"Is Financial Technology a Rival or Complementary to the Traditional Banks Theoretical Framework and Future Prospects"

Dr.ahmad T. alajlouni* **Asuil Ibrahim alaagam****

الملخص

استقطبت التكنولوجيا المالية (تم) اهتماماً عالمياً كبيراً من قبل الجهات المتخصصة ذات العلاقة. تساهم هذه الورقة في تطوير إطار نظري من خلال منهج تحليل المضمون. لقد تم تركيز الاهتمام الأساسي لها في المساهمة في أدبيات التكنولوجيا المالية من خلال تحقيق ثلاثة أهداف؛ يتمثل الأول منها بإلقاء الضوء على أساسيات هذه الظاهرة الفريدة. والهدف الثاني لهذه الورقة هو تقديم تحليل نظري للاحتمالات المستقبلية للتعامل مع هذه الظاهرة من قبل البنوك التقليدية. أما الهدف الثالث لهذه الورقة فهو الإجابة على سؤال الدراسة وهو: هل أن التكنولوجيا المالية منافس أم مكمّل للبنوك التقليدية؟

قمنا باقتراح استراتيجية الاحتواء كخيار أمثل للبنوك لمواجهة تحدي التكنولوجيا المالية، حيث نرى بأن البنوك التقليدية ستحتوي التكنولوجيا المالية في نهاية المطاف. هذا إلى جانب استراتيجية داعمة تدعى "استراتيجية تطوير البيت"، التي تعتبر كمتطلب لتطبيق استراتيجية الاحتواء.

الكلمات المفتاحية: التكنولوجيا المالية، الصناعة المالية، تمويل الند للند، تمويل الحشود.

*أستاذ مشارك، جامعة القصيم، السعودية.

**مدرس، جامعة القصيم، السعودية

Abstract

Financial technology (henceforth: FinTech) attracted overwhelming global interest from different interested parties. This paper provided theoretical work through content analysis approach, it is devoted to participate in the literature through achieving three goals; the first one is to shed light on the basics of this distinctive phenomenon. The second goal of this paper is to provide theoretical analysis of the future prospects in facing the FinTech challenge from the traditional banks. The third goal of this paper is to answer the study question I.e. Is Financial Technology a Rival or Complementary to the traditional Banks?

We suggested Containment Strategy as best choice for traditional banks to face the FinTech challenge, we see that traditional banks will contain it at the end, a supportive strategy called In House Development Strategy considered as an essential requisite to Containment Strategy.

Key words: Financial Technology, Banking Industry, Peer 2 Peer, Crowd funding.

Introduction

The surging emergence and growth of FinTech firms has changed the financial landscape in general and banking industry in particular, challenging well-established and relatively untouched traditional banks[1] with novel solutions and services. FinTech changed the traditional rules of providing financial services, representing real challengers for the traditional financial services providers. It describes tech-enabled products and services that improve traditional financial services in common and banking industry in particular.

FinTech firms like Paypal (a novel online payment system), WeChat payments (social media-linked payments), Klarna (online payments with micro credit checks), and Holvi (a Finnish bank with no offices, geared mainly toward entrepreneurs) aim to attract customers with products and services that are more user-friendly, efficient, transparent, and automated than those currently available (Dorfleitner, Hornuf, Schmitt, & Weber, 2017).

One of the drivers behind the emergence and prosperity of FinTech industry with its new premise is the difficulty for the industry new players to take place and innovate under the existing regulatory market structure, as it designed for traditional players.

Global financial crises in 2008 showed how fragile is the financial system represented by banks. Many big questions arose about the current line of traditional banking operations" is the banks' role as financial intermediary on the decline? Will the banking system no longer be the motor driving the functioning of the economy? The answer to these questions is certainly not a clear yet"(Kerényi, Molnár, & Müller, 2018).

A young full of enthusiasm, brilliant minds and full of agility FinTech players benefited from the trust gap between the traditional banks and their customers (Crabtree, 2013). Buckley (2015) raises this important point "customers' relationship with their bank has always been inconceivable in the long term without mutual trust, and earning this position of trust entailed the forging of a long-term relationship".

