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Banks and FinTech Relationship in a Digital Transformation Context

Tayazime Jihane, PhD Student
Laboratoire de Recherche en Sciences de Gestion des Organisations
ENCG Kenitra, Morocco
Moutahaddib Aziz, PhD
Professor at ENCG Kenitra, Morocco
Laboratoire de Recherche en Sciences de Gestion des Organisations

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Abstract

The main function of digitalization is to make relationships more flexible and less framing, while allowing simpler and faster communication and more important data exchange. The digitalization of the banking sector is reforming it in its most profound axes. Its functioning, its organization, its interactions, its products, all have been modified, including back-office functions. The digital infrastructure has accelerated the emergence of new technologies: social media, cloud computing, analytics and big data, wearable devices, etc. This new technological wave has led to the emergence of new entrants in the financial sector. Financial technology, also known as FinTech, is an industry composed of diversified firms that combine financial services with innovation technologies offered to financial service providers (Moro-Visconti, R. et al, 2020). Banks will have to engage in further cost-cutting since they remain shockingly costly, which partly explains the market penetration by FinTechs (Philippon, 2016). They offer unbundled low-cost services which makes them very competitive with banks. Therefore, the relationship between the two may be quite competitive because of the similar operations. In this article we will be discussing the nature of banks and FinTechs' relationship, starting with a literature review and then a survey

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discussing these two financial structures.

Keywords: Digital transformation, Bank, FinTech, Technology, Services

1. Introduction

The turmoil in the banking industry is accelerating, leading to radical reforms in certain areas of activity. For banks, digitalization should implement multi-channel mobility, integrate big data technology, and innovate service supply. Banks also need to train current employees and recruit qualified talents who are capable of contributing to the building of tomorrow's banks. (Ryma Derridj, Lila Amiar, 2020). For Negroponte (2015), digitalization refers to the act of transforming physical processes, content and objects into their primarily or entirely digital nature, in order to cut costs generated by storage, duplication and transmission; in addition to an enhanced ability to search, analyze, correct, and improve content.

Banks remain uniquely and systemically important to the economy because of their highly regulated nature. Customers identify banks with their primary financial needs (McKinsey & Company, 2018) which makes them very hardly disposable or replaceable.

As far as banks are concerned, they are severely affected by changes that affect their environment, namely the emergence of fintech and changing customer demands and way of thinking (Fox & Greenspan, 2019). Maintaining competitiveness in the future will largely depend on the bank's decision today. The events of the past few years have shown that they may have to pay for poor strategic decisions (Omarini, 2015).

The relationship between banks and financial technology may be quite competitive because of the common operating foundation. As fintech companies deploy multiple financial services, which are pre-existing services for banks with technological advantages and reduced costs, most banks have noticed the urgency of investing in digital transformation. Today, almost all banks provide remote banking services, including Internet solution banking and mobile banking solutions (Khanchel H., 2019). Going forward, it’s uncertain how fintech as the mainstream technology for the financial services industry will evolve. Economists have been trying to predict what would happen to fintech when the next recession comes (Allen, F. & al.; 2020).

The main goal of this article is to determine whether or not FinTechs are a threat to the banking institutions. We will start by a literature review surrounding FinTechs and the digitalization of banks, then we will discuss a survey answered by experts aiming to understand if FinTechs are mandatory or not for the digital transformation of banks.

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2. Literature review

2.1. Theoretical background

2.1.1. Digital transformation

The main function of digitalization is to make relationships more flexible and less framing, while allowing simpler and faster communication and more important data exchange. In fact, in the sense of gaining greater market share and opportunities for innovation, digitalization has made a significant contribution to new perspectives (Derridj R. & Amiar L., 2020). "An important part of successful digitalization is to use information technologies for turning services to be modularly and inherently easy to adapt" (Tatiana Genzorova et al., 2019).

Moreover, Yoo (2009) say that digitizing (or digitally infusing) objects gives them new properties—programmability, addressability, communicability, memorability, sensibility, traceability, and associability—which together make digital products (such as digital processes) highly malleable and open up new areas of potential functions. It is an organization's progression from outdated methods to novel behaviors of working and thinking by using digital, social, mobile, and new technologies (Terrar, D., 2015). It is driven by the improvements in technology, the entrance of new business models, and modifications in customers' exigences (Valdez-de-Leon, O., 2016).

