

How Cloud Will Transform the Retail Banking Industry

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Abstract: This paper focusses on current trends in the banking industry and on illustrating how these trends can be supported by cloud computing. The main characteristics of cloud computing that could support transformation are facilitated data accessibility, enabled processing of data from various sources and the opportunity of an easier integration of functions or data. Trends in the banking industry are increasing customer centricity, redesigning of branches and deployment of new communication and distribution channels. For each trend we report quotes general information to provide an overview of the transformation caused by this trend. We identify which business processes are influenced, how they are affected and we explain how cloud computing could support the identified changes.

1 INTRODUCTION

The banking industry today is seemingly facing many challenges and is undergoing various changes. After the financial crisis in 2008 several things changed in the banking industry. The crisis came to show how fragile the entire banking system was (Hellmich, et al., 2014b). Thus, new and more restrictive regulations were passed in the banking industry to enable the system to survive an even stronger crisis. Nonetheless the crisis also led to a continuingly low interest rate level and shrinking margins in the lending-business, as well as lower overall profits (Bain & Company Inc., 2012). Furthermore the customer's trust in the banking industry has decreased, which affected their loyalty towards certain banks and further increased pressure on them.

The decreasing trust in their banks was not the only thing that changed in the relationship between banks and their clients. Control began to shift towards the customer (IBM Corporation, 2013). Banks were urged to increasingly adapt their business models, processes, products and services to clients and their specific needs. If these needs could not be fulfilled in a satisfying way, banks risked losing their customers to the competition.

All these challenges and changes led to growing pressure in the banking industry. In reaction to this, banks started to implement new business models or

new ways of interaction with customers to thereby increase their satisfaction and loyalty.

On the other hand, today in the digitalization era various surveys manifest that cloud comes of age and many companies follow a cloud first strategy. Moving to the cloud means dealing with a company's processes, roles, governance and strategy and preparing for digital transformation. In the era of digital transformation where companies need to address radical changes, cloud can be a valuable enabler. New approaches of interconnectivity, big amount of new data and automation are coming up with new challenges, but also new opportunities. Companies capable of increasing their digital maturity will identify new possibilities faster and react appropriately to emerge as winners and stand out in their industries. Cloud is an important pillar of digital transformation and expenditures are still expected to increase in the next years (IDG Enterprise, 2014; IDC, 2015).

Nevertheless, cloud computing provides various opportunities and approaches to deal with exactly these challenges. In this paper we discuss how Cloud Computing will transform the retail banking sector where entire banking process get transformed. In Chapter 2 we discuss the key drivers which lead to the various trends in the banking industry. In chapter 3, 4 and 5 we discuss three of the major banking trends introducing the affected processes and illustrating how cloud will transform the processes.

2 KEY DRIVERS

We have identified three major drivers that lead to various trends in the banking industry: The changing behaviour of customers, the technological progress in IT and the changing regulations in the banking industry caused by the financial crises.

2.1 Changing Customer Behaviour

Even though the core of banking industry remains the same, the behaviour of customers seems to be changing in different matters. One main reason is the increasing usage of mobile devices and social media. This could have an impact on different levels for a bank. Customers like to use social media to share their customer experiences, which means that banks and other clients may get an immediate feedback on how they were treated. Furthermore, customers could use social media to compare banks and their products in order to figure out which ones suit them best (Hellmich et al., 2014a). Thus, social media may turn into a vital tool to shape the brand of a bank because customer's propensity to consult social media for the offer that suits best might increase. Besides that, the ever-growing use of mobile devices by people could lead to the emergence of new distribution channels (Vater et al., 2012).

2.2 Changing Regulations

There are main changes in regulations that influence the banking industry like new regulations for financial market infrastructure or e.g. in Switzerland the Basel III Framework. The new rules for financial market infrastructure in Switzerland were brought together under the Financial Market Infrastructure Act. It emerged from the lack of transparency in the markets that became obvious during the financial crisis. Its aim is to strengthen the existing international standards for payment systems (PS) which are systemically important, central securities depositories (CSDs), securities settlement systems (SSSs), and central counterparties (CCPs). Additional instructions for over-the-counter derivatives are also provided. These regulations are formulated as broad guidelines in order to take the distinct nature of financial market infrastructure into account (BIS and IOSCO, 2012).

