PREDICTIVE ANALYTICS TO ENSURE CUSTOMER CENTRIC BUSINESS MODELS AND AVOID MARKET SHARE LOSSES THROUGH DISRUPTION

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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. Furthermore, it focuses on newcomer in the market as non-/near-banks which could cause disruption. This research paper examines at the extent to which digitisation in the banking sector is needed and why customer centricity plays an important role as a competitive advantage in terms of market shares to avoid disruption. Customer data, digital ecosystems, and predictive analytics as foundation for customer centricity and trend setting will be described accordingly. This article presents recommendations for banks in terms of the foundation for customer centricity and why the use of predictive analytics is not a small project to implement. 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 the financial technology sector will be presented. It then takes a closer look at drivers for change, customer centricity, distribution channels, and customer needs. The link of predictive analytics and customer centricity will be outlined. The article is rounded off with a view on the future customer proposition. 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 behaviour to derive recommendations for action to change or keep the business model customer centric.*

Keywords: *banking, digitalisation, customercentricity, disruption, predictiveanalytics, digitalecosystems*

Introduction

The banking and financial industry is undergoing rapid change, driven by evolving customer needs, new technology, new and disruptive competitors, new generations, political environment, and new ways of working. The slowly increasing interest rates due to a sharply increasing inflation rate is helping banks to recover the interest margin business. It also helps customers to avoid interests/fees which had to be paid for deposits in the past.

From a business model perspective there are still quite some threats. There is still a very fast growing financial technologies sector which ultimately not only simplifies banking but also makes it more cost effective for both the provider and the customer (Alt and Huch, 2022). Furthermore, existing FinTechs becoming more meaningful through consolidation in the market across the value chain proposition. Although the environment with regards to financial technology companies i.e., 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. Traditional banks have taken measures to become more customer centric, they often face the challenge to realise this in reality. It is not just losing market shares, 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 interpret historic customer data to derive the right conclusions for a future business model. Additionally, once understood what has to be done banks are struggling to enable a dynamization of their business model based on a changed environment or changed customer behaviour which causes market share losses.

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.

Many 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.

However, it is not only technological progress but also changing customer behaviour 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 behaviour 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 which puts historic customer proposition under pressure in terms of channels.

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 is that organizational actions are driven by customer needs rather than internal views (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 company 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. Customer 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. Customer centricity has changed to a strategic business imperative if companies wish to attract, retain and acquire new 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).

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 based on predictive analytics. 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 and financial technology companies "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.

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) How could predictive analytics be used to anticipate customer behaviour and support deriving the necessary actions to adjust the business model?

2) Which high level strategic principles do banks have to ensure with regards to new disruptive market players to ensure banks reason for existence?
3) Which key prerequisites in banks must be met to enable a dynamization of the business model to ensure its customer centricity?

The following graph summarizes the objective of the elaboration.

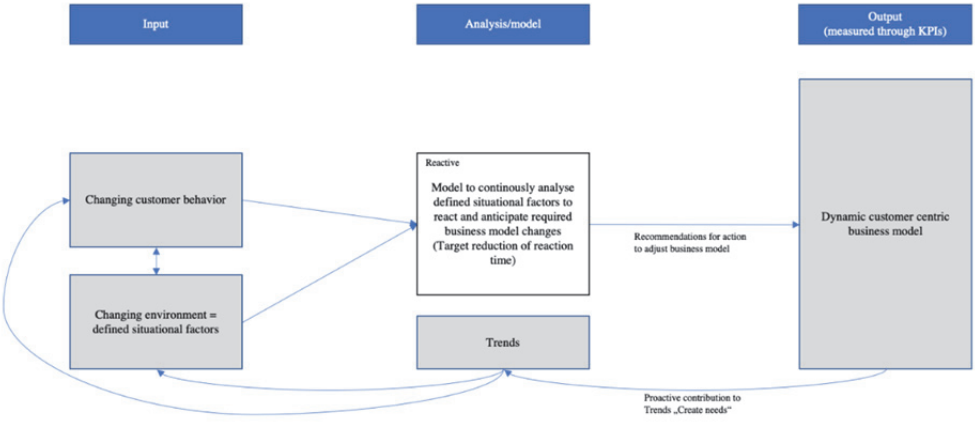

Figure 1: Objective of the elaboration, Own illustration.

Predictive analytics

Predictive analytics has not been newly defined. It is almost a natural behaviour for humans to apply predictive analytics consciously and unconsciously. Humans often consciously use experience from the past to act accordingly in the future. There is also an element of unconscious actions driven through experience in the past, mostly known as “gut feel”. The systematic use of predictive analytics in the business context is relatively rare (SaS Institute Inc, 2022). Predictive analytics could be used to ensure a greater customer experience by learning from the past to for the future. In other words, this could help the organization to get a better view of the expected benefits.