"Digitalization" should be distinguished from "digitization"; the former rather tackles the impact of digital technologies on the organization, while the latter denotes the swing from traditional solutions to digital (Hensmans M., 2020).

Investing in technology implicates risks by requiring knowledge of the link between technology, organizational culture, and institutional changes within certain boundaries of the monitoring framework. Consequently, digital transformation is unpredictable by being disruptive and highly transformative and carrying an impact on the organization's global results. It is expected that the effect of digitization on organization design will continue its acceleration, given the continuous development of technologies that are reaching more applications, domains, and locations. Thus, transformation in one part of an organization triggers a chain of transformations in the other parts and amplifies its effect (Kretschmer, T., & Khashabi, P.; 2020). Organizations are likely to get better at utilizing digital infrastructure over time (Cardona, M. et al.; 2013) since transforming one part of the organization affects the rest of it due to the fast adaptation.

2.1.2. Digitalization of banks

The digitalization that affects the banking sector is reforming it in its most profound axes. It has altered functions, interactions, organization and

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services. The back-office is also evolving with digitalization, since administrative work which is mainly done manually and requires significant time to complete, is being simplified and majority cut down. “Filing and archiving of documents should soon be entirely dematerialized and automated.” (Ryma Derridj, Lila Amiar, 2020).

The main objective behind digitalizing banks is optimization of the customer experience via the Internet, the transformation of operational processes, the evolution of internal organizations and operating methods, and the development of its businesses (Béziade, Assayag, 2014).

The financial services sector has a reputation of being ingrained in their traditional ways thus resistant to change. Banking has historically been one of the business sectors most resistant and suspicious to disruption by technology (Fichman et al. 2014). As a result, today banks often show a lack of innovation either because of their stable market position or due to complex government regulations (Anagnostopoulos I., 2018). There are so many start-ups with material and immaterial resources ready to find alternatives to traditional banking.

As technology advances, customers are shifting from face-to-face transactions to digital transactions through digital banking services. Brick-and-mortar bank branches have traditionally been the primary point of contact for facilitating retail banking and customer transactions, but are starting to allow physical checks to be deposited through a mobile application on a smartphone, thus adapting to the new generations particularly vulnerable to new entrants. 84% of millennials confirmed they would consider subscribing to banking services from a big tech company. (KPMG, Banking of the future, 2017).

Liu et al. (2017) have shown that the use of the mobile channel increases customer demand for digital services and that the net benefit of the mobile services to the bank is $0.07 USD per month per (average) customer. Trust now plays an important moderating role in the transition from offline to online transactions (Balasubramanian et al., 2003).

According to Khanboubi & Boulmakoul (2019), digital transformation of banks should follow predisposed acts: digitalization of customer and business processes; redesign of the information system; simplification of internal operating modes; cultural transformation for a more liberated company; exploration of new business territories, notably through the deployment of Open Innovation approaches.

2.1.3. The Fintech revolution

The digital infrastructure has accelerated the emergence of new technologies—social media, cloud computing, analytics and big data, wearable devices, 3D printing, and intelligent autonomous systems, to name

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some recent ones—that enable transformations in the way we live and work, how companies organize, as well as the structure of entire industries (Agarwal et al. 2010; Dhar and Sundararajan 2007; Lucas et al. 2013), which led to the fourth industrial revolution.

