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FinTech in the Saudi Context: Implications for the Industry and Skills Development

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Abstract

With the constant development in FinTech globally, Saudi Arabia is a late arrival in the FinTech world. However, the FinTech growth pace in Saudi is fast and not slowing down. This fast pace is confusing stakeholders, including bankers. This chapter unpacks how FinTech is developing in Saudi Arabia, considers the challenges and opportunities that FinTech may be facing in Saudi, and discusses how these changes may affect current bankers and how future bankers can be ready to enter such new market. The study draws on interviews with professionals in the banking and FinTech industries and makes two contributions: It suggests that FinTech will only affect retail and long-tail clients of banks (i.e., the effect on core banking operations, such as corporate banking and treasury). Findings also point to how professionals can upgrade their knowledge around matters necessary to retain their jobs in the sector. The study has implications for future bankers (i.e., university students), suggesting that university curricula should be updated to include relevant knowledge and professional placements.

Keywords

Digitalization, Digital Disruption, Fintech, Financial Technologies, Banking, Financial Sector, Saudi Arabia, Middle East, Gulf Cooperation Countries, Startups, Education

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ABSTRACT

With the constant development in FinTech globally, Saudi Arabia is a late arrival in the FinTech world. However, the FinTech growth pace in Saudi is fast and not slowing down. This fast pace is confusing stakeholders, including bankers. This chapter unpacks how FinTech is developing in Saudi Arabia, considers the challenges and opportunities that FinTech may be facing in Saudi, and discusses how these changes may affect current bankers and how future bankers can be ready to enter such new market. The study draws on interviews with professionals in the banking and FinTech industries and makes two contributions: It suggests that FinTech will only affect retail and long-tail clients of banks (i.e., the effect on core banking operations, such as corporate banking and treasury). Findings also point to how professionals can upgrade their knowledge around matters necessary to retain their jobs in the sector. The study has implications for future bankers (i.e., university students), suggesting that university curricula should be updated to include relevant knowledge and professional placements.

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INTRODUCTION

In an increasingly digitalized world, this chapter aims to explore the effects of digitalization on the set of skills of professionals, with an emphasis on adapting to such changes and preparing students to the changing market. While digitalization is impacting numerous industries—e.g. travel, music, media, (Mitchell, Gottfried, & Matsa, 2015, Bearne, 2016 & Gaskell, 2017)—the authors here study digitalization in the financial sector by focusing on an under-explored empirical context, that of Fintech in Saudi

Arabia. This study is premised on the importance of the banking system in any given economy and the size of the Saudi economy in the region. Unlike Fintech in other contexts, the Fintech market in Saudi Arabia is different as the regulators push and give incentives to investors to innovate in this area by supporting business incubators and offering support packages to startups. This way, the regulators develop regulation in parallel to the development of Fintech services. Such packages include waivers on licensing fees and municipality fees among others. The authors adopt a qualitative case study approach involving two groups of participants (bankers and Fintech professionals) in order to develop an in-depth understanding of the phenomenon under study. Further to informing the extant literature, the chapter offers recommendations for academics, researchers, practitioners, students and universities. In what follows, the chapter begins with a literature review, which is followed by a presentation of the research study, and subsequently, a discussion of the study's findings and implications.

BACKGROUND

In this section, the authors review and explain what is currently known in the digitalization field and how it is disrupting different industries; discuss the relationship between digitalization and the financial sector (Fintech); and examine the relationship between education and technology. By doing so, they provide a broader view of why digitalization is seen as disruptive and revolutionary, how it affects the financial industry and in what sense, and explore how education is coping with such changes.

Digitalization and Digital Disruption

Digitalization is the action of integrating technologies into daily processes (Thomas, Srihari, & Kaur, 2015) and is evident in numerous industries; for example, we have seen how newspapers started offering e-versions of their content in addition to the regular printings. Digitalization is also evident in the travel agencies, with some businesses adopting online bookings, others failing to do so and eventually going out of business, and also with new, born-global businesses emerging (Thakran & Verma, 2013).