„Customers do not inherently want to buy products. Products cost money and, for corporate buyers, reduce profits. Customers buy products for the benefits that the product features provide”(Winer, 2004). So, while automotive companies produce and sell cars, customers buy transportation, image, and freedom. Customers are focused on benefits rather than the product itself. Key for successful companies is to translate those benefits into products and services and communicate those effectively to customers (Deshpande, 2014). Some companies offer beneficial products but aren’t successful due to an ineffective communication others oversell products in terms of benefits through misleading marketing. For successful companies it is important to not only identify the right benefits but also to communicate them in the right way. A false identification of benefits will lead to wrong products and services which consequently result in market share losses. To identify the right benefits for the customer it is essential to consider customer value. In principle customers attempt to receive the greatest benefits from products and services from the lowest possible cost. That principle is called Customer-perceived-value (CPV) *(Blokdyk, 2020)*. CPV can also be summarized in the following equation: **Customer perceived value = benefits - cost**

Intelligent use of customer data combined with an effective and value adding ecosystem contribute to a higher CPV which ultimately increases market shares and reduces the potential for disruption. However, in order to derive the right conclusions from customer data and ensure the most valuable products and services proposition in the ecosystem, predictive analytics is indispensable (Abbott, 2014). "Predictive analytics is the use and interpretation of data, statistical algorithms, and machine learning techniques to identify the likelihood of future outcomes based on historical data. The goal is to go beyond knowing what has happened to providing a best assessment of what will happen in the future" (SaS Institute Inc, 2022).

Effective predictive analytics to derive the right conclusions from a products, services and business model perspective is not only to protect or increase market shares but also essential be on front foot from a trend setting perspective. The combination of predictive analytics, continuous review of the business model including the associated operating model and future innovation thinking are key success drivers for a corporate to be successful in future (Abbott, 2014). The largest challenge for banks now is the amount of unstructured data. Almost 80 % of the data is unstructured and therefore a challenge for systematic predictive analytics (FIS Global, 2022). The basis for a successful implementation of predictive analytics is therefore not a small project, it is a transformation of the whole organization incl. IT, people, process, data, and mindset. Banks legacy systems and the amount of unstructured data e.g., captured through unstructured documents must be transformed to a data driven operations. Many banks have already projects underway to remediate their current data and set standards for future data models.

To apply predictive analytics. A model must be agreed and setup. The model must predict values for different or new data e.g., data changes based on current results. Depending on how sophisticated the model is a continuous improvement of the model could be achieved using artificial intelligence. Through modelling predictions would show results and the probability of the target variable e.g. customer satisfaction based on estimated significance from a set of input variables (SaS Institute Inc, 2022). Nevertheless, there are also limitations about predictive analytics. Predicting future events based on historical events is like predicting curves by looking in the rear-view mirror. Basically, it assumes that there is a correlation between historical behaviour of customers and future behaviour (Indriasari *et al.*, 2019). Accordingly, a continuous trend analysis to complement the findings is indispensable to draw conclusions with sufficient certainty. In other words, it is not enough for a company to simply analyse historical data and not make any innovative contribution of its own.

In the past so called descriptive models have been applied. Descriptive models describe ex-post why certain events or behaviour happened. Predictive analytics reinstates "gut feel" into corporate decision making. In other words, it is not an abstract exercise for leadership teams. However, there are barriers to usage. Several barriers can prevent organizations from implementing predictive analytics. Barriers for organizations could be (Indriasari *et al.*, 2019):

1. Complexity. Banks have several divisions, geographies, products, and customer types. On top of this in some areas there is an evolving strategy. Developing sophisticated models has traditionally been a slow, iterative, and intensive process where a certain dynamism is expected.

2. Data. Most banks are still operating with legacy systems with a fragmented IT architecture. This often leads to significant data inconsistencies and errors. Furthermore, data availability is a challenge as some data is stored as unstructured data in either central

or decentral data/document repositories. Clean, formatted, and consistent data is mission critical for predictive analytics.

3. Processing Challenge. The model often becomes a set of complex analytical queries and scoring processes which requires IT capacity to operate.

4. Knowledge. Experts for modelling and analysing the data are difficult to find and retain. This also drives the cost for these resources.

5. Interoperability. Banks are often managing processes across multiple systems. Predictive models require access of data across multiple systems and platforms as well as the ability to move data from one system to another.

6. Pricing. The total cost to build and run a predictive analytics model with the required software and hardware is beyond the reach of most midsize organizations or departments in large organizations.

Nevertheless, predictive analytics are essential for banks to derive the right conclusions to predict future customer needs. Banks have the advantage with customer data as an asset to detect future customer needs, set new trends and maximize revenues through cross selling opportunities (Law and Chung, 2020). If banks used this asset correctly, they would have a competitive advantage compared to newcomers as potential disruptors. Ultimately the quality of the model supplemented with innovation will be an important success factor and competitive advantage across banks, non- and near banks. Predictive analytics not only open up opportunities to retain customers or grow market shares, it also enables cost reduction through focusing on more profitable customers or customers with a growth potential (Ramesh, 2017). A good data analysis would crystalize less profitable customers. Due to the lack of data analytics banks often service profitable and non-profitable customers in the same way which ends up in a less customer centric average customer service (Deshpande, 2014). And lastly good data analytics would increase the level of risk management through better transparency on customer transactions and behaviour. Models can be designed to visualize relationships between different behaviour factors. Following are four algorithms of predictive modelling (Larose, 2015) (Khosla and Howlett, 2005):

1) Classification. The Classification Model is the simplest model in predictive analytics. It classifies data into categories based on what it has learned from historical data. The model best answers yes or no questions and provides a comprehensive analysis that is helpful in guiding action.