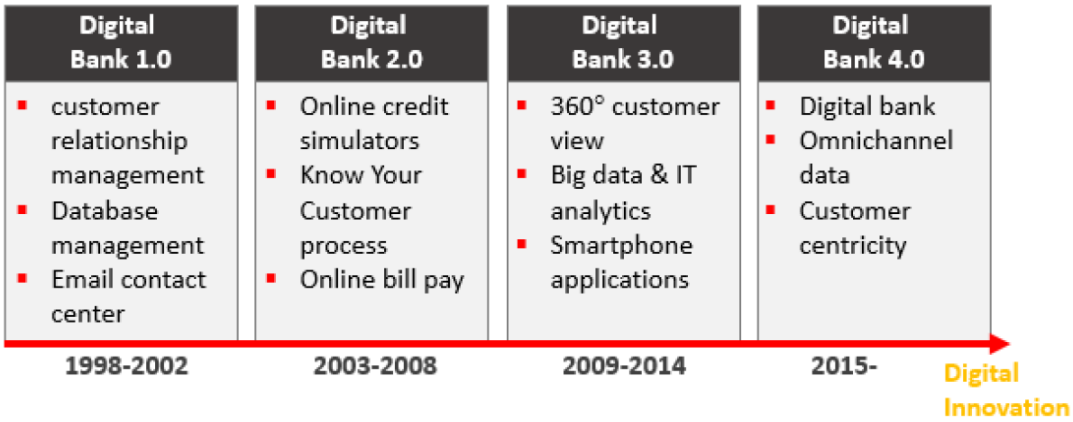

Figure 1. Transition of banks from 1.0 to 4.0
Source : Khanboubi F., Boulmakoul A.

The fourth industrial revolution has a potent outcome on national economic structures and business models. This makes fintech an intensely significant aspect of this insurgency because it also encourages a transformation of economic systems (Yong Jae S.; Yongrok C., 2019).

New entrants have disrupted the bank market by selling payments, in particular those targeting the emerging mobile payments market, personal lending, general insurance, and more recently financial advisory which have historically been regarded as a more complex service (Omarini A. 2017).

Financial technology is an industry composed of diversified firms that combine financial services with innovation technologies offered to financial service providers (Moro-Visconti, R. et al, 2020). FinTechs have the potential to separate essential banking activities: clearing and settling payments, performing maturity transformations, sharing risks, validating trust, and allocating capital (Moro-Visconti, 2020), hence impacting how consumers store, save, borrow, invest, move, pay, and protect money (Miklos Dietz et al.,2016).

Fintech platforms are currently less exposed to system-wide shocks compared to traditional banks since on aggregate and by scale they are more domestically driven in their operations (Anagnostopoulos, 2018). In addition to that advantage, Miklos Dietz et al (2016) believe that FinTechs are best positioned to have a huge impact on the financial market by adopting advantaged modes of customer acquisition, step-function reduction in service

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cost, innovative uses of data, specified propositions for segments, leveraging existing infrastructure and managing risk and regulatory stakeholders.

2.2. Banks relationship with FinTechs

2.2.1. Disruption factors of the banking sector

FinTechs promise to disrupt and reshape the financial industry by cutting costs, improving the quality of financial services, and creating a more diverse and stabler financial land-scape. Their existence is driven by circular economy and sharing, as well as favorable regulation, and information technology (Moro-Visconti, 2020). FinTechs thus currently have a market penetration of approximately 0.2% from these two subsegments as measured by the potential market. The total market volume of FinTechs will increase to 60 billion EUR in 2020 and to as much as 101 billion EUR in 2025 (Dorfleitner et al.; 2017).

Banks will have to engage in further cost-cutting since they remain shockingly costly, which partly explains the market penetration by new entrants (Philippon, 2016). The new paradigm spearheaded by fintech start-ups calls for stripping banking operations into separate business segments and holistically specializing in at least one of such segments affords them recognition, higher consumer utility, and as a result, market share. Banks will have to respond to this margin compression since passivity on the side of banks could result in approximately as much as 20% of revenues being at risk by 2025 (McKinsey, 2015).

New technology and technologically advanced regulatory tools are now showing a shift towards alliance. Competition between banks and challengers has already given way to direct collaboration across the fintech ecosystem. Banks with open and flexible digital structure will be better positioned to capitalize on the advantages of these collaborations (Anagnostopoulos I., 2018).

Mărăcine et al. (2020) suggest that five main areas exist where FinTechs can provide improvements in business models for the banks: introducing specialized platforms, covering neglected customer segments, improving customer selection, reduction of the operating costs of the banks, and optimization of the business processes of the banks. As digital banking offerings have matured and cost pressures have increased, it has become inevitable to make changes to the operating models of banks. One of the outcomes was a full-fledged branchless digital bank (Hough et al.; 2018) or challenger bank. A challenger bank stands for a financial institution that can be presented in the plain form of an information–communication system (Schepinin, Bataev; 2019). The traditional institution has felt the disruption and is working towards changing its business model from product-centric to customer-centric (Lotriet, Dltshego; 2020).