Digital disruption, however, is the disturbance of the value of existing products and services caused by new technologies that introduce new business modules (Weill & Woerner, 2015). For instance, social media, such as Facebook and Twitter, have affected the news industry by disseminating news on their own multiplayer digital platforms (Newman, 2011). In the travel industry, unprecedented digital businesses, such as Airbnb, are disrupting travel operations worldwide by offering cheaper, customizable and more convenient accommodation solutions (Thakran & Verma, 2013). These examples support Gomber, Koch, & Siering's (2017) view that digital disruption—seen as something that happens over time (Karimi & Walter, 2015)—is using technology to offer a new product/service range to an existing market.

Barnatt (2001) makes a distinction between the first and the second digital revolutions; in his own words, "... *the First Digital Revolution is argued to have 2 been characterized*

largely by mass digitization, as more and more media, products and services were pushed into a binary, electronic format. In contrast, The Second Digital Revolution is distinguished by mass atomization — or, in other words, the everyday pulling of electronic, digital content into the perceptibly real world ” (p.2). Digital disruption is striking many industries, in transportation, where, for example, carsharing platforms such as Uber and Lyft are taking a large market share from taxis (Gaskell, 2017). The aforementioned author argues that although regular taxi income fell by 10%, the number of self-employed drivers grew by 50%. In the news industry, Twitter and Facebook are now the main players especially for younger parts of the population, i.e. the millennials (Mitchell, Gottfried, & Matsa, 2015). In tourism, online travel agencies such as Expedia and Kayak are taking over large market share from the traditional agency offices (Bearne, 2016). The music industry, apps such as Spotify and Soundcloud offer free streaming as well as subscriptions, are taking over the traditional album purchasing and are also pushing music labels out of the picture (Velasco, 2018).

Digitalizing the Financial Sector

Focusing more on the financial sector, banks have been undergoing internal digital transformation, e.g. by adopting new digital technologies themselves (Arner, Barberis, & Buckley, 2015). According to these authors’ breakdown of Fintech (Table 1), technology companies were not initially envisioned to compete with the banking sector; this only began after the 2008 crisis. Some examples of such technology companies include: Bankers’ Automated Clearing Services (BACS); Clearing House Interbank Payments System (CHIPS); and Society of Worldwide Interbank Financial Telecommunications (SWIFT), all of which were established between 1968 and 1973. Also, Internet banking (e-banking) was introduced to the banking systems by banks themselves (not non-banking companies attempting to disrupt the financial industry), where banks and IT solution companies worked together to create e-banking platforms. However, with the slowdown in the global economy that happened in 2008 and the decreasing trust in the banking system, Fintech startups emerged and started providing individual financial services. These Fintech start-ups were focused on the end-customer, providing one specific product/solution; hence, they cannot be considered financial institutions. This trait makes it easier for Fintech to be more innovative and agile than the traditional bank (Weill & Woerner, 2015). Sironi (2016) sees Fintech as a global phenomenon, positioned *“at the intersection between financial firms and technology providers, attempting to leverage on digital technology and advanced analytics to unbundle financial services and harness economies of scale by targeting long-tail consumers” (p. 22).*

Table 1. Fintech timeline

| Fintech Era | Era Features |
|----------------------------|--|
| Fintech 1.0 (1866-1967) | Started with laying the transatlantic telegraph cable, this was an important stem to a globalized financial system, however, banking remained analogue to a large extent |
| Fintech 2.0 (1967-2008) | Banking shifted completely from analogue to digital. Banks invested heavily in technology to gain competitive advantage |

Fintech Era

Era Features

Fintech 3.0

(2008 – Present) Fintech start-ups are appearing and disrupting the market

(Arner, Barberis, & Buckley, 2015)

Fintech companies provide several services including: payment services such as Apple Pay and Android Pay; peer-to-peer (P2P) lending platforms, such as Amazon Lending and Zopa; and P2P foreign exchange platforms, such as CurrencyFair and TransferWise. When comparing Fintech applications to the technologies that banks invested in throughout the years, it is evident that banks invested mostly in technologies that work in the background of their operations (back office) and less on the client-facing products (front office). This supports Philippon's (2016) argument that banks' innovations were not enough to improve the banking system's efficiency. Post-crisis regulations were preventing technological innovations to avoid further system disruption (Krstić & Tešić, 2016). Not long after that, regulators realized the limitations of overregulating the system and softened those regulations to allow for a more flexible market (Krstić & Tešić, 2016).