The FinTech young companies empowered by many comparative advantages in cost advantage and time efficiency, they are free from many of the regulatory obligations with which the banks have to comply. In spite of the mentioned advantages, no structural changes happened to the banks' role in the financial markets attributed to FinTech contenders so far (Navaretti, Calzolari, Mansilla-Fernandez, & Pozzolo, 2018). Crypto currencies and the BlockChain, peer-to-peer lending, equity crowd-funding and mobile payment systems represent outstanding examples of the FinTech firms.

The most important challenge that FinTech firms represent against traditional banks is that it competes it in the core of its business, i.e. credit. The FinTech electronic platforms became countable rival for the traditional banks in providing credit especially at the personal and household level, capitalizing from its global widespread(Al Ajlouni & Al-hakim, 2018).

[1] Traditional banks are the interest based banks, which known as commercial banks.

According to Pierrakis and Collins (2013): "Such innovations can disrupt existing industry structures and blur industry boundaries, facilitate strategic disintermediation, revolutionize how existing firms create and deliver products and services, provide new gateways for entrepreneurship, democratize access to financial services, but also create significant privacy, regulatory and law enforcement challenges".

Much of the FinTech literature has concentrated on understanding what this phenomenon and its firms and markets, and how they operate; comparatively few studies have been conducted to understand FinTech in the Arab countries. Little theoretical understanding exists on how FinTech developed and evolve or in this part of the world, and how FinTech influence banking industry in its marketplace.

FinTech characterized crucial challenge that banks should face to capitalize from the opportunities and benefits it provides, and minimize to the largest degree the threats and risks associated with it.

1. Theoretical framework

This part of the paper is devoted to shed light on the main aspects of FinTech that shape the theoretical background and essential understanding of the FinTech, it includes literature review, FinTech definition, its development, in addition to segments and dissemination of it.

2.1 Literature Review

Though many professional reports and studies discussed FinTech, it is still in first stages as a subject of study, through in depth search for published literature, we find that the following recent studies that cover this issue.

Jakšič and Marinč (2018) explained how relationship banking evolved in the light of IT- based innovations. They argued that relationship bank still has its advantage when it competes with transaction-oriented banks or financial technology companies.'' The benefits of a branch network still exist, and human bankers cannot be fully replaced by artificially intelligent computers in lending just yet''. Relationship banks need to adopt technology, adapt to changing customer needs and respond to the regulatory demands.

A study of Navaretti et al. (2018) investigated the basic economic components that characterize banks, how banks can be affected by FinTech in terms of maturity and risk transformation, payment systems and management of information. They examined the incentives that characterize bank activities and how these can affect their competitive prospects. They recommended the pursuits of building a system of financial technology services and governance that is compatible with the economic and financial development of China and continuous improvement of the ecosystem and smooth industrial systems, thus enabling innovation and technology to play a more important role in driving financial technology and controlling the high risk.

Technology changes and financial innovation in banks over the last 30 years has reviewed. The study found that large – scale computing and adoption of the Internet has resulted in a more efficient payment system with relevant product innovation. Technological change has also transformed consumer lending by moving from human to automated underwriting based on credit scores and other complex information. This has led to the expansion of available credit (Frame, Wall, & White, 2018).

The economic and technological determinants, which included urging entrepreneurs to set up ventures to reinvent the financial technology studied by Haddad and Hornuf (2016). They found that countries are seeing more formation of startups when the economy is well developed and venture capital is readily available. Factors that have a positive impact on the development of new market segment are the number of secure Internet servers, sub-programs for mobile telephone, and available labor farce. The results show that financing is one of the most important part of the of the emerging FinTech market, so the more it harder for companies to access loans, the higher is the number of financial technology startups in a country.

Investigating if banks are complements or substitutes to crowd-funding has conducted by exploring the causes of failure of banks in the U.S. The study tested data on two kind of crowd-funding: debt and rewards–based projects. The analysis shows that banks finance is a complement, and not a substitute for crowd-funding. The study recommended that banks should promote banks stability and banking efficiency to enhance entrepreneurial finance and crowd-funding. As the banks should adopt and encourage borrowing as a mean of promoting and promoting entrepreneurial activity in order to benefit from crowd-funding marketplaces (Cole, Cumming, & Taylor, 2019).

Jagtiani and Lemieux (2018) tested whether or not the financial technology lending platform can expand credit access to consumer. In term of credit access, data was used from the Y-14M data to examine whether Lending Club loans penetrated potentially underserved areas, and the area with less bank branches. The study found that consumer lending activities at Lending Club have penetrated areas that could benefit from additional credit offer, especially, in areas where there are fewer bank branches. Finally, they found that FinTech lenders could fill credit gaps in the areas where bank offices are less available.