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2.2.2. The emergence of Fintech and sustainable economic growth

According to Moore A. (2015), a disruptive innovation is really needed when what is rare and expensive becomes ubiquitous and cheap. Shin Y.J. and Choi Y. (2019) define FinTechs as platforms for the development of sustainable economic growth as well as a prompter of the fourth industrial revolution. Fintechs looking to enter financial services using new approaches and technologies, seek to build economic models similar to those of banks, often targeting a niche or particular product (McKinsey, 2018).

Absent any mitigating actions by banks, in five major retail-banking businesses, consumer finance, mortgages, lending to small and medium-size enterprises, retail payments, and wealth management—from 10 to 40 percent of bank revenues (depending on the business) could be at risk by 2025. Attackers are likely to force prices lower and cause margin compression (McKinsey, 2016).

Sadigov et al. (2020) have proved that FinTech development contributes to economic growth by increasing the GDP generated in the financial sector, and indirectly does so by increasing e-commerce turnover and real sector financing, particularly by creating more favorable lending conditions for small and medium-sized businesses.

FinTechs' business model is intangibly driven, combining e-finance, internet technologies, social networking, artificial intelligence, blockchains, and big data analytics. Moreover, their revenue model is much more scalable than that of a typical bank (Moro-Visconti; R. et al; 2020). The new business model results from five disruption factors: cloud that makes marginal cost of free computing; smartphones that make marginal the cost of a transaction; new web and social media players who make payless the addition of a shared resource in the collaborative economy; easy exploitation of data by algorithms more than human treatments that makes cost of dynamic decision-making very low; Internet of Things that does not require on-site maintenance.

The new fintech approaches are creating a new basis for harmonizing investments across business partners and competitors too; through the new availability of products and services that have a different operational basis, with diminished human involvement on the purely transactional aspects, supported by machine intelligence where that is appropriate (Melnick, E. et al.; 2000).

3. Empirical study

3.1. Research methodology

For this survey, a total of 58 professionals and experts selected upon their specialization in finance / management or digital transformation have responded from 3 different countries, Morocco, France and Spain. The majority of respondents are specialized in finance.

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The questionnaire is divided into two parts. The first part includes general questions about age range, country, knowledge of digitalized banking services, advantages and limits of digital transformation in banking. Second, a more in depth set of questions about FinTechs and their impact on the banking sector. The questions were multiple choice with the option of adding a personalized answer to encourage participation.

The data was collected using social networks (mainly LinkedIn), with targeted requests sent individually for more significant results and control of the sample. The choice of social media was imposed by the COVID-19 sanitary restrictions in Morocco.

The age ranges were chosen according to generations' noticeable difference in familiarity and acceptance of digital solutions. It was also important to ask for respondents' countries because of environmental variations (population's accessibility to the internet, economic environment, populations' age variations…).

3.2. Survey results

All 58 responses were valid and included in the following statistical analysis. We used IBM SPSS Statistics 25 for the descriptive statistics of this sample. The choice of methodology is due to a constraint of data availability, the number of respondents is low and therefore the sample is non representative. The size of the sample obtained does not allow the estimation of the econometric model with limited dependent variables, such as Logit or Probit, generally used for nominal variables modelization. Consequently, we used frenquency tables, histograms and cross tabulations generated by SPSS 25 in order to observe the dependence of one variable on another and analyze existing relationships between the obtained data. In order to create the histograms for a better vision on the variables' fluctuations, we had to code them.

We had 4 multiple choice questions. For a better analysis we considered each of those choices a variable. In total we retained 2 ordinal variables and 22 nominal variables. Frequencies and categories' percentages are presented in tables from 1 to 7.

The majority of respondents are aged between 25 and 40 but ranks very closely to the 18-24 category. It may be explained by the ability of using technology by younger generations. People aged more than 60 are absent in the sample. This may be due to a difference in technology use and online presence (Table 1).

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	Frequency	Percentage	Cumulative percentage
18-24	23	39,7	39,7
25-40	25	43,1	82,8
41-60	10	17,2	100,0
Total	58	100,0	

Table 1. Respondants age
Source : Authors

Table 2 shows that 79.3% of respondents are in finance and management and only 20% are in digital transformation. This might stem from the relatively new area of digital transformation and so less experts and human ressources.

