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Are incumbent banks bygones in the face of digital transformation?

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Abstract

Digital transformation has received considerable scholarly attention in areas of management, business, information systems, information technology, and marketing. In particular, retail banks have been at the forefront of technological revolution characterized by rapid deployment and innovation of digital services, exponential pace of change and innovative breakthroughs that alter conventional banking practice. However, the term digital transformation is often misunderstood as a straightforward deployment of latest information communication technologies. In practice, technological investments entail not only risk but also require an understanding of the relationship between technological, organizational culture and institutional change within certain boundaries of regulatory framework. Digital transformation is far from simple, certain or predictable and likely to be disruptive or transformative with immutable impacts upon associated organizational outcomes related to technical capabilities and behaviors. The present study attempts to explore and develop a framework for understanding digital transformation by examining the development, deployment and use of digital technologies in retail banking. Within a social informatics perspective, this study examines the effects of digital technologies on retail banks operations, structure and capabilities of those who deploy, implement and use it. Using a grounded theory approach the study explores theoretical constructs by reviewing the literature and analysing primary field data including data from retail banks and interviews with senior professionals. The findings provide the pitfalls and successful approaches towards the digital transformation journey. This includes the ordinary dilemmas that the managers face in order to deliver the projects at hand.

Keywords: Technology disruption, Digital Transformation, Rethink banking, Information and Communication technologies

1. Introduction

'The fundamental problem in Digital Transformation (DT) is that it can be construed in so many ways as the number of its definitions', admitted a chief technology officer of a large European Bank. In academia, there have been diverse definitional approaches on DT across various sectors and disciplines (e.g., Liu, Chen and Chou, 2011; Li et al., 2019; Singh, Klarner and Hess, 2019; Vial, 2019). Some of them are broad and focus on the skills and abilities required for effective and efficient operations (Kane et al., 2019), while others are narrow and focus on distinct cues such as strategic change (Rogers, 2016), performance, or culture (Caitling et al., 2015). Although the digital part of transformation implies or presupposes a main role for technology, there is a strong stream of research debunking the myth of the direct link between digital and technology (Furr & Shipilov, 2019). The plurality of approaches to DT is also evident in the banking sector. Indeed, managers sometimes struggle to grasp what are the key dimensions of DT in retail banking. Such tendencies have been amplified by the considerable changes within the sector. In recent years there has been a distinction between the 'traditional' banking, and other forms of banking. Fintech and start-ups provide financial products and services that were available only by incumbent banks in the past.

Prior conceptualizations in digital transformation have focused selectively on some specific dimensions at the expense of others. Although these conceptualizations have been extremely valuable in understanding the outcomes associated with the corresponding models, their contributions are less clear on interactions amongst the components that drive the transformation. Most studies focus on the deconstruction of transformation to identify the characteristics and influence of each of the components, but they have not embarked on the equally significant task of reconstruction. The present study draws on a social informatics perspective as analytical lens to examine and understand the key dimensions of DT in the retail banking sector. Social informatics provides an encompassing multi-disciplinary perspective that *'examines the design, uses, and implications of information and communication technologies in ways that account for their interactions with institutional and cultural contexts'* (Kling, Rosenbaum and Hert, 1998, p. 1047). We restrict our scope on the digital transformation of 'traditional'

incumbent banks to digital/virtual retail banking. Retail banking is also known as personal banking that provides financial services to individuals and not companies or other intermediaries. Following Warner and Wäger's (2019) concept of digital transformation, it is defined here as *'the use of new digital technologies, such as mobile, artificial intelligence, cloud, blockchain, and the Internet of things (IoT) technologies, to enable major business improvements to augment customer experience, streamline operations, or create new business models'* (p. 326). This definition adheres to the view that although the use of technology is an integral part of digital transformation, there are other dimensions in the internal and external environment of the organization that hold equal importance.

Taking into considerations the latest developments in both banking and DT, this study purports to identify the key drivers of DT in this sector and the initiatives the managers should strive for in order to effectively transform their operations. The study responds to recent calls for further investigation of digital transformation related to processes, risks, and failures (Chaniyas, Myers, and Hess, 2019), and provide new insights in the digital transformation of incumbent banks. Through the lens of social informatics and based on extant literature in DT, data were collected using semi-structured interviews with CEOs and senior professionals in the sector, in order to understand how managers tackle the everyday or phenomenal obstacles they face in the digital transformation journey. The study provides a systematic description and analysis of the key drivers of DT and propose a framework that will be useful to researchers in the area of social informatics and will help managers navigate the corresponding (DT) challenges.

2. Theoretical Background

Debates on disruption in banking date back to the 2000s (Watkins, 2000). An increasing number of traditional banks claim that they have been transformed into technology companies with banking licences (e.g., Tinkoff Bank - Finance Disrupted, 2018), and not simply banks which have adopted to modern technological solutions. Banks have consistently invested in high-quality technological infrastructure, large data centres and software applications. But because of the complexity and the

number of different infrastructures and legacy applications that have existed in large and long-standing banks, the road to change to novice approaches has taken considerable time. In addition, the centralised and traditional hierarchies established over the years within the banks, albeit reliable and efficient, are not always responsive to quick changes (Ansari and Krop, 2012). These hierarchical structures impede swift adaption to new environments or embracing change (Obal, 2013).