2.2 FinTech Definition

One of the objectives of this paper is to paper is to shed light on the theoretical background of FinTech as a contemporary term that have different perceptions and no consensus about defining it.; it deserves to pay additional attention to the different definitions. It is used to describe a variety of innovative business models and emerging technologies that have the potential to transform the financial services industry. Arner, Barberis, and Buckley (2015) described the FinTech phenomenon as technology-enabled financial solutions; it encompasses the kinds of products and services that have traditionally been provided by banks to their customers, in addition to certain banking activities (e.g. financing) and business models (e.g. peer-to-peer lending, applications).

It refers to the application of internet technology and innovation in financial activities such as payment, lending, wealth management and insurance (Lu, 2017). The term “FinTech” denotes companies or representatives of companies that combine financial services with modern, innovative technologies (Dorfleitner et al., 2017). According to IOSCO (2017), Financial Stability Board defined FinTech as a "technology-enabled innovation in financial services that could result in new business models, applications, processes or products with an associated material effect on the provision of financial services"(Financial Stability Board, 2017).

Others (Kim, Park, & Choi, 2016; McAuley, 2015) interpret the phenomenon more broadly, defining it as an economic industry composed of companies that use technology to make financial systems more efficient.

The European Central Bank (2017) (ECB)'s explain "FinTech" as an umbrella term encompassing a wide variety of business models. In line with the ECB's responsibilities, a guide has been produced relating to technology-supported banking products and services. In the definition of the Financial Stability Board (2017) (FSB), FinTech is technology enabled financial innovation that can produce new business models, applications or products, and these can have a profound impact on financial markets and institutions as well as financial services themselves".

2.3 FinTech Development

Aftermath the global financial crises in 2008; traditional banks find itself against new small competitors with big numbers and fast dissemination, who seeks to fill gaps in providing financial services that banks used to manipulate its market hundred years ago, FinTech companies have further fuelled the competitive pressures in banking.

FinTech companies with new business models that can compete and trade in ways that are very different from the past, investors can follow a lead trader; on angel investment sites, investors follow a lead investor; on market data sites, artificial intelligence and social media analytics help inform retail investors' securities trading and investment decision making (IOSCO, 2017).

Global FinTech investment grew by 75% in 2015, exceeding the high 22 billion USD amount, and continues to rise (Skan, Dickerson, & Masood, 2015), other reports estimated that it reached $24.7 Billion (KPMG, 2016), A KPMG reports also that, in 2016, global venture investment in FinTech companies reached $13.6 billion across 840 deals. A report of IOSCOA pointed to cumulative investments of over $100 billion in more than 8,800 FinTech companies as at November 2016 (IOSCO, 2017).This growing number threatens incumbent retail banks as a new wave of digital banking start-ups has emerged.

The BCBS report pointed that despite the large size of investments and the significant number of financial products and services derived from FinTech innovations, volumes are currently still low relative to the size of the global financial services sector (BCBS, 2017).
Thousands of financial technology startups have raised around $ 63 billion since 2010, as Fig 1 demonstrates.
Figure 1 Here

2.4 Segments and global distribution of the FinTech Industry

Though it is still in its first stages; FinTech industry appeared to compete traditional banks on different fronts, these fronts became clear enough to pint them. Many trials done to divide the main segments of FinTech around the world, most of them adopt the same approach with some differences; we'll take one of the famous segmentations that combine the segments with the geographical dissemination of FinTech industry.

Figure 2, shows the FinTech landscape mapped across eight categories: payments, insurance, planning, lending and crowd-funding, Block Chain, trading and investments, data and analytics, and security. Of these, certain aspects of planning, lending and crowd-funding, Block Chain, trading and investments, data analytics, and security can intersect with securities regulation. United States has the largest FinTech industry as well as the highest number of FinTech adopters, followed by the United Kingdom, Canada, India, and Germany at a considerable distance (Ernst, 2014 ; Haddad & Hornuf, 2016).
Figure 2 here

2.4.1 Alternative Financing FinTech Platforms

Accelerating advances in computerised systems twined with developments in telecommunications embodied in big data, cloud computing, and scalable IT infrastructures has powered the emergence and growth of the online FinTech platforms (such as PayPal, Facebook, Apple, Google, and Amazon), these alternative financing platforms considered as one of the more notable developments in recent years in the financial industry worldwide.