2) Regression. Regression means predicting the target value by building a model based on one or more predictors. This method is useful for predicting continuous outputs. “That means the response to the question is represented by a quantity that can be flexibly determined based on the inputs of the model rather than being confined to a set of possible labels”(Larose, 2015).

3) Clustering. A cluster is a subset of homogenous data. Clustering means dividing a dataset into several homogenous groups such that the members of each group have the biggest communalities, and different groups are as dissimilar as from one another. This method allows users to divide a large data set into consumable groups.

4) Association Rules. Association Rules is a rule-based approach for finding out interesting relations between different variables in large databases. The aim is to find strong rules discovered in databases. The expression for an association rule is $X \rightarrow Y$, where X and Y are sets of items. This rule effectively says that transactions of the database which contain X tend to contain Y. For example, customers requesting premium credit cards (X) drive expensive cars (Y).

Financial technologies as potential disruptors

Financial technologies are companies that have become new competitors in the financial sector with innovative developments and new products through digitalisation (Brühl and Dorschel, 2017). As a rule, these are start-up companies that use modern technologies to make traditional and common financial services more efficient and customer-oriented than traditional banks. Efficient not only means from a customer experience perspective but also from a cost perspective. This is the reason why they are being seen as the largest disruptors in the industry (Alt and Huch, 2022). The entire financial services industry has some catching up to do in the digitalisation of its business models, partly due to increased regulatory requirements (Brühl and Dorschel, 2017). This makes it easier for financial technologies to establish themselves on the financial market. In principle, financial technologies are IT companies that expand their previous business areas to include financial services and thus expand (Oswald and Krcmar, 2018). The term „financial technologies“ or its abbreviation „FinTech“ was created in this context to represent the development described (Oswald and Krcmar, 2018). The word pair „financial services“ and „technology“ are the origin of the term "FinTech" (Fend and Hofmann, 2022). Another group of a new sector are Regulatory technologies so called RegTechs with pretty much the same disruption potential as FinTechs.

FinTechs have disruptive potential. This arises not only from the combination of already established technologies, but also from the creation and use of new technologies (Fend and Hofmann, 2022). A concrete example is the blockchain technology behind Bitcoin. „Blockchains are counterfeit-proof, distributed data structures in which transactions are mapped in chronological order, traceable, unchangeable and without a central authority“ (BaFin, 2022). This new technology makes it possible to encrypt data completely and also increases the security of data manipulation. As a network of participants, the blockchain takes control of the transactions and ensures maximum security so that both sides can fulfil the transaction financially (Erner, 2019). It can be seen that blockchains function as an intermediary between the payer and the payee and thus replace the service of the bank (Erner, 2019). Not only FinTech start-ups but also large technology companies such as Apple are expanding their business fields through Apple Pay, for example, in order to create a digital alternative to the classic credit card (Tewes, Niestroj and Tewes, 2020).

FinTechs can be divided into four different segments. The first segment comprises the payment sector and focuses on payment services and the processing of payments. There is also the cryptocurrency sector, in which virtual currencies are created on the one hand and digital exchanges for trading cryptocurrencies such as bitcoins are managed on the other (Fend and Hofmann, 2022). Fintech companies offer the online merchant segment to facilitate payment processing for their customers by offering FinTechs the integration of „software as service“ (Fend and Hofmann, 2022). The last segment comprises the factoring and controlling of sub-FinTechs take over invoice purchases and dunning and, if necessary, also offer a financing platform for the liquidity of their customers (Fend and Hofmann, 2022).

In the financing sector, FinTechs also offer financing solutions in the form of capital from crowdfunding due to the long processes and lower risk appetite of established commercial banks. Companies or private individuals in need of capital receive capital via these platforms, which is provided by investors. The investors can also be companies or private individuals who are trying to achieve a higher return at the agreed risks, as the low-interest phase in the classic investment sector no longer leads to a return. In addition,

FinTechs create their own rating and scoring models using data analytics methods to weigh up opportunities and risks for both sides (Brühl and Dorschel, 2017). The central starting point for digital business models is the usage behaviour of customers. Customers are sometimes actively involved in the creation of the product or service in order to increase customer benefit and customer satisfaction (Blokdyk, 2020). It is evident that customers take advantage of the substitutive solutions offered by FinTechs, such as ETFs or cash withdrawals at supermarkets, because they save time and money (Brühl and Dorschel, 2017).

Financing of FinTechs has increased in recent years through invested venture capital. Specifically, this means an increasing interest and potential of FinTechs in terms of innovation activity and an increase in competition in the financial services industry (Alt and Huch, 2022).

Competitive situation in the industry

Currently, the business models of banks must be questioned due to macroeconomic trends and the existing information technology, as a dynamic and continuous development of the bank is not compatible with a stagnation of information technology (Seidel and Liebtrau, 2015). The increasing regulatory measures to prevent another financial crisis like the ones in 2008 and 2009 make it more difficult for banks to be profitable on the one hand and efficient on the other. The tightening of equity capital regulations and the stipulation of various requirements for a bank's risk management lead to an increased cost structure. This can be measured in terms of personnel costs, which are triggered by the corresponding control staff. Traditionally, most banks work with a structured customer segmentation. Within this standard segmentation, the bank always tries to form new business relationships from on-balance sheet products. This strategy has so far served to form high volumes in the provision business through affiliated partners such as insurance companies, investment companies or building societies and thus to at least offset the interest expenses (Grussert, 2009).