In making sense of digital transformation in banking, academics approach this topic differently in order to describe the antecedents, the activities and operations, and the consequences in DT. Many scholars use specific and 'successful' banks as example in an effort to describe and explain the area and provide successful approaches of effective DT. A notable example is the ING Bank. Furr and Shipilov (2019) focus on the agile organizational structures necessary for employees to work on squad formats, and the approaches the bank has followed in order to embrace failure and develop a fast learning curve over mistakes. Guinan, Parise and Langowitz, (2019) also focus on the squads of ING, but through the lens of customer experience and customer journey improvement. Tinkoff Bank is considered a notable example to understand how someone can build a digital bank in a traditional and bureaucratic market by paying attention to delivering an outstanding value proposition (Tekic and Koroteev, 2019). Other scholars use banks as rich case studies, or they study the statistics in the banking sector to investigate customer adoption (Campbell and Frei, 2010 - Large U.S. bank), organizational structure (Singh et al. 2019 – multiple case study), or the impact of digital technologies between competition and stability (Vives, 2019).

The organizational and strategic structural change is prevalent for the DT implementation. Warner and Wäger (2019) suggest that DT is a day-to-day process that involves the improvement of the business model, collaboration, and culture. They also acknowledge that most of the theoretical contribution in DT evolves around customer value and experience, activities and operations, strategic innovation, and new business model development. Thakor (2020) reviewed the literature on fintech in order to describe how the innovations in payment systems, lending, and insurance have transformed the financial intermediation. Consoli (2005) points that production, organization, consumption, and regulations are

the main factors of the structural change in the banking sector, based on the Information and Communication Technologies (ICTs) theory. Finally, there are studies that use the good examples of disruption in other sectors (e.g., Airbnb, Uber etc), in order to reflect on the core components and approaches for successful transformation (e.g., Furr & Shipilov, 2019; Tekic and Koroteev, 2019).

Social informatics (SI) can be regarded as an enduring theory that approaches the use of information and communication technologies (ICTs) from multiple angles of technology and organization as a whole in terms of design, implementation and use (Kling et al., 2000). It encourages researchers and practitioners to investigate ICTs in a novel approach that takes into consideration, people that design and use systems, infrastructures, culture, and social and institutional context. Technology is not seen as an one-off signature for success, but as an ongoing development that is based on social interactions (Bijker, 1993). The theory has been adopted in diverse fields such as management science, computer science, information systems and sociology to investigate the role of ICTs in different contexts (Sawyer and Rosenbaum, 2000). It is considered the 'conceptual home' for the studies that investigate the role of ICTs on organizational change (Kling, Rosenbaum and Hert, 1998).

Within this study, a core aspect of social informatics (Agre and Schuler, 1997) questions the challenge of how to bring technology back into the analysis of change in organizations, and how technologies can be shaped more effectively in their design and use. A social informatics perspective offers theoretical lens to revisit the technology concept in the banking sector, and provide a more dialectical understanding of the initiatives, opportunities, and boundaries of the human capital, values, management approach, organizational culture, and external environment.