	Frequency	Percentage	Cumulative percentage
Finance - Management	46	79,3	79,3
Digital transformation	12	20,7	100,0
Total	58	100,0	

Table 2. Work field or study field
Source: Authors

Since the study is made in Morocco, it was anticipated that the vast majority of responses will be from experts in Morocco. This is what Table 3 shows with 81% of respondents from Morocco and only a small cumulative percentage of 19% for both Spain and France. So we won't be able to analyse the influence of environmental differences on experts' perception of fintechs' relationship with banks based on the country of origin.

	Frequency	Percentage	Cumulative percentage
Spain	2	3,4	3,4
France	9	15,5	19,0
Morocco	47	81,0	100,0
Total	58	100,0	

Table 3. Respondants country
Source: Authors

Table 4 highlights that the use of technological tools in different processes is very important for 36 of this survey's respondents which represents 62% of the total sample. None of them finds it not important hence the absence of that choice in the following frequency table.

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	Frequency	Percentage	Cumulative percentage
Moderatly important	6	10,3	10,3
Important	16	27,6	37,9
Very important	36	62,1	100,0
Total	58	100,0	

Table 4. Importance of using technological tools
Source: Authors

	Frequency	Percentage	Cumulative percentage
No	46	79,3	79,3
Yes	12	20,7	100,0
Total	58	100,0	

Table 5. Possibility to digitally transform banks without grave consequences
Source: Authors

According to Table 5, we can clearly say that most respondents (almost 80%) do not expect banks to be digitally transformed without bad consequences.

Concerning the necessity of fintechs for a successful digital transformation of banking institutions, it was strongly agreed that there should be some kind of involvement in order to correctly implement digital transformation in banks.

	Frequency	Percentage	Cumulative percentage
No	10	17,2	17,2
Yes	48	82,8	100,0
Total	58	100,0	

Table 6. Necessity of fintechs for digital transformation of banks
Source: Authors

Less than half of the respondents (28) think that they could eventually replace banks in the future due to the similarity of offered services and relatively lower prices.

Nonetheless, 51,7% think that such a transformation in the banking system can not happen.

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	Frequency	Percentage	Cumulative percentage
No	30	51,7	51,7
Yes	28	48,3	100,0
Total	58	100,0	

Table 7. The ability of fintechs to replace banks completely
Source: Authors

3.3. Analysis of survey results

In order to analyse the previous results, we will be interpreting a dynamic cross-tabulation graph made with SPSS 25 according to the complementary questions in the questionnaire to better explain the relationships between all the variables. Questions about known digital banking services, risks and benefits of banks' digitalisation were asked for further details.

Since the main goal of this article is to determine whether or not FinTechs are a threat to the banking institutions, we chose to discuss the two most important variables that the survey revolves around. First, we determine if fintechs are necessary for the digital transformation of banks then we conclude if fintechs have a potential to replace banks.

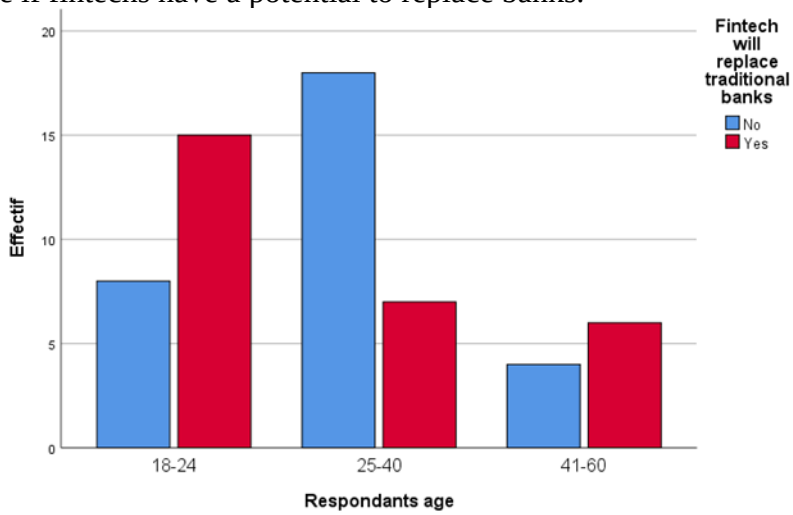

Figure 2. The ability of fintechs to replace banks completely / Age
Source: Authors