The competition is of odd complexity, as Fintech start-ups seem unable to operate without banks to execute transactions in the background; Fintech does not threaten banks' existence, but it is reshaping the whole industry in a way that existing banks will play a role of enablers in executing financial transactions rather than managing banking operations throughout (Omarini, 2017). But what if banks are not satisfied with these developments? Banks have the advantage of large capital to invest in technologies and compete with these newcomers; however, for banks to compete with these Fintech companies, banks need to change their business models (Kotarba, 2016). A recent study by A.T. Kearney shows that for banks to be digitized and in turn compete with new Fintech start-ups, banks need to change many of their attributes and adopt a new set of standards and values (Jaubert, Marcu, Ullrich, Malbate, & Dela, 2014). The report suggests three values to be adopted by the institutions, as follows:

- **Client centricity** focuses mainly on overall customer experience as well as studying the role of branches. The report indicates three primary success factors in this area. Being more observant and practical to clients' needs, which urges banks to become more attentive to clients' needs instead of giving ready-made products. Banks also need to be ready to provide clients with what they need and be original in offering new solutions. And the final factor is to change the role of branches from the traditional set of services provided in the branch to a more digitized, high-value delivering branch (Jaubert, Marcu, Ullrich, Malbate, & Dela, 2014).
- **Being open to innovation** is also crucial for banks aiming to compete with these Fintech start-ups as they are continuously evolving to meet customer expectations. For a bank to be innovative, a need for internal (IT) and external (Marketing) understanding is key to integrate both aspects and provide more suitable products that reflect current market needs (Jaubert, Marcu, Ullrich,

Malbate, & Dela, 2014). A pro-innovation culture that supports and provide incentives for innovation should be in place.

- **Organizational flexibility** is important as agility gives banks the ability to compete in such an environment (Tornjanski, Marinković, Săvoiu, & Čudanov, 2015). However, banks are very conservative when it comes to change, as the banking industry was quite stable for a very long time, which is reflected by the rigidity to change in the banking industry (Fasnacht, 2009). It is challenging to transform banks to be more agile due to the complexity of existing applications, constant changes in customer behavior and the increased amount of data, such as number of account holders, transactions, etc. This shows why such transformation cannot be made overnight, as banks have operated in a stable environment for a long time, which has generally resulted in a slow-paced change in the industry (Tornjanski, Marinković, Săvoiu, & Čudanov, 2015). Accenture (2018) suggest the following five characteristics of a more agile bank (Table 2).

Table 2. Having an Agile Bank

| Characteristic | Definition |
|--------------------|---|
| Customer First | Offering customers “what they need,” not “what the bank has,” hyper-personalized products and services. |
| Test, Learn, Tweak | Replacing complex distribution processes, continually adjusting offerings as the market dictates. |
| Revenue Ready | Transforming fixed costs into variable costs and investing savings in revenue generation opportunities |
| Right Challenging | Combining digital and physical channels to grow market share without traditional branches. |
| Fast Twitch | Flexing distribution, making channel decisions quickly and often |

(Accenture, 2018)

Further to operations and regulations, digital transformation in the financial industry is likely to also affect job descriptions within banks. Jaubert, Marcu, Ullrich, Malbate, & Dela (2014) discusses job descriptions that combine both IT and marketing skills to meet market needs and promote innovation. However, there is limited evidence of studies that unpack how Fintech affects core aspects of banks, such as corporate banking, retail banking, and treasury management, among others. The extant literature on the current applications of Fintech shows that Fintech is not only involved in retail clients, but also corporates with the use of P2P lending platforms (crowdlending), funding platforms (crowdfunding) and Robo-Advisors, among other applications and platforms. When looking at corporate banking, it is argued that the relationship between the relationship manager (the bank) and the CEO & CFO (the client) has a significant role to play in relation to decision making for financing, for example. This reflects the subjective part of credit relationships and lending in banks that are hard to quantify. This raises the question of whether Fintech companies / applications are able to compete with such crucial decision-making professionals in corporate banking and other vital areas in banks, and whether new technologies can be developed to quantify qualitative attributes. Ultimately,

this raises the question of what would be the required skills for such competition between Fintech and other banking professions?