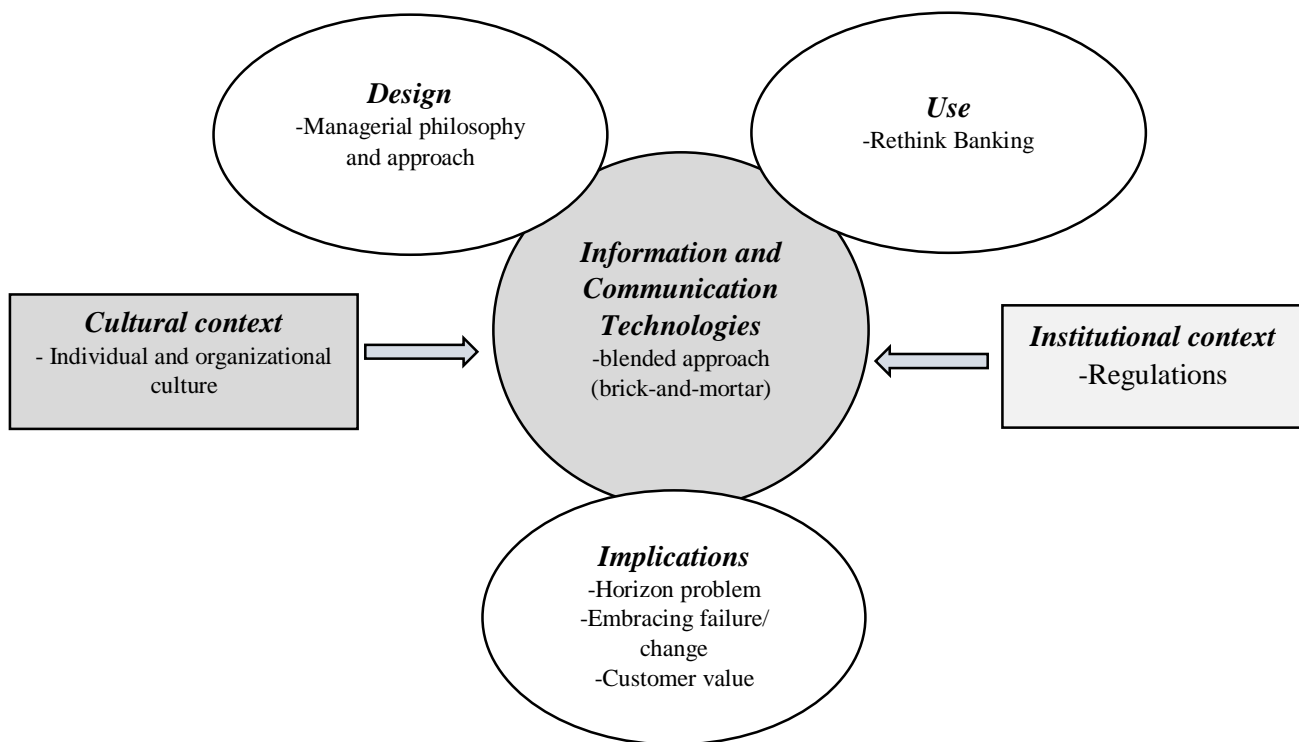


Figure 1: Key drivers of **Digital Transformation** in Retail Banking

Figure 1 depicts a multipolar framework of diverse set of factors that hold equal power in the DT journey for incumbent banks. In the battle to succeed and survive in the contemporary banking ecosystem, incumbents confronts organizational activities, culture, institution , design and use of ICTs and their associated organizational outcomes for successful DT. The framework main components of the framework, namely the design, use, and implications of ICTs within institutional and cultural contexts set the agenda for this research.

3. Methodology

A qualitative research strategy is deemed appropriate for the exploratory nature of this study. This includes using different sources of data, which to some extent facilitated triangulation in data analysis as far as evidence from between and within methods. Specifically, grounded theory is an appropriate exploratory procedure for theory development through inductive and deductive approaches of refuting

and grounding theoretical observations. Grounded theory has been applied in management science (Johnson and Sohi, 2015) for the development of theory based on field data and literature (Malshe and Sohi, 2009). A social informatics perspective is appropriate as it provides a broad theoretical basis to draw on a wide spectrum of literatures to throw light on digital transformation prevalent in the banking sector, identify the gaps and key research questions, and develop an interview guide (Strauss, 1987).

The researchers negotiated access to eight international European retail banks. They agreed to participate in the study with the assurance of anonymity and confidentiality. The sample of retail banks in this study is akin to a purposive non-random sampling technique by screening eligible retail banks that have been providing digital services to clients and consumers, changing from conventional practice to use of new technologies (e.g., mobile banking, Internet banking); and serving both domestic and international markets. Such information is gleaned from published or secondary sources such as company websites and press release. Using a snowball approach to qualifying retail banks and selecting informants, the researchers managed to gain cooperation from prominent top executives as informants of the study through individual and personal recommendations. A total of 13 senior professionals participated in the study, (i.e., three Chief Executive Officers (CEOs), three Chief Financial Officers (CFOs), three Chief International Officers (CIOs), four Chief Technology Officers (CTOs)) of eight European Banks (i.e., three Northern, three South East, and two South West). After obtaining data from 10 participants, the study began to see similar emergent patterns from the responses in terms of saturation point of the interviews. Each interview lasted approximately between one and 1.5 hours and transcribed by the researchers. Interviews were audio-recorded with prior consent but the researchers also took notes after each interview to retain and/or follow-up contextual evidence from the participants such as their apps and digital services for customers on the Internet.

Any inconsistencies were followed up with further data collection for clarity and consensus. Apart from in-depth interviews, relevant additional secondary or published reports about the banks were obtained and examined, e.g., a bank's publicity in launching digital applications, recruitment initiatives for data scientists and/or negative publicity or complaints published in mainstream press. Whenever possible,

interview data were compared with archival data to verify the quality of the interview data (Webb, 1981). For example, documented evidence was sourced when an interviewee claimed changes in product offerings triggered by managerial decision to improve customer experience. The comparative method supported internal checks of validity. The fieldwork took two months with follow-up phone calls during the data analysis phase, mainly, for the purpose of clarifying certain terminologies and bank-specific operations.