The general form of these platforms came through what commonly known as Crowd funding, it implies raising financial resources from a large number of capital providers "the crowd" without indicating the purpose of the funding (Moritz & Block, 2014).

Schwienbacher and Larralde (2010) defined crowd funding as "the financing of a project or a venture by a group of individuals instead of professional parties (like, for instance, banks, venture capitalists or business angels). According to Bradford (2012), crowd funding is "the use of the Internet to raise money through small contributions from a large number of investors".

The on line platforms that follow the peer-to-peer premise in lending (such as Prosper Marketplace, Lending Club, SoFi, and Stilt), it gives the customers the opportunity to participate whether as borrowers or lenders, and work to evaluate creditworthiness and mitigate information asymmetries on their own (Jakšič & Marinč, 2018).

Involvement in business through P2P platforms give the non-professional individual customers the opportunity to evaluate soft and non-standard information on loan purpose and text descriptions to screen the creditworthiness of their peers (Iyer, Khwaja, Luttmer, & Shue, 2015).

As a common FinTech alternatives that offer credit in contemporary way through crowd funding financing platforms the peer-to-peer (P2P) lending and equity crowd-funding (ECF).

2.4.2 peer-to-peer (P2P) lending and Equity Crowd Funding (ECF)

The P2P platforms as a contemporary FinTech premises disseminated around the globe, (Bradford, 2012; Pierrakis & Collins, 2013; Xusheng, 2014). The potential market indicates that the projected market of P2P market in USA will be USD150 billion by 2025 (Price Waterhouse Coopers PWC, 2015)[2]. This business

[2] http://www.pwc.com/us/en.html

model implies that financing may be obtained from many different lenders/ investors whether individuals or institutional investors.

Since it started with "Zopa" in 2005, Peer-to-peer finance used as a substitute to banks in providing credit shoed promised potential. It has developed dramatically in that it becomes a reliable choice to finance beyond individuals to business entities (Al Ajlouni & Al-hakim, 2018).

In its standard structure; P2P is a "platforms that facilitate financial services via direct, one-to-one contracts between a single recipient and one or multiple providers" (Moenninghoff & Wieandt, 2013).

The idea of ECF based on the power of crowd, where the big number of participated people compensate the small amounts of money that each individual participant can share with the crowd, which eventually achieve the goal of raising the required funds without going to the traditional banks that necessitates a lot of requirements and take long time in addition to the high cost. ECF defined as "an open marketplace for entrepreneurial finance that takes place on a two-sided online platform and operates within a social media environment" (Estrin & Khavul, 2016). UK is the largest ECF marketplace (Estrin, Gozman, & Khavul, 2017). The regulatory environment has been more open to ECF than have regulators in much of other countries (Hornuf & Schwienbacher, 2017).

The individuals in this business model allowed to invest in a company, typically a start-up or early stage business, in exchange for shares of that company. This mode of FinTech firms used to be limited to venture capitalists and angel investors (IOSCO, 2017).

ECF platforms attracted smaller size companies that didn't have access to traditional banks or public securities offering, it provides entrepreneurs and investors access to an online social media marketplace where they can trade equity finance for ownership stakes (Cumming & Zhang, 2016; IOSCO, 2017; Rossi & Vismara, 2017).

4 FinTech challenge for banks and financial systems (Opportunities and Threat

FinTech firms considered as a real rival for the traditional banking system, this challenging contender have different comparative advantages to face banks; efficiency is one of these fronts. These firms have aggressive and attractive marketing strategies. Combined with high response and flexibility in providing new services, access to greater number of clients, and reaching the less banked or even unbanked people around the world.

FinTech firms' efficiency increases are mainly due to loan personalization and the disintermediation of processes by eliminating middlemen, which significantly lowers transaction costs for consumers (KPMG, 2016; Lines, 2016).

New technologies such as "BlockChain" also enhance efficiency (Peters & Panayi, 2016; Wood, 2015). As banks are usually less likely to adopt new technologies quickly due to the regulatory environment (Hannan & McDowell, 1984) and often rely on decades-old IT infrastructure these innovations expected to benefit FinTech firms more. According to Peters and Panayi (2016), reducing counterparty and settlement risks in shortening the

settlement cycle from 3 days to 2 days will benefits several markets in reducing counterparty and settlement risks, and BlockChain technologies have the potential to lead to near-instantaneous settlement.