Having said that, it is important to prepare students to the new financial industry and explore whether professionals need to learn about new technologies and how such knowledge can be obtained by both students and professionals. Education is key for the growth of any economy (Goldin & Katz, 2009). For the financial sector in particular, it is important for practitioners to have a solid background in analytics and general business, which is mainly obtained in universities and higher education institutions (Cornuel & Thomas, 2012). However, it has been argued that use of information and communication technologies (ICTs) is taught as part of computer science or similar studies and not so much as part of business education (Picatoste, Pérez-Ortiz, & Ruesga-Benito, 2018). These authors argue that, in this current fourth industrial revolution, technology training is essential. Chuang (2017) and Hsiao, Shu, & Huang (2017) suggest that there are different ways to introduce ICTs skills to students, for instance by offering the knowledge in the form of tools rather than introducing separate curricula to students. This could be of benefit to students irrespective of field of study.

THE RESEARCH STUDY

In this section, the authors explain their research approach and the reason behind using such approach and discuss the research findings.

Methodological Approach

A case study approach was adopted whereby the banking industry in Saudi Arabia was selected in an effort to understand how Fintech is affecting the set of skills required the banking industry. Cavaye (1996) argues that case studies are appropriate when theoretical knowledge on a phenomenon is limited, as is the case of digitalization and Fintech in Saudi Arabia. The case study involved interviews with eight participants with experience in the Saudi banking sector and professionals working in Fintech companies in Saudi Arabia directly and indirectly. The interviews include bankers with more than fifteen years of experience in the financial sector in general and currently holding senior roles in corporate banking in their organizations, the reason of choosing corporate bankers is the exposure that a corporate banker gets from interacting with different clients from different industries. These bankers handle portfolios with companies from different industries that are either working on the Fintech infrastructure in Saudi or companies that are already affected by digitizing some of the roles in their operations. The interviews also included professionals who are working as consultants to Fintech companies and/or the regulators, entrepreneurs investing in Fintech companies, senior managers in Fintech companies and consultants to small and medium enterprises (SMEs) for implementing Fintech in their companies.

Table 3. Research participants' characteristics

| | Pseudonym | Current Position | Expertise |
|------------------------------|-----------|---|--|
| Bankers | Omar | Area manager in corporate banking in one of the largest banks in Saudi. | 15+ years in Investment Banking, Corporate Banking, Credit and Risk. |
| | Sami | Head of Corporate in one of the largest banks in Saudi | 15+ years in investment Banking, Asset Management, Corporate Banking, Credit and Risk. |
| | Ahmed | Team Leader in corporate banking in a large bank in Saudi. | 10+ years in Finance Department, Corporate Banking, Credit and Risk. |
| | Essam | Senior manager in finance and liquidity management in a leading Saudi bank. | 10+ years in Finance and Liquidity Management, column writer specialized in Saudi economics. |
| | Mohammed | Head of Investment in IT solutions company. | 5+ years in Investment at an Investment arm of a Technology company, Investment Banking, Investment at a Fintech company. Development of Technologies. |
| Fintech Professionals | Rashid | Supporting SMEs in finding suitable Fintech solutions. | 5+ years in Technologies in payments services and Fintech in Saudi, Consulting Fintech start-up companies. |
| | Majed | Consulting Fintech start-ups and regulators. | 10 + years investment Banking, Fintech Consultancy. |
| | Rakan | Working on a Fintech start-up. | 5+ years in Corporate Banking, Consultancy, Start-ups entrepreneur. |

Table 3 above presents the participants along with their demo-biographical characteristics. The diverse backgrounds give a more general view to what is currently happening in the market and utilizing such to have a feel on where the Fintech tide may be taking the market. The interviews were structured to be completed within thirty-minutes, however, some interviews were extended to reach an hour depending on the course the discussions took. The authors used NVivo 12 to transcribe, code and analyze the interviews. The data were analyzed thematically and participants' names and organizations have been anonymized.

The Research Findings

Discussed in this section are the perceptions of the different groups of participants in the study. The findings explore the current market in parallel to the set of skills that current and prospective bankers need to acquire.