In addition, the changed behaviour of customers is another influencing factor (Deloitte, 2014). The motivation of customers to buy and use banking products depends on their updated needs and changed plans and goals (Deloitte, 2014).

Increasing globalisation is having both a regulatory and innovative impact on the financial services industry. Among other things, the introduction of PSD2 has led to the standardisation of payment processes within the European Union. At the same time, internationalisation opens up the possibility for banks to connect and cooperate with each other. Particularly in the development and establishment of applications for mobile devices, the sharing economy within the banking industry can bring advantages both on the revenue level and in terms of customer loyalty (Heckel and Waldenberger, 2022).

The socio-demographic developments have an effect on the fluctuation of young customers aged 25 to 44 on the one hand and on the demand for provision products on the other. The migration of this customer segment leads to, among other things to a reduction in commission income in the areas of old-age provision and hedging, since most hedging contracts are concluded in this age range in particular (Benölken, 2021). One possible reason for this churn effect is the failure to make adjustments to anchor products such as the current account, which for years served as the basis for the offers of established banks (Benölken, 2021).

The term digitalisation is often used by banks as a positive substitute for the closure of branches due to changed customer behaviour, which is demonstrably the case (Mertens,

Barbian and Baier, 2017). Currently, deficits in the implementation of a digital strategy are apparent due to weaknesses in information technology and also in the structure and organisation of the bank (Mertens, Barbian and Baier, 2017). In addition to a multi-channel strategy, the requirements for a digitalised bank are also requirements for a needs-based technological infrastructure in banking (Brühl and Dorschel, 2017). The focus on cost reduction within the credit institution is relevant due to the circumstances listed and also because of the increasing regulatory requirements and their effects on the established business model (Brühl and Dorschel, 2017). In addition to the reaction to customer demands, there is also a process of change in the hierarchies and executives up to management level (Mertens, Barbian and Baier, 2017). In concrete terms, this means that within the organisation of a bank, a sometimes-rigid structure collides with the agile and disruptive characteristics of the digital transformation. Among other things, the rigid structures within the bank mean that technological innovations are often only established through external influences instead of being actively introduced into sales. One example is the COVID-19 pandemic, which has forced many companies to hold online meetings (Benölken, 2021).

The increasing globalisation of the economy and the accompanying demand for high-performance and internationalised banking services is also exerting an influence.

Banks operating a branch network in Germany are subject to competition with each other on the one hand and to the pressure of revolutionised business models of financial technologies on the other (Deeken and Fuchs, 2018). Platforms such as Amazon or Facebook now enable an easily accessible structure and equally facilitate interaction between providers and customers driven by data (Benölken, 2021). Financial technologies are also increasingly taking market share in the area of financing, as they offer uncomplicated and fast financing through crowdfunding via their platforms (Heinemann, 2013). Demand is also present in this area, especially from smaller and new companies, which are increasingly choosing alternative financing via crowdfunding platforms due to the slower approval processes of established banks (Deeken and Fuchs, 2018). In contrast to the past, the internet takes over the function of the intermediary and brings together capital seekers and capital providers, which makes the monopoly of the banks is endangered in the long term (Benölken, 2021). The effects on branch banks are in some cases, the closure of branches and extensive job cuts were made in order to increase efficiency (Seidel and Liebtrau, 2015). In the meantime, the first tendencies towards establishing systematic innovation management in traditional banks and savings banks can be seen (Alt and Huch, 2022). Due to the competitive situation caused by FinTechs or platforms from outside the sector, traditional banks are faced with the decision of either being forced out of the market or founding their own competitive platforms and thus regaining market share.

Customer needs and business models

In the financial services sector, there is basically no differentiating feature in terms of products and services, as these are almost identical and substitutable. As a result, banks are faced with a greater challenge in terms of what they can offer their customers, which is also made more difficult by the competitive decline in the prices of banking products. In the past the connection between the bank advisor and the customers was characterised by a basis of trust and a special quality of advice (Seidel and Liebtrau, 2015). Nowadays, customers attach importance to transparency, especially with regard to costs, and also to user

convenience, and are at risk of churning if they have a bad experience with the advisor or the service provider.

The representative online survey shows that up to now, most customers have kept their accounts with traditional branch banks for reasons such as trust, competence, and proximity, but also for reasons of user-friendly online banking. Ambivalent to this is the desire for online support. This can be understood on the basis of customer demands such as convenience, simplicity, productivity, fun and image (Seidel and Liebtrau, 2015). Customers use their otherwise unproductive time productively, for example, while travelling by public transport through mobile devices and digital applications, in order to ultimately have more free time and greater user comfort. For example, established banks need to adapt the deficit within their digital infrastructure so that customers can make case-closing or preparatory decisions independently via online banking, and likewise to shorten advisory meetings digitally or in person on the basis of digital preparation options so that they meet customer needs. For some processes, customers have to wait longer because they have to be completed by employees and the capacities are not optimally used due to long counselling sessions and incorrect allocation of staff. Employees, especially of the younger generation, also demand digitalised processes due to their own usage behaviour (Auge-Dickhut, Koye and Liebetrau, 2014).