One of the major threats that FinTech firms may cause to current market that it may could disrupt existing financial institutions through the disaggregation of the value chain, it offers a wide array of services in easy, cheap, and easy to access financial services, which make it working as an independent marketplace for the financial services, it becomes the preferred customer interface (Vives, 2017). Through direct interaction between the dealing parties who meet each other on the cyber space, FinTech platforms could create its unique market.

According to Vives (2017) ,this supposed disruptive forces could offer new opportunities for other businesses that have tried to enter banking like Tesco (a large UK supermarket chain provides banking services to its customers under its own brand).

What curbs the rush towards the idea of independent market place -totally or partially- of the FinTech firms and its electronic platforms is that banks still have their central role in the financial system as a key player who no one can overcome easily. The FinTech players in payments in particular actually still dependent on traditional banks.

In addition, banks has been one of the major customers of the up-to-date telecommunication and computer technologies that FinTech depends on, it capitalize from IT developments in improving the cost-effectiveness, especially in transaction banking activities to achieve better performance in economies of scale in payment processing and clearing and settlement systems (S. Li & Marinč, 2018). This supports the idea that banks can't easily give up and put away substantial market share for the new market FinTech invaders.

Jakšič and Marinč (2018) pointed out that "IT developments have facilitated banking over larger distances due to i) easier access to banking services through mobile and online banking platforms and electronic payments, and ii) enhanced transaction lending technologies". It should be taken into consideration that this advantage of using IT can't replace the human totally it is just routine procedures and pre-defined steps that can be computerized, but the decision taking in credit and other essential functions can't be conducted properly without human intervention (Cerqueiro, Degryse, & Ongena, 2011; David & Dorn, 2013; Ferri & Murro, 2015).

Moreover, some studies asserted that the advances in financial technology have failed to reduce intermediation costs (Philippon, 2015). According to Buchak, Matvos, Piskorski, and Seru (2017) FinTech lenders in fact offer higher interest rates than non- FinTech lenders.

4.1 Opportunities.

Opportunities and benefits of FinTech for the financial industry in general and banking sector in particular has covered by different studies and specialized reports from different perspectives.

According to the global specialized reports and studies (BCBS, 2017; Financial Stability Board, 2017; IOSCO, 2017; Peters & Panayi, 2016), we summarized the main opportunities according to the banking industry in particular as follows:

1. Better and more tailored banking services**:** banks can benefit from the specialization of FinTech firms to improve their traditional offerings to deliver them in a cost effective and flexible way. Banks may, for example, white-label robo-advisors to help customers navigate the investment world and create a better and tailored customer experience.
2. Cost advantage: this comes from the fact that FinTech firms offers Lower transaction costs and faster banking services. FinTech players may speed up transfers and payments and cut their costs, as the case of cross-border transfers, FinTech companies can provide faster banking services at lower cost. Several markets have experienced benefits in reducing counterparty and settlement risks in shortening the settlement cycle from 3 days to 2 days, and block chain technologies have the potential to lead to near-instantaneous settlement.
3. Potential positive impact on financial stability due to increased competition: The entry of new players competing with incumbent banks could eventually fragment the banking services market and reduce the systemic risk associated with players of systemic size.
4. Enhancement in security**:** For one of the core developments in FinTech, security is built into the block chain through encryption of the blocks and the linkages between the blocks. Furthermore, attacking every node in a block chain is more difficult with present state technology than to attack a central database. FinTech Platforms also providing various methods to protect anonymity and prevent information leakage.

Al Ajlouni and Al-hakim (2018) asserted that it is extremely important to note that the clear benefits from FinTech, should not be at the expense of safety and soundness, and consumer protection. Banks and bank supervisors need to maintain the same level of risk management, control standards and protections to new emerging delivery channels and services being introduced by financial institutions through FinTech.