Basel III is an international regulation framework with the goal to improve risk management and governance in the banking sector (Bank for International Settlement (BIS), 2010). It also aims

towards increased transparency in the industry. Basel III framework has two main objectives, namely to achieve a higher resilience of the banking industry through stronger capital and liquidity regulations and also to improve the ability of the banking sector to absorb shocks and hence to reduce the risk of financial crisis affecting the real economy. To implement these objectives, three generic measures have been provided: reforms in capital standards, reforms in liquidity standards and other elements that generally relate to an improvement in the stability of the financial system. The objectives of these measures are the strengthening of the capital base, the improvement of liquidity and the averting of general risks that threaten the financial system (KPMG LLP, 2011).

To comply with these new regulations, banks may need to adapt their business processes and make sure that they have the necessary tools to fulfil these guidelines. These regulatory changes could in turn lead to changes in the banking industry itself.

2.3 Technological Progress

In today's banking business, information technology seems to have a very high significance. It may be essential for banks to apply these technologies in an effective way, since it could be a core component in creating a competitive advantage. This competitive advantage could be achieved in different ways. Technological progress may have an impact on various fields of a bank. A major one is the interaction with customers. Information technology and new distribution channels could significantly increase customer satisfaction and allow banks to target new markets and lead to a competitive advantage.

By analysing and managing real time data, IT-Systems could provide a fast and accurate information flow. This could be very useful to fulfil regulations. Process automation or suitable sourcing models will allow to improve process efficiency and simultaneously to cut costs. This will allow banks to focus on their core business and on the interaction with the customers.

Summarizing, technological progress is one of the key drivers for innovation and trends in the banking sector. Banks should be open minded towards technological change. This could be essential for a sustainable banking business and supports competitive advantage.

3 BANKING TREND I: INCREASING CUSTOMER CENTRICITY

Contemporary customers may be less loyal and tend to switch their banks more quickly. On top of that, technological progress could lead to a higher focus on customers and therefore to a shift in bank's business models from internal orientation to external orientation (Nicoletti, 2013), (Ernst & Young, 2012).

An internal or product oriented focus may no longer match the complexity of customers' daily life. Customers may demand greater flexibility, higher involvement, as well as products and services which suit their requirements. To avoid losing customers in the long term, banks have started to consider changes in customer behaviour and move their business models towards a customer centric view. Seemingly, it is essential that each customer is viewed as an individual and the relationship between customer and bank is built around the specific needs of this individual. Banks may hence adjust their offerings to fit customer demands. Furthermore, all interaction should aim at adding value for the customer.

In order to achieve customer centricity three aspects might be vital; knowing the customer, understanding business processes and how they create value for customers. Knowing customers and understanding their personal desires and needs may prove to be the foundation of shifting towards a customer centric approach. It could enable a bank to offer products and services that satisfy the needs of a specific customer. The goal of understanding such processes might be awareness of how additional value is brought to each customer and thus how changes in products or services affect individual customer satisfaction.

3.1 Affected Processes

To examine the changes in business processes caused by an increasing customer centricity we focus on processes at the front end involving direct customer interaction and processes in product and service development.

3.1.1 Front-end Process

Front-end activities and processes increasingly focus upon specific customer demands and their satisfaction (Nicoletti, 2013). Therefore, a holistic

view of customers may be taken into account for consulting and the selling of products. As a result, the client would only get products and services that fully match its needs. Interactions between customers and bank employees should entirely focus on the wishes of the customer and not on the standards of the bank, its costs or its capabilities. Thus each transaction would target an increasing individual value for the client.

To enable processes that fulfil such requirements, decision-making based on real-time information could be applied so that the consultant or bank teller may be provided with integrated data regarding the individual customer. This would allow unique offerings based on the individual customers' requirements.

3.1.2 Product- and Service Development

In a customer centric approach, banks could design products that completely suit the needs of customers (Nicoletti, 2013). They would therefore need to see the customer as the main actor in product and service development and fully understand their needs, whether they are implicit or explicit. This would allow the bank to develop services and products that are demanded by customers and not just pushed into the market.