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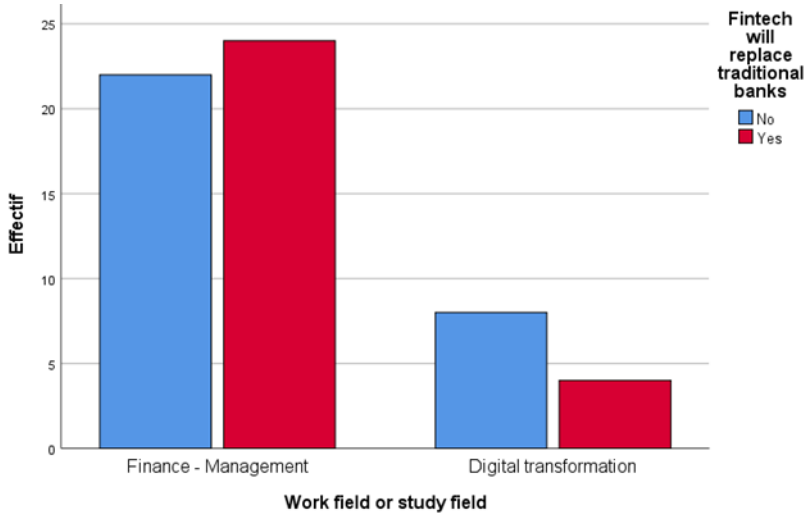

Figure 3. The ability of fintechs to replace banks completely / Field
Source: Authors

From Figure 2 and 3, we can conclude that fintechs are seen as a threat to banks in terms of competition amongst financiers and managers. Digital transformation experts on the other hand don't see a possible replacement of the banking system by the new entrants. For further explanations, we interpret in the next paragraph cross tabulation graphs for the possibility to digitally transform banks without grave consequences.

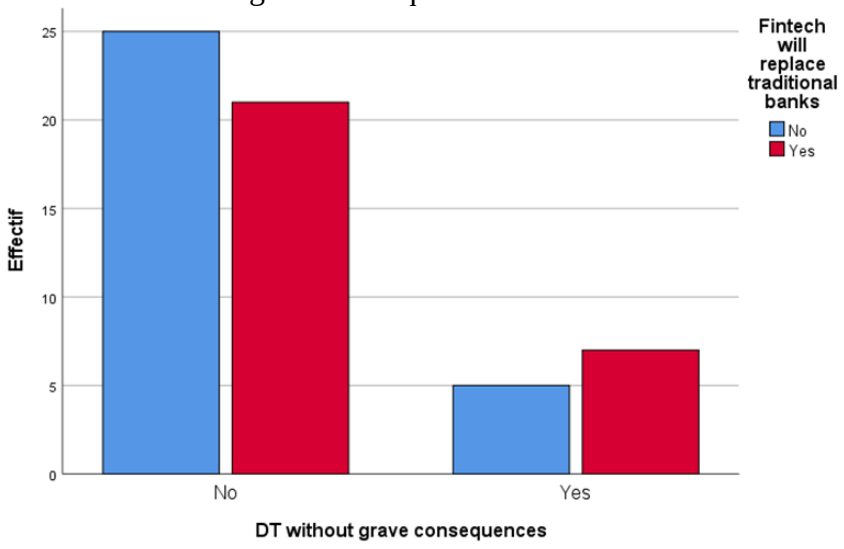

Figure 4. The ability of fintechs to replace banks completely / DT without grave consequences
Source: Authors

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Figure 4 shows that most respondents find it would be difficult to transform the whole banking system into a new digital system without bad repercussions. The most repeated arguments in this case were (1) an obligation for risk management ; (2) the importance of the structural change involved ; (3) resistance to change ; (4) redundancy costs.

Yet the majority of those who voted in favor of this idea do not believe that fintechs will succeed in replacing banks just because of their fragility.