4.2 Threats

As it creates opportunities and benefits, the FinTech encapsulates risks and threats that surges up mainly from the concerns about the operational risk, compliance, liquidity and volatility of bank funding sources, and the severe competition. The following risk associated with FinTech, particularly intended for the banking sector[3]:

1. Competition on market share (Strategic risk)**:** Existing financial institutions including banks stand to lose a substantial part of their market share or profit margin if new entrants are able to use innovation more efficiently and deliver less expensive services that better meet customer expectations.
2. High operational risk – systemic dimension**:** The rise of FinTech leads to more IT interdependencies between market players (banks, FinTech and others) and market infrastructures, which could cause an IT risk event to escalate into a systemic crisis, particularly where services are concentrated in one or a few dominant players. The entrance of FinTech firms to the banking industry increases the complexity of the system and introduces new players which may have limited expertise and experience in managing IT risks.
3. Increased difficulties in meeting compliance requirements and especially Anti-money laundering and countering the financing of terrorism AML/CFT obligations**:** The higher level of automation and distribution of the product or service among banks and FinTech companies can result in less transparency on how transactions are executed and who has compliance responsibilities.
4. Compliance risk with regard to data privacy**:** The risk of not complying with data privacy rules may increase with the development of big data, more outsourcing due to tie-ups with FinTech firms, and the associated

[3] Al Ajlouni and Al-hakim (2018), cited from other references.

competition for ownership of the customer relationship. The availability of platform being operated by unregistered entities could increase this risk.

5. Cyber-risk**:** Heavier reliance on application programming interface (APIs), cloud computing and other new technologies facilitating increased interconnectivity could potentially make the banking system more vulnerable to cyber-threats, and expose large volumes of sensitive data to potential breaches.
6. Liquidity risk and volatility of bank funding sources: The use of new technology and aggregators creates opportunities for customers to automatically change between different savings accounts or mutual funds to obtain a better return. While this can increase efficiency, it can also affect customer loyalty and increase the volatility of deposits. This in turn could lead to higher liquidity risk for banks.

5 Current strategies and scenarios on the table

The strategic effect that FinTech may impose on the traditional banks and banking system is subject to different expectations; these expectations in turn differ according to the backgrounds and experiences of the scholars and experts. Some argue that the FinTech firms will gobble up key parts of the franchise of traditional retail banks. Others suggesting either that the digital banking start-ups will simply fail. We adopt –with others- view point implies that the traditional banks will contain these firms and acquire them through what we call it "Containment Strategy".

5.1 Scenarios

The Committee on Banking Supervision in BIS developed five stylized scenarios (which are not mutually exclusive) which have drawn mainly from the different sources. These scenarios describing the potential impact of FinTech on banks, as figure 3 shows, followed by short description of each of scenario (BCBS, 2017):

Figure 3 here

- The better bank: modernisation and digitisation of incumbent players: In this scenario, the incumbent banks digitise and modernise themselves to retain the customer relationship and core banking services, leveraging enabling technologies to change their current business models.
- The new bank: replacement of incumbents by challenger banks: The new banks apply advanced technology to provide banking services in a more cost-effective and innovative way. The new players obtain banking licences under existing regulatory regimes and own the customer relationship.
- The distributed bank: fragmentation of financial services among FinTech firms and banks: In the distributed bank scenario, financial services become increasingly modularised, but incumbents can carve out enough of a niche to survive. Financial services may be provided by the incumbents or other financial service providers, whether FinTech or BigTech, who can “plug and play” on the digital customer interface, which itself may be owned by any of the players in the market.
- The relegated bank: incumbent banks become commoditised service providers and customer relationships are owned by new intermediaries: In the relegated bank scenario, incumbent banks become commoditised service providers and cede the direct customer relationship to other financial services providers, such as FinTech and BigTech companies.
- The disintermediated bank: Banks have become irrelevant as customers interact directly with individual financial services providers, for instance, using DLT: Incumbent banks are no longer a significant player in the disintermediated bank scenario, because the need for balance sheet intermediation or for a trusted third party is removed. Banks are displaced from customer financial transactions by more agile platforms and technologies,

which ensure a direct matching of final consumers depending on their financial needs (borrowing, making a payment, raising capital etc).

5.2 Suggested response required by banks to deal with FinTech

In spite of the rising wave of FinTech and aggressiveness in taking place in the global financial and banking system, traditional banks have not yet exhausted the possibilities for improvements along these lines (Mackenzey, 2015). As it's discussed earlier; FinTech as a challenge encapsulates many challenges for the traditional providers of financial services in general and banking industry in particular.