A semi-structured questionnaire (see Appendix) is developed based on the components of social informatics (Figure 1) while giving the opportunity for participants to elaborate on deployment of technology, effects on organizational structure and activities, and implications for culture and institution. A pre-defined series of questions in a semi-structured format increases reliability of the study especially for interviewing multiple informants. The questions were pre-tested with two academic peers and one retail bank senior manager. The data analysis process began during data collection in terms of iterative nature of analyzing qualitative data, refuting, matching and verifying evidence by revisiting the field. The data analysis procedure involved open, axial, and selective coding to analyse our data (Strauss and Corbin, 1998). In the first stage (open coding), we tried to identify and describe the phenomena found in the text and develop codes. In the axial stage, we identified the relationships of the codes through inductive and deductive thinking. In the selective stage, we focused on the most important categories and developed a theory to explain the subject under study. Two authors of the study initially conducted the coding individually. They then discussed and mixed coding after conducting common checks on internal consistency (Ulaga and Reinartz, 2011). In doing so, the researchers aim to achieve external validity by confronting the analyses between researchers and asking the participants to confirm summarized findings.

4. Results

4.1. Change in managerial philosophy and approach

There is a lack of thorough definition in retail banking, and as a result any individual baptizes basic banking processes as DT. For example, there are cases in which managers claim to use digital channels only to offer exactly the same legacy products, or resort to e-mails instead of exchanging information in paper. Offering online the same legacy consumer loans you do offline does not qualify as DT. Such practices are overly simplistic and only pertain to the digitization of the processes. In banking, the key challenge in DT relates on how to achieve transformational change. The initial step involves the transformation of content. In the example of consumer loans, a common practice of perceived DT is the online transfer of the traditional process that involves numerous fields and information to be filled in by the prospective customers, whereas bank managers should focus on alternative ways of identifying and collecting the relevant information by third parties. Further, instead of relying on the old-fashioned scorecard to obtain the level of suitability of the applicants, managers should focus on the multidimensionality of credit risk evaluation. Moving further from the established and state-of-the-art classification methods that mainly involve black-box solutions (Soui, et al., 2019), they need to propose and apply novel approaches based on both human and Artificial-Intelligence solutions. There is a plethora of behavioural data available; even the friend's list on Facebook can be used as an assessment criterion (Jarrahi, 2018). These models should enhance explainability and interpretability besides accuracy (Sachan et al., 2020) in order to outperform the existing mechanisms. There are obvious benefits both for the banks that can make better and more granular credit decisions, and for the customers that receive services in a transparent and timely manner. Such paradigms exemplify the different dimensions of the debate around DT and sheds light on the variety of approaches ranging from minimal to radical interventions.

Equally inconsistent has been the application of internal DT of the organization. What measures do managers take to capture the success of organizational DT? These vary from the reduction of paper circulation, to the percentage of employees working agile (Guinan et al. 2019) or with cloud based and collaboration tools, or participating in video conferencing and avoiding physical meetings. Thus, depending on the maturity of the market and managerial approach change, there is a wide range and depth of DT organization-wise. In the retail banking environment, there is still a grey area between the

boundaries of digitization and transformation, especially in the developing markets. However, comparing digital transformation between banking processes and internal organization, the latter is still the most difficult and demanding area, since it involves structural change.

A typical issue that has received considerable attention recently is the degree of agility implemented and achieved by an organization. Successful agility, if it is to be beneficial, involves delegation of decision-making authorities to colleagues and employees. However, banking managers remain reticent, opting to micro-manage activities and encourage centralization of control. Embracing agility requires a change in managerial mindset and approaches. Managers need to uproot traditional centralised practices and implement decentralized structures where other colleagues or subordinates are trusted to make decisions in between the alignment meetings. Top tier banking managers struggle to disentangle themselves from the centralized design of the bank, partly because of the individual benefits they accrue from such a process. Personal benefitting however is only part of the story. As a chief information officer of a large traditional bank notes, there are other factors in play such as *'the conservative element of banks, their focus on risk management, and their motivation to minimize the risks and the losses and not necessarily to maximize expected benefits'*. Therefore, risk aversion (Tekic and Koroteev, 2019) appears as a prime obstacle to any form of change in the banking sector.

An inconspicuous and rather catalytic force that has an indirect impact in change and in turn in digital transformation is the banking regulations. Technological advancements and evolving regulations enable new entrants to offer banking services (Consoli, 2005), sidestepping institutions with banking license. Those players follow an aggressive entry method with competitive price policies that ultimately force the traditional banks towards change in order to respond to the new environment. The increasing number of new players and disruptors in the market influences the pace and extent of DT of traditional banks. In mature markets such as the US, UK, and Spanish, where the competition triggered by disruptors is intense, traditional banks seem to have achieved a higher degree of DT. Whereas in less mature and smaller markets such as those in South East Europe where the disruptors have not penetrated the market to the same extent, the traditional banks are lagging behind.