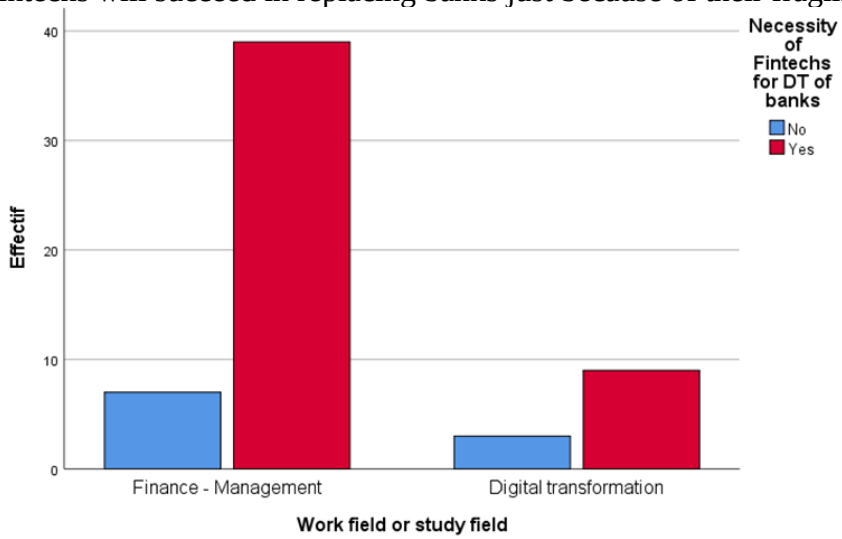

Figure 5. Necessity of fintechs for DT of banks / Work and study field
Source : Authors

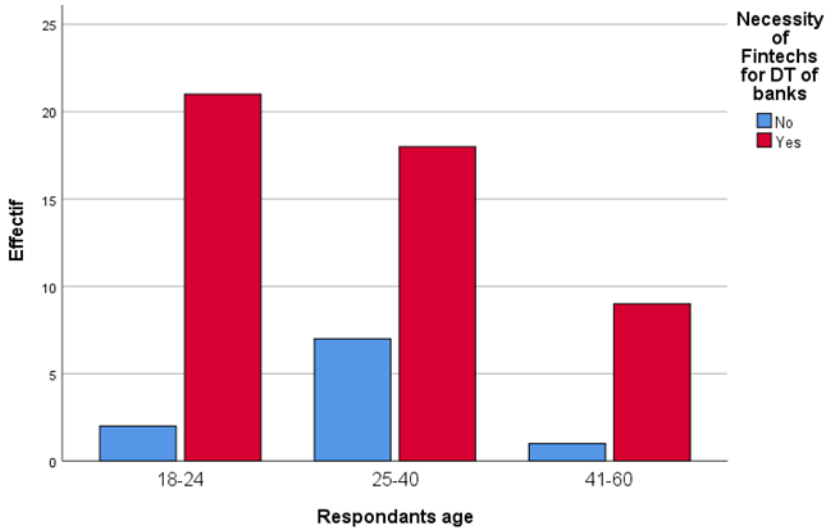

Figure 6. Necessity of fintechs for DT of banks / Age
Source : Authors

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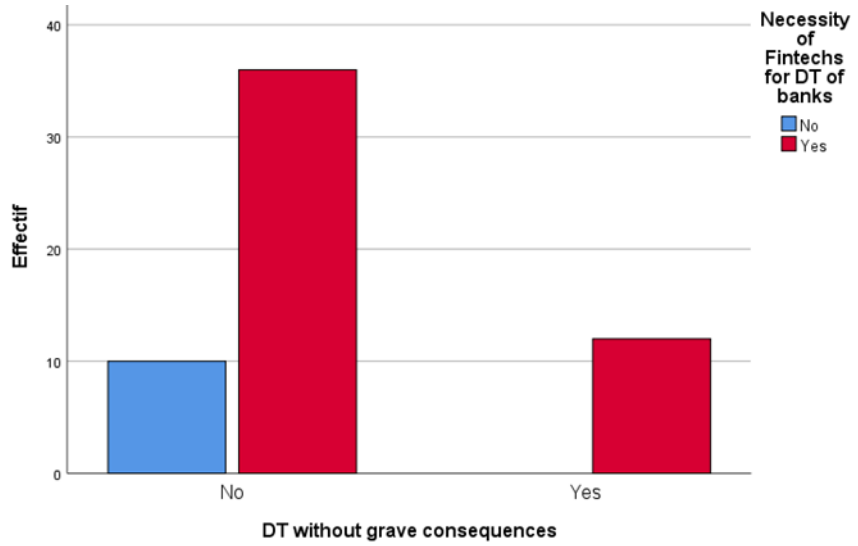