In a VUCA world, which encompasses a volatile, uncertain, complex and ambivalent environment, customer needs become uncertain and difficult to predict (Hellenkamp, 2016). In principle, changes in the behaviour and needs of customers are also apparent at an increased speed. On the one hand, customer needs can be obvious by being verbalised, on the other hand, they can also be hidden (Hellenkamp, 2016). In the case of the needs already listed, these are obvious needs that are communicated by customers or can be identified through action. Hidden customer needs can be, for example, co-design or the desire for self-determination, as this can only be ascertained through a qualitative analysis. Qualitative analyses are harder to measure, but can be used for the design of the strategy and product management provide added value (Mayring, 2015).

In recent years, the importance of digital channels for customers has grown and become normal. In the 1990s, customers visited the bank branch several times a week for their banking transactions. This has changed in particular due to the emergence of the World Wide Web and the associated increase in the speed with which information can be obtained. The rapid disruption, which is particularly evident in digital innovations, leads to uncertainty and fluctuating demand among customers due to low knowledge and increased complexity, as customers nowadays choose their communication and action path spontaneously and want to have maximum choice regarding the contact path. Therefore, it can be stated that it is necessary to understand the psyche of the customer in order to bind him to the credit institution through trust, care, individuality, commitment and appreciation (Bruhn, 2005).

Customers can now receive information about their status quo immediately while on the move via their mobile devices such as smartphones or tablets and can also make use of products and services online. The development of digital applications adds more freedom of information to the three buying phases at the customer interface. Customers are made aware through targeted marketing and in the pre-purchase phase they search for information and compare the product or service with alternatives. It should be noted that demographic differences are relevant at this point, as the use of digital media can differ depending on the age segment. In the purchase phase, the customer makes a concrete purchase decision and uses the product or service accordingly in the purchase phase (Seidel and Liebtrau, 2015). It

is therefore necessary for banks to design their marketing processes in such a way that they derive the maximum economic benefit from consumer behaviour. Another trend that has an impact on changing customer needs and usage behaviour is the principle of sharing. Customers use digital processes in particular to use products and services instead of buying them. A classic example of the so-called sharing economy is the streaming of films and series via digital platforms such as Netflix, Amazon Prime, Sky or Disney+. Physical objects are also shared by customers (Hildebrandt and Landhäußer, 2021). These include cars, scooters, and bicycles, for example, in order to reach the desired destination in the shortest possible time in cities or between cities. In principle, the principle of sharing economy is not new. However, for the less internet-savvy generation, it is an effort to follow the current trend due to a lack of trust in the system.

It is noticeable that customers have become more price-sensitive in recent years. The financial products and services of a bank have partly developed a commodity character and are thus subject to tougher price competition, since customers, especially in the area of financing, often rely on the more favourable interest rate or the lower costs (Brühl and Dorschel, 2017). Price sensitivity is important for However, the customer is not the only factor that leads to a concrete purchase decision. It is also important that the products and services are equally accessible to them in a quick and uncomplicated way, but also that they are so individualised that they fit exactly to the customer's life situation (Brühl and Dorschel, 2017). Communication and interaction are still of central importance for most people today. The possibility to join in, comment, network, share, and rate is appreciated by most people.

However, what used to be communicated in person is now increasingly communicated via social media, especially when opinions are expressed publicly. Using keywords that are identified by a hashtag, it is easier than ever to comment, to inform and to ensure speed, transparency, and low complexity. The internet is fundamentally a universal medium that also allows synchronous or time-delayed interpersonal communication between humans and machines. Data is no longer necessarily stored on the hard drive of the end device, but in a cloud (digital storage space on the internet). Almost 85% of people in Germany use social media at least once a week by sending text and voice messages, conducting video conferences or viewing or sharing pictures and videos (Jayachandran *et al.*, 2005).

This trend can also be seen in banking, as banks have so far created applications almost entirely beyond the website in order to give their customers access to their products and services at any time and from any location. Many banks also use social media to draw attention to themselves. It should be noted that at this point the desire for individualised product suggestions and financial services is expandable, as the suggestions also depend on the provider of the social network. Social media offers a bank the opportunity to derive the usage behaviour of customers for itself and thus differentiate itself from the other competitors through personalised and intelligent services. It is possible to conduct an online customer analysis and determine the customer segment, customer structure, customer value, customer potential, customer profitability and customer development (Jayachandran *et al.*, 2005). By analysing social media, the bank's level of awareness and profit can be increased by focusing on optimised and demand-oriented offers for existing and new customers.

Due to the high usage rate of social media, it is evident that it is important for customers to be able to use several channels individually and appropriately via one application.

Potentials of the digital transformation for banks' distribution channels

The product and services proposition are relatively complex in banks. There are multiple channels which offer a variety of products and services with different complexity levels. Customers do not think in terms of channels, but in terms of product or service wishes. The following diagram is intended to illustrate this.