4.2. Adaptation or reinvention? Rethink banking

A popular slogan making the rounds in the financial sector recently is the '*rethink banking*'. Again here, there is a plurality of approaches under the umbrella of the term. Mere enriching digital channels with fancy designs and colours does not qualify for a DT. Bank customers nowadays have less in common compared to those of the past. Customers who move to digital assets are usually more educated, younger, more demanding, and focused on speed and ease of use. Also, they are more price sensitive because among other things, they have grown up in a financial environment that offers higher degree of transparency. Ultimately, they opt for simplicity. Traditional banks struggle to target this clientele and offer the complexity of legacy applications, hence concentrated effort should be directed around simplicity, transparency, and low prices. For example, if the bank is offering a number of different credit cards through the offline channels, they should rethink different, easily accessible packages for their online offerings, addressing the needs and expectations of this segment of the clientele. Moreover, the banks, whilst adapting to the disruption of e-money institutions and fintech, should build on their existing strengths. The CEO of a large European Bank insightfully notes: '*There is something that still works in favour of the banks, and that is trust. It's obvious but it seems that banking managers have not capitalized on. The vast majority of customers are reluctant to abandon their bank for a disruptor, unless they have a good reason*'. Most managers underline the strong relationship of their customers with the bank, pointing to loyalty as a possible comparative advantage of the bank over its disruptors in offering high quality and sophisticated services. The dilemma of quality versus price is outdated. In the digital world, banks must provide high quality products and services, outstanding experience and low-price, otherwise the chances of survival are low.

The way forward however is more complex. The technology is moving at a rapid pace, but banks cannot change systems and applications annually, it's a complex and expensive process. On the other side, there are the disruptors that have set up their whole operations on modern infrastructures. Very few exceptions offer radical interventions. Indicatively, ING (Schlatmann and Jacobs, 2017) decided to fire

all its employees, asking them to reapply for new positions in an effort to reorganize the company's structure. Most established banks however with a presence of more than a century, hold systems aged two or three decades back, making modernization a complex and multifaceted issue. Although it seems disparaging for managers to embark on this process, practice shows that there are still ways to move forward and keep up with the new competitors. Through what we call a blended approach, companies can isolate the old infrastructure, and place layers (middle-ware) by using new technology that facilitates and improves the interface with the customers. The increased use of middle-ware can compensate for the outdated back-end, without obliterating it and boosts the provision of high quality of services to customers similarly to the high-tech companies. In the meantime, this mixed solution allows the bank to proceed to restructuring of the back office without disrupting the internal operations.

At the front-end, traditional banks need to explore different models. In the past, they were used to having ownership and control of all tangible and intangible assets, the technological background, the distribution channels, and the products and services to name a few. Now, they need to follow a blended approach at the front-end similarly to the back-end. The main focus in the sector has shifted on customer serving and retention. To achieve this, they should invest on collaborating with other networks and building multidimensional partnerships to enrich the product suites. Instead of competing with fintech, they can build strategic collaborations to enrich their distribution channels, and share the know-how in building new products and services based on the latest trends in the market and by quickly responding to the market needs. For example, there is a wide range of robo-advisors available in the market that banks can choose from, and move away from the dated thinking of developing their own robo-advisor in order to maintain control of the service. Traditional banks have recently started to make full use of the in-house tools development, in parallel with outsourcing, software-as-a-service, and partnerships. There are cases of Santander, and Barclays which have built private equities that invest on and fund start-ups aiming to future collaborations and partnerships. The purpose is not to solely collaborate with other firms but invest in companies with a goal of a long-lasting partnership.

4.3. Customer experience vs market outcome dilemmas: Horizon problem

The everyday professional life of a bank manager evolves around meeting long-term goals but also targets of the next month and next quarter. At the same time, the disruption in the sector pushes managers to make decisions for large scale projects at the expense of jeopardizing target achievement in the short term. However, in practice, they procrastinate decision making on longer-term goals of transformation on the altar of meeting targets. Such procrastination exacerbates existing problems and further hinders the needed change, creating the so-called 'horizon problem'. The essence of the problem lies in economics and resources, where in both dimensions, managers are faced with a dilemma. As far as the economics are concerned, in the new era that customers are well informed about the product availability in the market, the pricing policies and revenue corridor cycles are at threat. Customers migrate from one bank to another or a disruptor because the latter offers cheaper services. Managers are unwilling to follow down this path in favour of meeting other short-term targets. This short-sightedness however will cost them not only the shrinking of the bank's revenues in the long-term but will threaten the trust and relationship they have built already with their customers. Even if competition makes the choice inevitable, introducing better pricing policies and competitive packages offerings too late, maybe be equally damaging. The right timing is critical for the managers in charge to make this decision.