To achieve this degree of customer centricity, banks may need to listen to the feedback given by their clients (Hellmich, et al., 2014a). This new communication channel as well as intensified communication could provide valuable instruments in achieving customer centricity. Customers may use the Internet to gather information and reviews about banks and their products. By listening to individual feedback, banks could profit in terms of additional information they get from and about their clients in order to sharpen the image of their customers.

3.2 How Does Cloud Computing Support This Change?

A key requirement for the implementation of a customer centric approach could be a comprehensive foundation of data regarding a bank's customers. Cloud based CRM systems can deliver a foundation by providing an integrated view of each customer and their actions.

This is facilitated by the collection of customer data across multiple contact and distribution channels which allows continuous monitoring of customer actions in an integrated manner and

therefore an enhanced adaption of services to customer demands.

For a CRM system a successful implementation across the entire company could be quite essential. A company could consequently obtain the same information across the whole organization, which again would lead to higher data quality and thus to an improved adjustment towards customers and their needs. The implementation of a CRM-system nevertheless seems very complex. Cloud computing could help to decrease this complexity due to easier integration with the existing infrastructure and the potential of a service oriented implementation.

Another benefit of cloud based CRM systems may be the enhanced possibilities for analysing customer data and behaviour. Thus, banks may not have advanced analytical capabilities due to difficulties in the integration and processing of vast amounts of data. Cloud computing would help to overcome these obstacles with the help of several features. The Cloud allows a company to access almost unlimited storage and computing resources. Thereby and through the integrative abilities of cloud computing, the collection of enormous amounts of data from different sources is alleviated. Furthermore data analysis could be performed in a faster way. Through customer analysis new patterns are found, which offers new opportunities in terms of personalization in banking. One way of benefiting from customer analysis for front-end processes could be real-time decisions during customer interactions, which would allow a higher adaption of services to a specific customer. A possibility to support product- and service-development would be the introduction of products or pricing models that base on the particular customer relationship and would in turn require the analysis of relationships between customers and their bank.

CRM systems allow banks to analyze, understand, predict and influence customer behaviour throughout the entire customer life cycle. Thereby they help organizations to capitalize customer information gathered across multiple channels.

Changes in business culture and organizational structure may be required due to the trend for banks to become increasingly customer centric described above. The value chain would be adapted and also a high degree of innovation would be needed in the organization to achieve a high level of flexibility. Technology could be one of the main drivers for a company to be more agile and therefore to respond faster to market demands. The implementation of Cloud computing would enhance this agility even

further by providing new possibilities to deliver business services and processes. The fast transformation of banks and their business models could be facilitated by cloud services in order to fulfil evolving market requirements. Thus, a bank would be able to adapt its business processes to the changing customer needs quickly and provide a high degree of customer centricity.

4 BANKING TREND II: REDESIGNING OF BRANCHES

Nowadays banks are redesigning their branch network and branches, probably due to changing customer behaviour and the technological progress that offers new possibilities (Hellmich, et al., 2014b; Bain & Company Inc., 2012). A bank's branches may be just one part of the distribution strategy of a bank (Kröner, et al., 2014; Bain & Company Inc., 2012). Accordingly they should all fit into this omni-channel strategy because customers might no longer differ between online and offline offers.

Nevertheless the branches may still be vital for different reasons. In the digital age they could serve as showrooms for services the bank is offering (Bain & Company Inc., 2012). Furthermore they may be utilized as a location for advisory, which might be becoming more and more important due to the increasing complexity of customer transactions. Therefore banks should transform their branch network and branches to adjust to the trend.