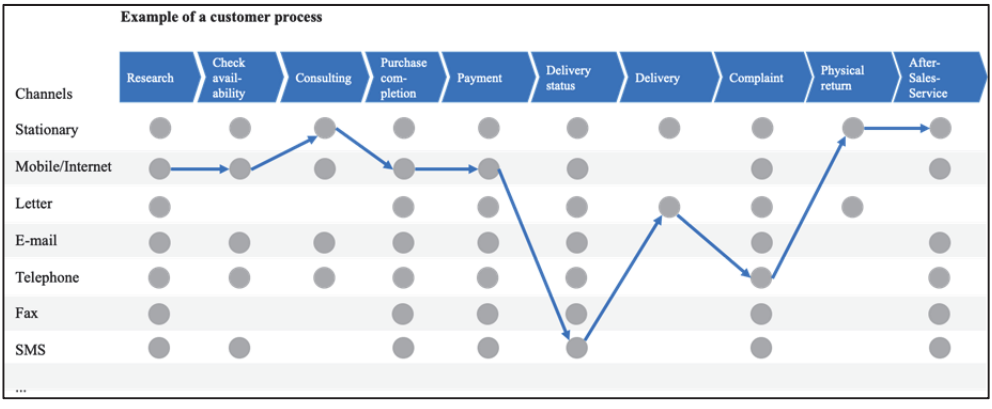

Figure 2: Channels - Example of a customer process
Source: Own illustration according to (ibi Research, 2014)

As shown in Figure 2, a customer process can make use of 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. The right choice of channels and the corresponding marketing must be considered by the banks on an institution-specific basis and be in harmony with the respective customer structure.

While customer data is essential for digital ecosystems and therefore for predictive analytics. The future of the customer relationship is perso-digital. The term is composed as follows:

- **Personal.** Regardless of the chosen communication or distribution channel, the human and trusting component must be maintained. Banking transactions are sensitive transactions from the customer's point of view.
- **Personalised.** In all products and services. The customer expects a customized range of products and services with precisely tailored approaches. The analysis of big data i.e., predictive analytics can be used to the customer's advantage.
- **Digital.** All products and services that are to be digitalized should also be digitalized. The speed of change within the digitalisation process is crucial. Due to a high willingness to change on the part of customers, a delayed reaction on the part of the bank can lead to a competitive disadvantage. The concepts of personal, personalized, and digital must be considered holistically in any solution. Offline channels should therefore be critically reviewed for their raison d'être.

The creation of a positive experience during consumption is the focus for customers in addition to the benefits and is considered a central element of digital structures. For a bank, it is not enough to prioritise customer benefits and customer satisfaction if the digital design of products, services and operations has not been implemented. Particularly due to customer demand, digitalisation offers the opportunity to design processes in such a way that they can visualise customer needs and interactions and also systematically identify optimisations based on behaviour.

Voice and speech recognition is also a benefit for customers. In everyday life, customers have already become accustomed to voice recognition systems on their smartphones and are already integrating them into their daily lives to have the fastest, easiest and most intuitive access to their data (Brucker-Kley, Kykalová and Keller, 2018).

A bank that has not yet designed its strategy to be digital and agile will be challenged by customer demand for digital and automated solutions, as well as by competitors who have designed their entire business model around digital products and services.

The main risks for banks that cannot break away from their traditional structures are a fluctuation of customers and also of younger employees. For this reason, a willingness to innovate is necessary as a recombination of knowledge to create new product and service solutions. In addition, the willingness of the credit institution to innovate increases both the positive expectations of customers with regard to future prospects and the retention and acquisition of qualified personnel. The impact on customer loyalty is also ensured by the high dynamics within the company, as the prospect of fulfilling customer needs through innovative products and services is positive (Deeken and Fuchs, 2018).

The transformation process at banks requires a willingness to change and learn on the part of all employees, as digitalisation also creates new job profiles, such as business analysts, digital media managers or social media managers. In the area of financial technologies, people are already working with stored data to solve products. The performance of technology has grown exponentially in recent years and thus offers the possibility of systematically evaluating collected data (Deeken and Fuchs, 2018).

Financial technologies can still pose a threat to established banks. It should also be noted that there is an opportunity for banks to cooperate with financial technologies at this point, as they can only act in a limited way for legal reasons if they do not have a banking licence and there is nevertheless a high demand (Alt and Huch, 2022). For banks, too, the trend of the sharing economy can be advantageous for maximising benefits instead of cost-intensive ownership of, for example, their own payment service systems. Automation and networking through the internet offer significant efficiencies.

In particular, the progressive development of storage capacity, computing power and transmission speed also offers opportunities for the financial services sector to redesign its business models. The possibilities of using digital storage capacities - clouds - mean that the acquisition of cost-intensive hardware and software can be dispensed with if necessary (Ramesh, 2017).

A further potential for increasing efficiency can be exploited through self-learning processes. Artificial intelligence can, for example, draw on a great deal of accumulated experience and, on the one hand, create individual product suggestions more quickly through algorithms and, on the other hand, by recognising a pattern in the behaviour of customers (Ramesh, 2017). Artificial intelligence is to be differentiated from logical circuits and is oriented towards architectures inspired by neuroscience, which imitate the functioning of the human brain. In addition, customers can interactively participate in their individual product and service solution through such digital media by involving them in the

process at the beginning, for example through online banking (Fellhuber, 2016). The advantage for the bank is that customer satisfaction increases due to individualisation and efficiency in terms of cost savings due to less time spent in advisory meetings. Data science is a science that covers sub-areas such as Smart and Big Data, Business Intelligence, or artificial neural networks. The Data Science works on the basis of computer science, mathematics and statistics as an interdisciplinary science and can, among other things, evaluate the data masses of the customers by means of artificial intelligence as if the behaviour of the customers were physically observed after the purchase of the product or after the use of the service and a conclusion is drawn both for the individual and for individuals who behave similarly (Detscher, 2021). In concrete terms, this means that the evaluations of the customers' consumption behaviour, the use of the credit line or the choice of investment funds must be linked to the customers' behaviour, for example in social media, in order to propose a customised product solution.