On the issue of resources, managers find often themselves at crossroads. They can either choose to invest money and resources on a new disruptive project tied with vague KPIs or invest in small projects that are familiar with and that will uplift the sales in the short term, based on existing and well developed KPIs. They are prone to making decisions and take actions that bring short term straightforward results. Making decisions that lead to an immense change are hard to make, especially when they are not directly linked with immediate economic benefits, growth or profits. For instance, investing resources in improving customer experience, albeit vital in the long run for the bank, is not deemed a priority because of lack of quick profit returns. This reluctance is rooted in outdated practices in the retail banking where banks were measuring the customer business solely on growth or profit. The CFO of a European Bank provides illustrative input. Traditionally the bank was applying charges to several "convenience"

services requested by clients, either through the branch network or the call centres. Such services included, among other things, informing a client about her transaction history on her accounts or debit and credit cards, information on or reissuance of pins and passwords, activation or deactivation of accounts and cards, or even application of usage controls on the latter. For years, this represented a significant source of revenues for the bank, as the vast majority of their clients were used to paying for all such services. In 2017, while they were considering a progressive upgrade in their internet banking and mobile banking offering, they faced an internal challenge on how to deal with such services. On one hand new entrants and disruptors were offering such services free of charge through state-of-the-art mobile applications with well-designed user experience interfaces and, on the other hand, if they were to offer these services for free, they would need to forgo a significant part of their commission fees. Managers responsible for product-related revenues were adopting a short-sighted defensive stance, essentially not facing up the problem but rather looking the other way. However, managers responsible for client relations or from the technology and innovation sectors were arguing that if they would not sacrifice those revenues in favour of establishing a better client experience, they would end up losing the clients in the long run. The end result was a compromise whereby the manager and team responsible for the project had to submit a business and investment plan, set up reports, KPIs, and charts to monitor and justify the monetary benefits of such a project.

Pursuing a disruptive project runs a high risk of cannibalizing existing distribution channels and revenues therefore discouraging managers from pursuing such an investment. An indicative example pertains to instant payments, usually offered as peer-to-peer payment service. This service has been introduced by disruptors (in many cases on the back of digital wallets) and mirrors the instant funds transfer product in traditional banking. Funds transfer has been a (well) paid service in traditional banking for decades. One of the banks in our study was reluctant to actively promote and provide this service for free to its clientele. It acknowledged the pressure from disruptors offering the service, but decided, nevertheless, to apply a defensive strategy thereby trying to “delay the inevitable”. There were two contradicting management practices and corresponding outcome measures that fuelled this decision making. On the one side, there were managers that understood the challenge posed by the competition,

stressing that customers would compare the bank with disruptors and other competitors. Such comparison may cost the bank a share of the market. On top of that, they emphasized the importance of customer experience and satisfaction compared to other metrics. On the other side, were the managers that emphasized the loss from lifting the charges and the direct negative impact on quarterly profitability. A compromise was found in a hybrid model where they followed a differentiated pricing policy in alternative channels, i.e, the desktop, mobile, or the physical branch. In sum, the CFO concluded that these are everyday dilemmas that retail banking managers have to face nowadays.

4.4. Individual and organizational culture

All the above shed light on the painstaking road banks need to take in order to change the culture and approach of the outdated perceptions of business managers. *‘The issue however is not solely to train the people on top in changing their mindsets’*, as a technology manager admits. In fact, the people in business departments nowadays are of young age, open minded, technologically informed with a good grasp of the state of the sector. The biggest challenge is not convincing them about the need for change but the timing of performing that change. The implementation of large transformative projects tends to be high risk in potential immediate loss of revenue whereas its long-term benefit take time to bear fruits. In the race for accountability, it’s unsurprising that managers prefer to concentrate on micromanagement activities than take the brunt of a risky large-scale project. However, procrastination spreads like gangrene and can only enlarge the importance of the problems, making them intractable in the future. When to discern the tipping point of this tendency is a difficult feat. This is where the role of the board of directors and the executive committee of the bank becomes crucial. If they have a good understanding of the recent trends and technological developments, they will support managers’ initiatives that may cause loss in the short-term but keeps their customer base and market share in the long-term. Ultimately it requires a vision from the board that can endure even failures at managerial decision-making. This vision should be reflected in performance management and remuneration policies. If, however, the board is reluctant to follow these approaches, then managers resort to a ‘hide and seek’ game of avoiding the blame and any possible scapegoating by resisting transformative

initiatives. Knowledge of the market technological trends, along with a company's mission to offer support and security towards its management, are essential organizational ingredients to facilitate the process of transformation. On the contrary, incomplete and sparse information combined with punitive tactics cultivate the dark side of creativity, conducive to failure.

But this is not a new phenomenon; managers tried to *'kick the can down the alley'* in the 2007-2008 credit crunch hit, added another interviewee. At that time, *'it was credit and financial engineering: managers were setting up complex financial instruments (out of thin air) that would bear significant short-term profits at the cost of long-term viability of the organizations. When the bubble burst, many of the managers walked away with huge amounts of bonuses in their pockets from previous years'*. It was then that regulators started scrutinizing remuneration policies, asking boards to establish claw-back rules, and other safety nets to ensure it will not happen in the future. That kind of procrastination that was costly in the previous crisis, shows its ugly head in this time of disruption in the banking sector. Most managers instead of trying to figure out radical ways to cope with the new challenges, they concentrate on surviving the next quarter, or the year ahead.