The trend to redesign branches could be subdivided into two aspects. One would be the reorganization of the branching network and the other the redesigning of the branch itself (Accenture, 2012). The branch network could be transformed into a hub and spoke structure with a few flagship-stores as hubs in attractive locations and several smaller satellite-stores in less frequented areas

The redesigning of the branch would then depend on whether it is a flagship-store or a satellite-store (Bain & Company Inc., 2012). Flagship-stores could offer the full product and service range including comprehensive consulting. They may not have any counters or teller windows, but instead they would focus on providing expert assistance in more complex financial matters. Satellite-stores would be intended to assist customers with routine transactions and to sell standardized, less complex products. To increase the quality of services, banks may also try to offer new ways of product presentation and consulting e.g. where mobile

devices could often be integrated to support consultations. As a consequence, banks could be intending on lowering their costs per branch and to increasing profitability by better adaptation to customer behaviour and more light weighted business processes.

4.1 Affected Processes

This new approach of interacting with clients affects more the front end processes consisting of all direct interaction with customers in order to assist and advise them. Thus in terms of processes that are affected by a redesigned branch network, this report focuses on the processes at counters and teller windows, in less complex or more routine as well as in sophisticated consulting.

4.1.1 Counter Processes

Counter and teller windows tend to be disappearing more and more in redesigned branch networks. Therefore processes that were transacted on counters such as cash withdrawal, deposits or payments could change dramatically. Bain & Company Inc. (2015) are suggesting that such routine transactions would work better and cost less if done digitally by the customers themselves. The study also highlights that many banks already follow this path and are trying to outsource such interactions to the client. Hence, the processes on counters could be changing towards a higher degree of consulting on more complex transactions (Nicoletti, 2013). To make this possible the front-end processes for simple transactions that were previously performed on teller windows and counters might shift to online and ATMs, making a clear change (Bain & Company Inc., 2015)

4.1.2 Processes in Routine Consulting

In general consulting and selling of simple products might be changing to the effect that it could become more complex and also more important for banks themselves (Ernst & Young, 2012), (Vater, et al., 2012), (Bain & Company Inc., 2012).

The growing complexity might be due to the change of customer behaviour. Customers may tend to visit physical branches only for transactions and problems that are more complicated and not appearing daily. The reason for the increasing importance might be that the quality of the advice a bank offers and the capabilities of their consultants are key factors for a bank in differentiating itself from others. Thus it would become vital for banks to

have well educated and informed front-line employees who are able to help customers choose the products and services that suit them best. To satisfy these customer needs, banks could alter business processes and apply new technologies to provide matching products and services for a unique and convincing customer experience.

4.1.3 Processes in Specialized Consulting

The redesigning of branch networks may also lead to changes in business processes regarding consultations in more specific fields such as retirement and investment planning. Following the new structure in the branch network, banks may concentrate their specific knowhow and skills in the full-service flagship-stores (Accenture, 2012), (Vater, et al., 2012). To ensure that this knowhow is still delivered to the client, independent of its location, banks may need to make it accessible through a variety of media for example via video conferences with customers or over mobile consulting for tablet computers (Bain & Company Inc., 2012). This could lead to an alteration in business processes due to changing interaction with customers.

4.2 How does Cloud Computing Support this Change?

The main change in routine processes performed on counters and teller windows could be the outsourcing to the consumer by deploying online self-service portals or ATMs (Bain & Company Inc., 2015). To constitute a competitive advantage the online solutions may need to be integrated into the existing information system (Nicoletti, 2013). A Cloud computing strategy and platform would provide this capability. It may help to avoid integration problems emerging from incompatible systems from various vendors. Another aspect in terms of integration could be the standardization of functional capabilities. The integration of technology would thereby allow the standardization of functions across all distribution channels and therefore enhance customer experience.

Further Cloud computing would facilitate the introduction of new self-services for customers, possibly originating from different reasons. Cloud computing may provide access to new IT resources within a very short period of time. This aspect would allow a bank to deploy self-service channels faster and at lower costs (Dybka, et al., 2013). Hence the time-to-market would be shorter and would simultaneously lead to additional financial benefits.

Another point that empathizes the potential of Cloud computing for self-service portals could be the higher accessibility thanks to the Internet. Access to services would be provided at any time and from anywhere independent from the device being used. That would make banking services available 24/7 for customers.

To provide sufficient customer experience banks might need to offer products and services that are well adopted to the particular client (Vater, et al., 2012). Therefore the offering of adapted products could be a vital aspect of consulting in a redesigned branch network because it increases customer satisfaction and loyalty (Accenture, 2012).