The Bankers' Perspective

Participants emphasized that Fintech as a concept is not new to the market; however, the current form of it is new. As shown in the Background section, Fintech has existed since the 1860's. Nevertheless, until the first decade of this century, technology was used to give competitive advantage to existing market players, being banks, etc. (Fintech 1.0 & 2.0). However, in Fintech 3.0, IT companies entered the market as a single service provider, competing with banks and other financial service providers.

While interviewing the bankers, the authors noticed different views when it came to understanding Fintech. Some bankers viewed Fintech as a new phenomenon that may change the role of banks due to the following reasons:

- **Lower Capital Required:** Fintech companies are single service providers that depend on technology more than labor.
- **Lower Operational Costs:** Fintech companies are not banks; hence, their operational activities are much lower than banks, i.e. payment processing, Know Your Customer forms (KYCs).
- **Lower labor costs:** This is because of the single service structure and dependence on technology.
- **Less Bureaucracy:** Bureaucracy limits the agility of an entity, which is key for such companies, as it enables more innovation.

Omar also explained how banks may be more back-end oriented, giving up the front-office activities to Fintech:

Of course, if you think about Fintech, it has a lower cost, they will not be labor-intensive as banks. It will be eliminating the middle-man in some functions. It will be leaner and more efficient. There will be more regulations coming up on Fintech in the future. (Omar)

While the above quote reveals estimation that Fintech will acquire a large market share from banks' front-office activities, another view shared by some of the banking experienced participants in the study was that Fintech companies are likely to complement existing bank format by aligning their services to banks. Implying that banks may acquire or white-label these Fintech. By doing so, the competition is eliminated. In the following extract, Ahmed views Fintech as complements to banks:

No, Fintech complements the product offering of the banks. This is what we call "white labelling" using the banks at the back end but at the front Fintech is providing the platforms. There is no competition whatsoever, the banks still can make money from these products by aligning themselves to these Fintech. (Ahmed)

Nevertheless, it was agreed that Fintech will only succeed with the help and support of the regulators. Albeit the conservative approach of banking regulations in Saudi in the past, the regulators are currently proactive in the Fintech area and are pushing for more implementation and higher penetration while keeping their conservativeness by giving

license to Fintech companies after studying all aspects of each specific application or service. The main force moving the regulators to be more proactive is the Vision 2030, which has the Financial Sector Development Program as one of its thirteen pillars:

The government has a driving force for development of the economy. The whole economy is depending on the government. The whole Fintech is part of Vision 2030 adopted by the crown prince. There is a dialogue between Fintech and regulators. (Omar)

In order to analyze the Fintech market, it is key to know why technology firms are entering the financial sector. Banks are large bureaucratic companies that are very rigid. Such rigidity restricted banks from upgrading their front-office products to be more customers oriented. On the other hand, Fintech companies are much agile, very small and are a single-service provider:

The financial sector lagged development on how business model is working, and services offer compared to other sectors. The banks flew large enough to make it difficult to come up with more customer oriented and service-oriented product offerings and Fintech being small companies digitally driven have been extremely successful and it's a trend that is expected to continue and it's the future. (Sami)

It was noticed that bankers believe that Fintech are not only threatening banks, but also bankers. Especially those who have been in the industry for a longer time, as the disruption to the sector requires a new set of skills that necessitates agility, which is opposite to the nature of the conventional banking system. A new form of bankers is expected to appear, they are expected to be tech-savvy:

Some of them will be dying breed. That's the norm of life. It is an inevitable change and people will have to upgrade themselves. This is a new industry that is likely to attract and create other sectors, which will have an impact on the number of people employed. But it will reduce the number of people. (Omar)

From the above, the authors noticed that Fintech is still vague for bankers. As mentioned in the previous section, for a long time, technology was used by banks to compete among each other, but was never used by non-banking companies, specifically technology companies. The change of competition nature had the banks in a shock-like stage especially that the Saudi banking industry is a conservative one. Regardless of the conservative nature, Saudi Arabia is still the largest economy in the Middle East and thus, global Fintech are keen to enter the Saudi market:

Each geography and each country have its set of characteristics and features and no one Fintech can dominate. So, the central bank being tight on Saudi keeping the system closed so Fintech that will be developed within Saudi will have an advantage but at the same time we see large Fintech wanting to localize their solutions to Saudi Arabia. (Sami)

The financial technical knowledge has always been key for bankers, however, the current market changes are technological changes. Such changes require a new set of skills to be added in the banking industry. New areas are expected to rise in banks to allow banks to compete with Fintech and current bankers do not have the skills that enable them to adapt to such changes:

There are certain functions within banks that will have less impact than others. Generally speaking, banks will start having more people that are scientists, data analysts, computer engineers and much more robust and stronger IT and digital team than now. (Sami)

Business schools need to focus more on technological knowledge. The way business majors are taught haven't change much throughout the years, theories in finance, accounting and economics are not changing as frequent as computer science is. Fintech companies are technology companies providing financial services and in order to have a competitive advantage in this area, one needs to have both business technical skills and technological skills. However, the areas of concentration are not clear yet. Being tech-savvy is key, but one needs not forget the business technicalities:

They will be tech-savvy, basics of liquidity management. It is hard to picture the required set of skills. (Omar)

Omar also added that there should be business technologies curriculums added to business schools to prepare students for the market in its new form:

Business school will have to provide courses covering the tech aspects. (Omar)

Bankers have different views to the competitiveness of Fintech. Some consider it as a threat to banks, others believe they will complement banks and upgrade customer experience. Yet, there is an agreement that bankers need to learn more about new technologies if they want to lead in the new banking era. There is also a consensus regarding adding supporting curriculums in business schools that would give students the knowledge needed in the new banking market. The authors notice the effect of being in such conservative market for a long time in how bankers read the future of the market. There is a vague image of where this is going in the eyes of bankers, and this view will be cleared with more knowledge in modern technologies.

The Fintech Professionals' Perspective

Fintech professionals have a clearer view about Fintech than bankers, mainly because most of them were bankers who shifted to the tech field. By looking at Fintech's target market, it is clear that Fintech seek markets where they can scale; as the services are usually extremely cheap in price (Economies of scale). The Middle East is a very promising region for startups with room to innovate and create new products. The GCC are the richest countries in the region and many opportunities are arising continuously in the GCC. Saudi Arabia is by far the largest economy among the GCC with the largest population as well. The number of SMEs is also growing in parallel to the Saudi

government's support to these SMEs by establishing several agencies and programs to support the growth of these SMEs:

Fintech generally look for markets where they can scale and in GCC, Saudi is the largest market which makes sense for Fintech who is looking to work in the GCC to consider Saudi Arabia in the region. (Majed)

The competition with banks is in areas with exposure to large populations, this means individuals and SMEs. The banking service that is most used by individuals is payment. The increasing number of payment gateways that also provide other Client-to-Client (C2C) transfer services is rising in Saudi Arabia (e-wallets). STC Pay for example is an e-wallet that provides transfers to other people using the application as well as cost monitoring for family members, etc. Banks are expected to lose their market share of such activity in the beginning; however, they will regain such market share by acquiring the most successful ones:

Yes, especially for payment gateways. They will be affecting banks. We will see many startups coming to this area competing, trying to excel and eventually be acquired by banks. (Rakan)

Another scalable market is the SME sector. SMEs usually are of low income to banks, the credit facilities required are relatively low, the Non-Interest-Bearing Income (NIBs) coming from the current accounts are relatively low as well and they have high operation cost on banks. Fintech solutions can be of use for these companies. Below, Rashed gives an example of Points of Sale (POS) machines, another opportunity is P2P lending as well. SMEs are usually of higher risk to banks, meaning they are offered higher interest on their credit facilities. In this context, Rashed considered this as collaboration with banks rather than competition as many banks are not interested in dealing with such segment:

Banks are considering Fintech more of a collaboration rather than competition to take away parts of business that are high on operation and low in income such as; POS machines, etc. (Rashed)

It was established that a Fintech is a company that provides a single financial service; therefore, a Fintech cannot replace a bank. However, can multiple Fintech replace banks? Majed believes that Fintech are far from replacing banks:

There are very few Fintech which have become sort of banks, which are considered as challenge to banks in the financial industry. Fintech cannot become banks because they do not have the data base, the trust factor nor the scalability that a bank has. (Majed)