Figure 7. Necessity of fintechs for DT of banks / DT of banks without grave consequences
Source : Authors

Figure 5, 6 and 7 all show that no matter the variable crossed with the necessity of fintechs to digitally transform banks, the vast majority of respondents think that the banking institutions are in need of the new business model of fintechs in order to successfully transform with the least complications possible.

Our study has now confirmed that in order to correctly digitalize banks, FinTechs are a necessity and a guarantee to a successful transformation. FinTechs are the best chance for banks to increase their market share and keep their clients while attracting more, in times where consumers are very exigent and don't believe in customer loyalty.

It has also shown that the majority of Moroccan finance professionals are not yet familiarized with digital banking concepts, such as Robot Advisors and branches 3.0.

The participation of an expert in digital transformation of banks to this survey particularly caught our interest, of which the identity can't be disclosed. To his valuable knowledge for our study, even with the extremely complex structure, processes and regulations of banks it is still perfectly within reach for managers and scientists to transform banks into their full digital potential. Successful results are possible with the help of FinTechs.

Using the technological skills of FinTechs will allow a smooth transition from traditional banks to digital banks 4.0. Cooperation between banks and fintech companies allows the second to benefit from a stable customer base, a trusted label, capital and expertise. Banks benefit by ensuring a seamless digital customer experience and the integration of new

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technologies. There are many forms of cooperation, with different financial commitments. Many types of relationships are possible like direct partnerships or through sandboxes.

Inputs and limitations of research

Our research had led to the conclusion that FinTechs as new entrants in the financial sector can accompany banks in their digital transformation journey, and cannot be seen as opponents only. "Much has been said about the doom that FinTech is set to spell for traditional banking. However, this rivalry is now giving way to a more future-first collaborative approach. The simplification of complex processes, bundled with heightened user experience, has made FinTech appealing and has encouraged many banks to open their doors to FinTech alliances that will enable the co-creation of solutions to foster a new wave of digital disruption." (PwC India).

We tried to include many aspects in our survey including reduction of sampling errors, nonetheless the sample studied is only an approximation of the targeted population due to many factors, such as COVID-19 worldwide restrictions. The prevalence of these errors can be reduced by increasing the sample size associated with further research problems. We recognize that the analysis in this article paints a rather small picture of the relationship of fintechs and banks so we can not generalize these results on the population.

Conclusion

The competition between banks and FinTechs for loyalty is not new, various key barriers restrain business relations between them.

While the current situation differs from the dot-com boom, the failure rate for fintech businesses is still likely to be high. However, FinTechs that focus on the retail market are set to break through and build sustainable businesses, and they are likely to profoundly reshape certain areas of financial services.

In the financial sector, errors come with serious and dangerous costs. Technologies and organization structures have to be mature, ingrained in a solid digital strategy in order to allow absolute delegation of banking operations. At the same time, we see that the most technical tasks are being securely delegated to machines.

The risk of cyber-attacks remains the most important and the most difficult to avoid. As we have witnessed in the past, a lot of data leaks by the giants of the computer world (Facebook now META and others). A similar situation for banks cannot be tolerable with the terrible damage it can cause.

Therefore, looking forward, banking will definitely not vanish, but traditional banks are endangered unless they keep up with the latest developments. 'Rethink banking' is more crucial than ever, and some

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executive's initiatives in taking charge of the difficult path of structural change has been acknowledged (I. Krasonikolakis, M. Tsarbopoulos, 2020). A portfolio of digital initiatives can reduce risk through diversification, but genuine game changers require time, money, and leadership drive. Sometimes banks seed multiple ventures and then double down on scaling up those that deliver impact (McKinsey, 2015).

"Predictably, technologies are the most frequently mentioned element regarding the concept of digital transformation. Less, but also often emphasized elements are "Processes", "Data" and "Business models". The authors' latent purpose was to find arguments about the importance of the "people" element." (Verina N., Titko J. ; 2019).

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