This requires analysis of customer data and of previously performed customer actions to obtain an informational foundation (Dybka, et al., 2013). Cloud based CRM services support scalability and can be used to process large amounts of data from different sources. They would also enable banks to integrate customer contact channels. This would allow the monitoring of customer actions, customer experience and analysis of customer information, independent through which channel they occurred. All these factors could empower bank tellers and consultants to make decisions based on real-time information, while they are interacting with customers. This may in turn enable consultants to offer the services or products that suit their customers best and thereby would increase the customer's satisfaction (Dybka, et al., 2013).

The redesigning of branch networks and the subsequent centralization of specific know-how has created a physical gap between consultants and their customers. With the facilitated integration of mobile devices and the accessibility over the Internet, Cloud computing could allow employees to work anywhere, anytime and with any device. Consultants would now be able to consult customers from everywhere. Hence consultants would be able to visit customers at the branch of their choice or even at their homes and would still be connected to the organization and its data.

5 BANKING TREND III: DEPLOYMENT OF NEW COMMUNICATION AND DISTRIBUTION CHANNELS

The trend in banking to use new communication and distribution channels could have been triggered by two drivers (Nicoletti, 2013). The first driver could

be technological progress, which created the foundation and allowed an initial use of additional distribution channels in a business context. The second driver could be the changing behaviour of customers. Customers nowadays could be able to decide when and how they interact with their banks (Bain & Company Inc., 2012). Besides this, they most likely want to access their financial affairs location and time independently.

To deal with these new settings banks created various services like evolved ATMs, online banking or mobile banking (Nicoletti, 2013). Social networks and social media may as well be considered as new communication channels, since they provide new approaches to a customer interacting with its banking institute.

Today mobile devices are widely spread, thus banking customers are becoming more and more mobile. Hellmich et al. (2014b) even suggest that mobile banking might serve as one of the main distribution channels for products that have a low consulting intensity. To anticipate this development and to make sure of profiting from this increasing mobility, banks heavily invest in apps (Vater, et al., 2012). The rising number of mobile devices could also lead to an enlargement of the functionalities provided by mobile services due to their higher coverage.

Besides the growing usage of mobile apps in financial services, social networks might also be becoming more and more important. Banks may utilize them to change the interaction with their customers. Social media and social networks could allow banks to communicate in a much faster, more efficient and effective way.

5.1 Affected Processes

The implementation of a concept to use new communication and distribution channels could be more than just the development and design of new mobile apps or online services. It may require an adaption of processes to ensure that new offers can be delivered in an integrated way. Banks may need to ensure too that they provide a consistent customer experience for all distribution and communication channels. Therefore processes might need to be adjusted. Three areas of processes might be influenced by the deployment of new distribution and communication channels. First the front-end processes, second the processes in communication and marketing and third technical processes.

The introduction of new distribution channels could lead to more opportunities for clients to

conduct easy transactions by themselves. This again, would enable banks to outsource easy tasks to customers and would therefore affect the processes which were previously performed on counters and teller window. New distribution and communication channels may offer a huge pool of additional external information that could be accessed. This information would need to be stored and managed in a consistent way, independent of the touch point it came from (Bain & Company Inc., 2012). Afterwards information should also be made available again for both clients and bank employees. This would require a sophisticated management of information and its sources.

With the new communication channels the way companies and clients communicate would most likely change. Thus, the communication would turn into conversation. This means that communication could become mutual. Banks would be able to use social media to acquire feedback and listen to how network users talk about their services and products. Therefore processes would need to be changed in order to make sure that this valuable feedback is well regarded.

These new opportunities concerning communication would also allow new ways of engaging with customers. For example advertising campaigns could now be organized across all communication channels and would thereby increase the impact by simultaneously decreasing costs (Vater, et al., 2012). Furthermore social media would allow more accurate and customized advertising, which could result in a higher profitability. To take advantage of these possibilities, working on a marketing approach spanning all distribution channels could prove to be important.