In Saudi Arabia, the central bank is driving and pushing for Fintech to enter the market and come up with several innovative services. This alone is a new approach in the market; as the Saudi central bank has been known for being a conservative one. The Saudi Arabian Monetary Agency (SAMA) and the Capital Market Authority (CMA) created a Fintech sandbox; where startups come and present their products, have it tested

from several aspects before sending them to the market. An entity named Fintech Saudi was created to support the regulators and Fintech in this process:

The market is driven by the regulators. The regulators are creating a sandbox for innovators, but innovators should not step-out of the box in ways that provokes the regulators, something like creating crypto exchange. The regulator always concerns fraudulent activities and avoids anything that has a fraud risk or money laundry risk. (Mohamed)

Even though the main regulators are pushing and driving the market, existing regulations remain challenging to the market. Fintech, similar to banks, go under several regulators, these regulators are not yet ready for such market:

Needing to approach several governmental entities to obtain licenses, each with different requirement. There are no regulations in place for areas such as P2P. (Rakan)

The above-mentioned quote takes into consideration all regulatory bodies and not only SAMA and CMA. Other related parties can be the Ministry of Commerce and Investments and the Ministry of Labor, among other parties.

The regulators are not the only conservative party in this paradigm. The market is very conservative as well. For a long time, SAMA has been pushing for a cashless society, which has not been a success so far; as the penetration on plastic cards remains low. To push the society to Fintech solutions is even more challenging than plastic cards:

Also, educating people about Fintech and to make them trust the technology, especially when it comes to money, people are hesitant, we've seen people being resistant technology was introduced to different sectors. The Saudi market is very conservative and traditional. (Rakan)

Current bankers should be educated in this area, such knowledge with existing experience can be used to create new ideas and give banks competitive advantage:

There needs to be an element of self-learning to be able to understand what's happening to the world. (Majed)

The new market does not lack financial technical skills, or technological technical skills. However, a combined set of skills is needed, someone who understands both aspects and how to utilize technologies to serve the financial industry. Such knowledge is expected to be taught in universities to have well equipped graduates:

The technical skills have been a challenge that is also being addressed with university partners. (Majed)

Universities should add new majors introduced into these universities. Fintech should be added to majors, majors such as “Fintech and Investment”, etc. Mix and match new majors. (Rakan)

On the other side, another idea to equip students is by offering internships in Fintech companies and gain such knowledge hands-on:

I don't expect people to get such knowledge from Universities. Students need to go and work for Fintech companies and learn from them, do their internships there. (Mohamed)

Fintech professionals have a clearer view of the market, however, there is a push for regulators to improve the regulations, and they are. This push for more agility and innovation is new to the banking industry in the country, yet it is strong and there is support from the regulators and the government. Scalability is key for Fintech and the market has the potential for Fintech to grow given the support that SMEs and startups are getting from the government. Having a scalable market is not the only ingredient for a successful Fintech, Fintech needs to employ more capable people and these are people with both financial and technological knowledge. There are a few ways to prepare students for such market, the first is to educate them in universities by adding some sort of a business/financial technologies courses. The other way is to send students for internships in Fintech companies to learn hands-on.

SOLUTIONS AND RECOMMENDATIONS

In this section, the authors discuss the themes that emerged from the study and provide recommendations for industry practitioners, academics, students and universities. Two main themes emerged in the analysis: (a) Fintech target market, being scalable and less focused by banks; and (b) the changing set of skills of current and future practitioners, with the second theme being a direct result of the former, requiring rethinking in terms of the skillsets required by future employees in the sector. Discussed next are the theoretical contributions of the study, followed by practical recommendations.

Theoretical Contributions

A common theme between participants from both sectors was the disruptive nature of such innovation in the financial industry, especially the banking sector, reassuring Philippon's (2016) theory that the banking industry was focused on back-office improvements rather than front-office. Another common theme was the acquisition of Fintech by banks. By doing so, banks eliminate competition while also potentially affecting their bureaucratic nature pushing for more agility. This reflects Jaubert et al.'s (2014) study mentioned in the Background section.