A member of the executive committee of a Bank noted the importance of both the individual and the organizational culture. In their bank, they had recently started investing in a project related to building the 'ideal' corporate culture in order to help employees perform at their best. Preliminary results pointed to several important preconditions for good performance. Amongst the most important, was that group members should feel that they share the same vision, they have common goals and work on a greater purpose, not solely of an economic nature. Another dimension that was highlighted was a high sense of dependability, where team members can rely on each other, and develop a support grid. Lastly, security ranked high with teams expecting support by the managers' provision of a veil of protection. This safety net is critical when it comes to decision-making, especially when the loss of short-term profits is involved.

4.5. Customers finally receive higher value than banks

One of the most noticeable contributions of digital transformation percolates to value creation in the retail banking value chain. At the epicentre of this value creation stands the customers of the bank. Transferring higher value to the customer aids in the increase of retention of clientele and coping with competition. Fundamentally, the transformation has a positive effect on cost reduction, process efficiency, customer experience improvement, and an indirect positive effect on consumption. For example, managers have noticed that customers that had a positive experience with personal loans in the past, it is high likely that they will choose the same bank for future loans. Banking services are more needs than impulse driven. Although pricing decisively contributes in decision making, retaining high levels of trust and developing digital tools that improve customer experience, are equally important if traditional banks want to create higher value for their customer base and avoid migration. Even at the credit level, the use of advanced tools of machine learning and artificial intelligence algorithms will allow for more accurate credit scoring, and thus reduce the amount of losses. In this vein, such practices produce value also for the bank.

4.6. Regulations: Hand of God

A considerable number of traditional banks' managers believe that regulations are not in favour of incumbent banks. In striving to provide better consumer services, and offer straightforward guidelines for new entrants, regulators have developed a regulatory framework that is considered more flexible for e-money institutions and e-payment institutions than the traditional banking institutions. People in traditional banking emphasize the benefits of maintaining traditional banking. It is the backbone of banking, in that it ultimately safeguards the consumers' savings. Revolut for example, before obtaining a banking licence, stored customers' funds in Lloyd's client accounts. There are numerous other similar cases in Europe where traditional banks play an important role in building partnerships with e-money and e-payments institutions (Vives, 2019). Thus, regulators need to find ways to support the development of financially viable business models in traditional banking and allow more room for flexibility similarly to the other e-money institutions. We are yet to find the trade-off between imposing

regulations that ensure the safekeeping of deposits and developing regulations that enable incumbent banks to develop contemporary services similar to those of the e-money and e-payment institutions.

The regulators can provide incentives for the incumbents to invest in and/or partner with fintech, start-ups, big-tech, etc., in order to encourage innovation by incumbent banks without compromising risk. In this case, the incumbent bank can invest part of its capital in a venture that would be segregated from the bank itself. At the same time, regulators do not need to bend the rules for banks but rather provide incentives (e.g. capital buffers, tax credits) to entice them to invest in innovative companies.

4.7. Honesty in embracing failure

Incumbent banks are by nature conservative institutions that develop an avoidance behaviour when it comes to failure, despite their contradictory rhetoric of embracing failure. At the same time, the average age of top tier managements, and bank executives is between 50 and 60 years. Taking into account the theory of fluid and crystallized general intelligences (Horn, & Cattell, 1966), these people have already reached the peak of their fluid and creative capabilities in their middle-adulthood and they are in the level of slow decline. Adapting therefore to new ways of thinking and approaches becomes harder. These two main components that fuel avoidance behaviour is exacerbated by organizational culture and regulations. We mentioned earlier the importance of the protection net for the various groups in a bank, and the sense of security that needs to be cultivated in the organization. But because of the conservative character of the institutions, there is a very strict governance framework, with a myriad of committees, and a series of regulatory oversight layers. Intense monitoring of the bank's performance makes managers more risk averse. Indeed, the heavy regulatory framework means that managers get scrutinized when they have to report losses. They are expected to develop numerous reports, and analyses, justify their decision making and corresponding choices, and present any mitigating actions. No matter the extent of loss or damage, they have to justify their actions, and how they will ensure that it will not happen again in the future. Since, the institutions with banking licence keep peoples' money, there is a complex and multi-level legislative framework that aims to minimize the risk of loss or failure,

because in turn, people deposits might be less protected. By default, this contradicts with the philosophy of experimentation, application of new ideas, and organizational mindfulness (Li et al., 2019). An illustrative example of the difficulties of navigating complicated regulations can be seen in how banks conduct credit assessment. In their efforts to improve the necessary scorecards, the banks need to apply new algorithms and innovative techniques. The introduction of any new practices requires however approval from the European regulators. This process involves not only tons of paperwork information exchange but also convincing detailed justification about why these algorithms and techniques are better than the previous practices. In sum, these factors, some unique to the banking sector explain failure avoidance and act as further hindrance of progress in the DT of the banks.