The goal of a multichannel approach would be to provide a seamless customer experience and similar functions across all distribution and communication channels. Therefore changes in technical processes and the way the information is managed may occur. Information systems might need to be integrated with the other channels. This would be the basis for consistent data and a possible interaction among channels and applications. The seamless transition between channels could again create an additional value for customers.

5.2 How does Cloud Computing Support this Change?

A characteristic of cloud computing is the enablement of the “processing of large amounts of

information, from various sources” (Nicoletti, 2013). This could be important for the management of multichannel distribution and communication, because data that originates from different channels may need to be processed in a centralized way.

A specific application of data processing from different sources by cloud services could be CRM tools based on cloud computing. They would allow the management of customer data and its acquisition through different sources. This would again enable the bank to monitor customer contact and experience occurring in all distribution channels. It could also help with the management of multichannel advertising campaigns, by supporting the planning and execution as well as the evaluation of their impact.

These CRM tools could support changes in front-end processes as well as communication and marketing processes. They would allow easier monitoring and management of an increasing number of customer touch points and enable the utilization of consistent data coming from these touch points.

Technical processes would be supported in so far that the processing of data from various sources due to cloud computing would facilitate the integration of information systems. Thus the integration of information systems and distribution channels would become easier.

It could be vital for customer satisfaction to provide a seamless customer experience across all channels. Therefore functional capabilities could be standardized. Cloud services would facilitate integration and thereby enable the required standardization. This way, customers could be offered the same functionalities no matter which distribution channel they choose. Changes in technical processes could be supported by the easier integration between information systems and distribution channels in terms of functionalities.

Another characteristic of Cloud computing is that it facilitates the access of information systems over the Internet. This enables banks to provide a 24/7 access for their customers from any device as long as it is connected to the Internet. This could be an essential feature for a multichannel distribution strategy, because it would allow customers to access services over their preferred channel whenever they like.

6 CONCLUSIONS

Cloud computing could offer a lot of potential for banking institutes in different ways that have not been fully addressed yet.

For front-end processes with direct customer interaction Cloud computing could produce unprecedented customer satisfaction. This would enable banks to strongly adapt their products and services to the specific customer. Furthermore Cloud computing would allow the provision of a comprehensive customer experience span all distribution and contact channels, which would also enhance customer satisfaction further. Thus Cloud computing could provide an opportunity for banks to highly differentiate themselves from their competitors. Especially in current times with low margins, growing competition and clients that are increasingly likely to switch banks, it could be very important to work on unique selling propositions to enhance customer satisfaction and loyalty. Cloud computing could be the first step in the right direction by enabling new ways of interacting with customers and a strengthening the own brand.

Back-end and supportive processes could become more efficient due to the implementation of a cloud based IT-Infrastructure. Cloud computing would enable an information flow that pervades the entire company and therefore prevents the emergence of information silos. Thus the bank would be able to utilize information in a more effective and efficient way and front processes would be optimally supported, which anon would lead to higher customer satisfaction. On top of that, banks could gain a higher flexibility in terms of business models or process adaption through the implementation of a cloud based IT-Infrastructure. This flexibility in combination with the improved information flow would facilitate the anticipation of and adaption to future trends in the banking industry.

Although cloud computing offers big advantages its employment must be carefully considered and prepared. It is vital for a bank to develop an overall Cloud computing strategy before deploying cloud-based solutions. This strategy should consider and penetrate all aspects of business. Furthermore a bank must be aware of the change effort that has to be put into such a project. Then by the implementation of a cloud strategy, changes may occur in all aspects of business. If the strategy does not address the entire organization, then the risk of missing out on the full potential of Cloud computing is high.

Nevertheless these comprehensive changes in different sections of the company might also unlock further potential. Outdated or inefficient processes or methods could be detected and revised caused by the changing business culture, increased flexibility and enhanced information flow.

Altogether Cloud computing would help a bank

to better adapt to its customers and their specific needs, which would lead to increased customer satisfaction, loyalty and therefore to a higher number of sales. At the same time, Cloud computing supports banks to be more efficient and therefore to cut costs. In conclusion, Cloud computing thus enables banks to enlarge their profits.

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