The study also shows the effects of having a conservative banking system, despite its traditionally positive effect on the Saudi economy by protecting it from global economic crises such as the one in 2008. The conservative nature of the regulators was reflected on banks as well; the rigidity and resistance that bankers show to such change reflects the views of Fasnacht (2009). Despite the fact that the regulators are the ones pushing for Fintech penetration, their late adoption of this program reflects the conservative approach of the ecosystem, which is being forced to change by country leaders. Hence, the Fintech sandbox is created to promote a top-bottom change on the ecosystem as a whole by supporting Fintech startups, entrepreneurs, banks and other stakeholders.

Another important outcome from the data is the lack of understanding of Fintech and its history. Many stakeholders are not familiar with the Fintech timeline suggested by Arner et al. (2015). This adds to the challenges that regulators face to increase the penetration of Fintech. Such a challenge comes from the public users of Fintech solutions. For many years, the regulator has been pushing for a cashless society and the penetration levels for plastic cards are not satisfactory to the regulators. Fintech is even more challenging.

As for banks' existence, the study shows that it is very unlikely for Fintech companies to be banks, supporting Omarini's (2017) suggestion that Fintech needs banks to operate; rather, Fintech will digitize and automate most banking operations. The study shows two main ways of gaining such knowledge in technology and information systems: (a) classroom teaching, i.e. university taught curricula for students and training sessions for practitioners; and (b) on-job training, i.e. internships for students in Fintech companies. Both findings reinforce the suggestions made by Chuang (2017) and Hsiao et al. (2017) that ICTs should be embraced within existing education curricula.

Practical Recommendations

With the fast pace of Fintech integration in the Saudi economy, it is inevitable that practitioners will start learning the new technological trends in order to gain competitive advantage in the new market. The data showed that Fintech is still in its early stages and is targeting the market that is overlooked by banks. Nevertheless, Fintech is creating new opportunities in the industry and practitioners need to learn more about technology to be able to compete. Banks are also expected to support their staff and provide learning and development programs in the area of Fintech to explore new ideas and ways to use new technologies in their interest.

University students also need learn more about the current trends and try to link them to their studies. Many schools are focusing more on Fintech and offer Fintech-specialized programs. However, not all knowledge can be gained from school; students should also gain hands-on, practical experience, for example by doing internships in Fintech companies. Universities are also expected to develop partnerships with Fintech companies to ease the process of their students' internships, as faculty will be integrating technology in their existing curricula to maximize their students' exposure to these trends.

FUTURE RESEARCH DIRECTIONS

The study presented has limitations which give rise to direction of future researches. For instance, a small group of participants took part, which may limit the generalization of the findings. A quantitative approach is likely to enable more statistically generalizable results. Even within the Middle Eastern context, the findings of this study may not be relevant, as the region has economies that are extremely poor and others that are significantly wealthier. A multi-case study approach involving regions with diverse levels of economic development may be useful to that end. A final remark here relates to who informs the results of a research study. This study has taken the case of bankers and Fintech professionals; it would therefore be useful if future researchers adopted a multi-perspective approach by considering other stakeholders in the industry—such as end-users and regulators—which would help to paint a richer picture of how digitalization and Fintech play out in the wider financial ecosystem.

CONCLUSION

The study was initiated to explore how Fintech is affecting the set of skills sought in bankers in the Saudi financial context in particular; an under-explored research context. The study offered a better understanding in the idiosyncrasies of Fintech in the selected context and identified implications for practitioners, educators and students, which were discussed in the previous sections alongside directions for future research.

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KEY TERMS AND DEFINITIONS

CMA: Capital Market Authority (in Saudi Arabia).

Digital Disruption: The change of the nature of an industry that is caused by digital technologies.

Digitalization: The use of digital technologies to upgrade processes.

FinTech: The use of technology in the financial industry.

Payment Gateway: An app that enables the user to pay through the mobile without the need for physical cash/card.

Peer-to-Peer Foreign Exchange Platforms: A platform connects two similar clients to exchange currencies, i.e. individuals to individuals, small companies to small companies.

Peer-to-Peer Lending: A platform that connects two similar clients to lend and borrow, i.e. individuals to individuals, small companies to small companies.

SAMA: Saudi Arabian Monetary Agency.