When evaluating customer behaviour in social media, the fundamental question is first and foremost what people do with media and what media does with people. The creation of a platform alone does not provide the qualitative amount of data that is necessary for an efficient increase in revenue. Social media in particular are used in specific situations in which other influencing factors are at work. The mass of information, the relevance of the information, the topicality, speed and accessibility for everyone provide a basis for the definition and evaluation of a target group and its mood (Detscher, 2021). Furthermore, the appropriate presentation of banking services via different channels such as social media can also change the customers' perception of service, although the actual service must be differentiated from the perception of service. The perception of performance is important for the attention and loyalty of customers relevant (Oppold *et al.*, 2021). In principle, the legal framework conditions must be observed here.

In order to create the conditions for customers to use digital processes, it can make sense to establish flagship stores. A flagship store represents the bank and offers services for customers. By compressing the branch network and at the same time establishing centrally located flagship stores in the rented branches, a continuous regional presence is guaranteed. The flagship stores should provide both a purely online advisory service and also have a personal contact person. The advantages of flagship stores are, among other things, that due to the closure of branches, a larger pool of qualified employees can be drawn on and FinTechs cannot currently offer these possibilities of consulting and satisfying customer demand (Seidel and Liebtrau, 2015).

Due to its speed in terms of information procurement, the digital transformation not only affects customers, but also employees. Employees can use the internet and the associated applications to expand their knowledge of digital structures in the company by networking with financial and digitalisation experts. Despite most people's aversion to change, there is a small proportion that absorbs and transforms the willingness to change that digitalisation requires (Detscher, 2021). Cognitive dissonance refers to an unpleasant emotional state due to evaluated mental events and leads employees to a large extent to tend towards counterproductive behaviour patterns in the change process due to fears or insufficient information and transparency. Furthermore, employees also feel fear and inhibitions when they are under strict control of their activities and decisions, which also leads to agile and innovative methods not finding favour. Digitally transformed processes change the way of working, the demand for products and services, the business model and the environment in which customers, employees and companies find themselves and require a strategic mindset from all stakeholders in order to be able to counter rational,

emotional, and political resistance. The change processes must be understood and implemented by the management, the executives and the employees (Brühl and Dorschel, 2017).

Due to the increased complexity and speed of digitalisation, leadership work is becoming exponentially more important, as employees become more committed to the company's goals through persuasion and enthusiasm on the part of the manager and thus show greater loyalty and willingness to perform. Through their charisma and influence, managers transform employees into showing the desired goal-oriented behaviour out of inner conviction (Fend and Hofmann, 2022). For this purpose, employees should have the mental skills in the form of gestures and non-verbal communication to bind the customer to the bank and not be overloaded themselves.

Accordingly, the potential of the digital transformation does not only result from anticipating technological developments within the financial services industry and being able to deal with their disruptive effects. Rather, the opportunity lies in enabling the bank not only to open itself up to digitalisation, but also to actively shape it through innovation (Fend and Hofmann, 2022).

Deficits in meeting customer needs

The effects of changing customer behaviour and the digital transformation equally led to deficits in the fulfilment of customer needs, as it can be seen that the necessary change in the business model is reaching its limits, particularly due to outdated IT and a lack of support for new ideas. The success of digital and internet-based business models is based on maximum innovation and creativity (Bieger, 2011).

For customers, beyond increased price sensitivity, there are prerequisites for maintaining a business relationship with a traditional branch bank. The local bank has to be the morally best bank for the customer, so a commission-generating bank can be the best. Furthermore, clients expect sensitive, personal, and holistic professional advice. This results in scepticism on the part of clients when product-centred action is taken by the bank. In practice, clients want to be able to make their own decisions about the distribution channel and not be stigmatised. Nevertheless, this is the consequence of theory-based branding measures (Benölken, 2021).

Basically, the customers' expectations have to be determined in order to meet their needs and to inspire them. The most common reasons for churn are prices, failures of the bank's field or office staff, insufficient scope of services and poor communication with the customer. Situational countermeasures can be price concessions, clarification of responsibilities, reparations or demonstrating the value of the customer in communication. From a strategic point of view, the focus should be on how to prevent such reasons for churn from arising in the first place (Benölken, 2021). One possible approach is to adopt the customer's point of view. Today's customers are mature and take a critical view of the products and services offered and also of their advisor. Through transparency and their own conviction of the performance of the products and services, the probability of sustainable customer loyalty and customer enthusiasm increases (Glattes, 2016). Trust is fundamentally a factor that can influence customer loyalty. The basis of trust between trust giver and trust taker is based on competence, integrity, goodwill, transparency, value congruence, stability, and reputation. It can be deduced from this that the basis of trust is necessary for sustainable customer loyalty and should therefore be part of the sales strategy.