4.8. The future of brick-and-mortar branches: A blended approach

There has been considerable debate around Bill Gate's statement in 1994 – 'banking is necessary, banks are not'. For many economists and journalists all over the world, the disruption in the banking sector proves this statement. Almost thirty years later, however the physical branch remains one of the main commerce channels for institutions with banking licence. Similarly, when the automatic teller machines (ATMs) were invented almost fifty years ago, people were worried about the future of bank tellers. However, according to the man behind the invention for Chemical bank in the USA, the aim was to keep visits efficient and not render tellers obsolete. Banking tellers are still needed in the sector, while the total number of ATMs around the world is declining due to the introduction of cashless payment systems. The number of the tellers may be decreasing but their roles have been transformed in order to meet the pressing today's needs.

Similarly, the brick-and-mortar stores will continue, but the total number will shrink and their format will change so as to meet customer needs. For example, a bank can develop a group of skilful specialized investment advisors in a hub centrally which can meet clients that have visited brick-and-mortar branches through videoconferencing. The branch can be used to provide a hybrid experience, focusing more on relationship management than on transactions. The transactional part can be supported and

conducted by automatic machines, and the rest of the store to welcome customers and facilitate new, virtual, and interactive forms of communication with their personal advisors and other area specialists. They can offer customized store atmosphere paying attention to pleasure, arousal, and familiar surroundings that enhance the relationship and trust with the bank.

In the future we can also see branches used as one-stop-shop similar to the case of CaixaBank in Spain. CaixaBank partnered with Samsung and Securitas Direct in order to launch the first branch offering non-financial products. In the same vein, an individual can walk in the branch, and the receptionist will welcome them and allocate them to the living room with a large video wall where they can enjoy a digital experience beyond banking products. Depending on their needs, they will be able to connect with a banker, with an insurance agent, or a security expert etc. The branch will be used as a hub of aggregational services that can be banking related or beyond.

5. Conclusions and implications

This offers an alternative theoretical and empirically solid conceptualization of the components of digital transformation in retail banking. It details and illustrates the key drivers that inform our understanding of how we can achieve a successful digital transformation in incumbent banks. This framework of drivers is intended to punctuate the corresponding key phenomena along with their interrelations surrounding their use and application. We use the SI theory as a theoretical vehicle in order to justify and emphasize the equal power of a diverse set of factors in the DT journey and the importance of their interrelation. Without undermining the importance of ICTs, this study shows that they do not exist in isolation, but the orchestration and configuration of the proposed drivers influence the outcome of DT for the organizations.

The findings of this study can inform bank managers and analysts on how to set forward the path towards change whilst acknowledging the challenges of the institutional and cultural dynamics of the

banking sector. Instead of just proposing novice formulas, the proposed multipolar research shows how to combine structural and managerial realities in the banking sector with the requirements for DT. Moreover, this study reveals the usually neglected everyday dilemmas that managers face, shedding light on the available options in DT, the pitfalls, and the opportunities they need to pursue to maximize benefits. The study offers a multipolar framework that will help managers to minimize risks and failures and identify the opportunities towards achieving a successful DT. We provide successful examples and cases of how incumbent banks have used technologies to improve customer value and leverage their position in the market. However, we do not solely point out to successes, but also emphasize the less successful cases paying attention to the lessons learnt and their corresponding outcomes.

Finally, contrary to the controversial debates and discussions of how traditional banks are running obsolete in the last twenty years, the incumbent banks still form the backbone of banking. However, the new entrance of fintech and start-ups offering financial services has transformed the whole sector. Looking forward, banking will not vanish, but traditional banks are endangered unless they keep up with the latest developments. Rethink banking is more crucial than ever, and some executive's enterprise in taking charge of the difficult path of structural change has been acknowledged. But apart from focusing on technological issues and solutions, the traditional banks need to develop novel approaches to respond to the managerial dilemmas in digital transformation. To overcome possible regulatory barriers to transformation, banks need to invest on new forms of collaborations and partnerships. They might even consider cannibalizing existing structures and commerce channels to ensure financial survival.

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Appendix. Semi-structured Questionnaire

Interview topics	Questionnaire items
Digital Transformation Dynamics	<p>What does digital transformation actually mean for managers in terms of which opportunities to pursue and which not?</p> <hr/> <p>How can we put agile methods into practice?</p> <hr/> <p>What are the essential team-based characteristics that enable digital transformation?</p>
Customer Value	<p>How incumbent banks have used technologies to improve value proposition and leverage their position in the market? Provide examples.</p> <hr/> <p>How do you approach initiatives for customer experience improvement without straightforward market outcomes?</p> <hr/> <p>How does DT create customer value?</p>
System and process design and development	<p>What is involved in the link among the front-end application to the legacy back end with a middleware?</p> <hr/> <p>What does it take to change ICTs fast in order to keep up with competition?</p>
Cultural context	<p>How individual and organizational culture is reflected in the organization?</p>

Rethink of Business model	How do banks approach failure on small- large-scale projects?
	How stores will create revenue in the future? Multi-channel approach.
Institutional context	How does the changing regulatory framework affect the DT of the Banks? Boundaries and opportunities.
