and participations with innovators, e.g., with FinTech’s. The banks have the challenge here of finding the right provider or innovator, but they can secure important future market shares in this way.

Measures to overcome the challenges can be manifold, such as the support of the regulators or the government. Both regulators and the government have the goal of securing the economy in the long term. Systemically important banks in particular pose a considerable risk to the entire economy if they fail. Special subsidies or support for banks to invest in the digitalisation strategy would be conceivable in terms of support.

Another strategy should be cooperation within the banks. The high pressure to act could result in a multitude of uncoordinated offers. These isolated solutions massively hinder the widespread use of digital solutions. For example, it would not be expedient for each bank to develop its own mobile payment solution. Instead, widely accepted solutions must be developed that reduce complexity for customers and enable acceptance by merchants. This is an important prerequisite for the success of digital offers.

4. Final Remarks

It can be stated that banking in the sense of banking products and services is indispensable. The basic functions of banks are also indispensable for an economy. However, those who fulfil these functions and provide the desired banking products and services are becoming increasingly unattractive to customers.

Despite all the existing challenges, it remains to be said that banks must recognize the need for action resulting from digitalisation and map it consistently and, if possible, without loss of time via a customer-centric business model. This is the only way to ensure the future viability not only of banking, but also of the banks. The banks must be able to map these changes as quickly as possible using a customer-centric business model. This is the only way to ensure the future viability not only of banking but also of the banks.

An outlook for the banks in connection with digitalisation and the upcoming trendsetters could be the following scenarios:

- **Scenario 1: Banks as trendsetters –** Banks drive digitisation trends and take the lead. This allows them to further expand their existing market shares and manifest their competitive position.
- **Scenario 2: Banks and trendsetters –** Banks have a lot of know-how and usually a large market share. Trendsetters in the sense of start-ups must laboriously build up these components. It would be conceivable for banks to cooperate with trendsetters to achieve a common benefit.
- **Scenario 3: Trendsetters as banks –** Due to a low speed of change and static business models, banks could lose more and more market share to the trendsetters.

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