„If an organisation succeeds in ensuring that as many employees as possible are aware of the high significance of customer orientation for the success of the organisation, this will

have a positive influence on the strength of customer orientation and the financial performance of the organization development“ (Staudacher, 2021). In order to be able to achieve this, a high willingness to learn is necessary on the part of the employees as well as a repositioning of their own perspective on customer orientation and customer benefit. Untouchable hierarchies and wrong objectives create pressure for employees, who in turn externalise and shift responsibility for failures to managers or the organization (Staudacher, 2021). Consequently, successes can be random and make planning and customer centricity difficult.

The dilemma of many bank managers assuming that their own behaviour is different from the buying behaviour of their customers can also hinder the increase in profits through customer centricity. Marketing theories that are supposed to create predicted behaviour patterns and the optimal product and service solution for customers lose touch with practice. Customer segmentation based on age, income, savings capacity or credit utilisation and other tools in marketing are only meant to help channel the bank's activities and increase efficiency. The higher the focus on target setting, the greater the deficits in meeting customer needs, as customer orientation and employee satisfaction are lost (Auge-Dickhut, Koye and Liebetrau, 2014).

A possible solution is to reduce the complexity of target agreements and at the same time increase employee satisfaction in service-related areas. A high level of employee satisfaction can increase the quality of cooperation within the organisation and the willingness to perform and customer orientation. It should be noted that the framework conditions of the credit institution in the areas of remuneration, reasonable workload, IT support, training, etc. should be reflected.

The sales force's satisfaction can be measured by the number of employees in the company. The sales of products also correlate as a rule with the satisfaction of the salesperson (Deshpande, 2014). The question arises as to whether a pure functionalisation of employees with the exclusive focus on profit maximisation is purposeful and sustainable since their motivation and social needs may hardly find any room and can thus lead to dissatisfaction.

Performance motivation and thus an increase in customer satisfaction can make sense if a measurement basis and a monetary reward function are established. The reward function is significantly related to the measurement basis, as the specific target agreement is defined in the measurement basis and the reward goes hand in hand with the corresponding achievement of the targets (Deshpande, 2014).

Even today, some of the established banks do not have an innovative attitude. Customer needs are partially or not at all fulfilled. One reason for this are slow processes in decision-making, less dynamic business model or just the inability to predict the future based on data within the institution (Bieger, 2011). In sales, this could mean longer waiting times for both clients and advisors and is therefore not in line with the expectations of clients today. The long response time, multi-stage processes and the lack of optimal availability with regard to the quality of service and advice and of information lead to customers being willing to leave because they perceive the services as insufficient (Oppold *et al.*, 2021).

Another deficit is the presence in social media and the measurability of social media measures. Some banks tend to hold back on the social web because they lack the prerequisites for measurability in the sense of the classic return on investment. The reluctance to use social media leads, among other things, to lower customer satisfaction and lowers the popularity of the bank, since qualitative key performance indicators to measure

the success, performance, or utilisation of the organisation in this area cannot be evaluated, although they are useful in a customer-centred strategy for the further planning of measures and directional corrections. Social media is not a marginal business field and requires a serious and long-term commitment with clear structures and sufficient staff capacities. In addition, social media creates the potential to spread negative news quickly and trigger crisis situations at a bank. Confident handling and communication planning and preparation are necessary in case of escalation (Neuhaus, 2015).

Final Remarks

The pressure on the bank to act is particularly high in a situation of cut-throat competition, where digitalisation also allows global non-banks, near-banks, and banks to enter existing markets. A delayed or insufficient reaction to digitalisation could mean that customers would change their bank connection and thus both the business model and the existence of the bank would be threatened. The biggest challenge for traditional banks is the speed and the level innovation of newcomers e.g., FinTechs. FinTechs don't have to build around difficult and outdated legacy technology they usually start on a greenfield which allows them to deliver the proposition in much faster time then traditional banks. Time to market is a key factor retaining market shares as the loyalty of customers has been reducing steadily where digitisation further enforces this trend due to the lack of personal relationships. Winning back customers is not only 25 times more expensive than keeping them, but it also makes it almost impossible in some cases driven through digital ecosystems. The reason for this is that the barriers for customers to switch ecosystems are too high, or in other words, convenience is kept very high. To make matters worse, customers increasingly do not value the fact that only companies that were originally intended to provide the service do so. The focus is on the customer experience of the service, which can be measured directly via the CPV. So, if the products and services or the "what" are necessary and the selling company, i.e., the „who", is indifferent to the customer, then the banks should deal with the „how", i.e., with the question of how the value proposition must be designed and reach the customer.

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 uninteresting to the customer.

In the context of customer centricity of business models, customer data and its intelligent use play a crucial role for the customer experience. Intelligent use of customer data, which presupposes its availability and accuracy, not only represents a more tailored offer for the customer, but is also the basis for predictive analytics, i.e., to predict behaviour and needs from past data with sufficient certainty. The ex-post view is only one component for predicting future events. This would assume a relatively high correlation of past behaviour with the future. To account for the delta between the full correlation and the actual correlation, i.e., the deviation of future behaviour in anticipations, an ongoing trend analysis is required. This addition mitigates the unexpected change in behaviour. To go one step further, this should ideally be supported with innovation by the respective company to set trends and thus actively influence customer behaviour. Basically, by intelligently applying all three components, past analysis, trend analysis and innovation power, a priority pioneering position can be achieved. These results in combination with the customer proposition result in the core of the business model, which must be designed flexibly overall regarding the other factors included.

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