5.2.1 Cooperation strategy

Many bank leaders around the globe looking at FinTech shows it as an opportunity to "pump" new blood to the traditional banking system as a complement to the retail banking services. This can be obtained through joint partnerships, service outsourcing, venture capital funding, or acquisitions. For these banks, FinTechs seem to benefit them more than disrupt them (Lines, 2016). Moreover, collaborations between banks and different FinTech firms as start-ups also benefit these firms, it may get access to global payment systems and the banks' own customer base. This lowers the barriers of entry for FinTech firms to the financial sector and enables them to gain more trust from their customers (Juengerkes, 2016).

According to the cooperation approach between traditional banks and FinTech firms, there'll be room for a situation in which mutually beneficial relation could be created between them.

Such cooperation with banks provides the opportunity to FinTech company reach a larger customer base, reduce customer acquisition costs, and accelerate product development and product testing. For the banks, on the other hand, it enables them to offer new products and services to their clients, access new technologies that would take considerable time and expense to develop in-house, and rapidly enter new product or geographical markets (Kerényi et al., 2018).

The following could be viable strategies for "cooperation" between banks and FinTech companies (Kerényi et al., 2018):

1) In-house development: Several banks have responded to the emergence of FinTech competitors by developing their own FinTech solutions in-house.

2) Acquisition: Numerous banks have bought up FinTech businesses and merged them into their own operations. The most common reason for the purchase is to acquire a new technology, improve an existing technology, or acquire market, but in certain cases it is not the technology, but talent and know-how that are being targeted.

3) Strategic cooperation agreements: Banks and FinTech companies often work together under strategic agreements.

4) Capital investment in FinTech ventures: Other banks see FinTech ventures as an investment.

Different studies examined the impact of what they called it "cooperation" with FinTech firms on traditional banks from, it revealed generally that there's a positive consequence for banks. A study conducted by Y. Li, Spigt, and Swinkels (2017) revealed that traditional banks will benefit from the suggested "cooperation" strategies, it points out, there may be a positive correlation between the funding of FinTech players and the performance of banks; where the stock prices of commercial banks get increase. Other studies focused on the competitive advantages that banks may benefit from this "cooperation", in acquiring technological know-how, but also help players to obtain new knowledge and skills through the deepening of their own professional expertise (Bouncken, Gast, Kraus, & Bogers, 2015; Quintana-Garcia & Benavides-Velasco, 2004). (Kerényi et al., 2018) studied the world's 150 largest banks with a commercial focus, and found that more than half of the banks (almost 52%) cooperate in some form with FinTech companies.

5.2.2 Acquisition strategy

Existing banks may also acquire FinTech companies to gain access to new technology, which would make it more difficult to find a direct relationship between FinTech funding and incumbent retail bank stock returns. For example, Capital One, the tenth largest bank in the US in terms of total assets and market capitalization, acquired FinTech start-up Level Money in 2015(Y. Li et al., 2017). According to Mackenzey (2015); "an overarching challenge for banks is how to "open up" structurally – both in terms of how they leverage partnerships and how they permit other entities to access their capabilities. Those banks that pursue a thoughtful approach to meeting this challenge will be best positioned to evolve their business models and find new sources of value for their customers, while performing well financially".

5.2.3 In house development strategy

Different institutions suggested required response of banks to benefit from the accelerating wave of FinTech to maximize the opportunities and minimize the treats that FinTech firms represent for the banking industry or the risks associated with adopting FinTech solutions in banking works. Ten key observations identified by BCBS (2017) and ten recommendations suggested to deal with FinTech base on these recommendations, they concentrated on the required actions to be taken by the banks' management, such as ensuring the safety and soundness of the banking system with minimizing the risk of inadvertently inhibiting beneficial innovation in the financial sector, acquiring effective governance structures and risk management processes and effective IT and other risk management processes. In addition to investigating and exploring the potential of new technologies to improve their methods and processes and review their current regulatory, supervisory and licensing frameworks in light of new and evolving risks arising from innovative products and business models.

Well prepared in house priorities were prepared by Mackenzey (2015) to face the FinTech nature "digital challenge". The most proper priorities that suggested through six digital imperatives as exhibited in figure 4

Figure 4 here

6. Suggested Banks' strategic response to deal with FinTech

This part of the paper is devoted to analyze the status queue of the impact of FinTech on banks and suggest the strategic scenario, which we see as the most likely strategic response that banks will adopt to face the current and future challenges of FinTech technology and its firms.

In spite of all the comparative advantages that FinTech players have, and the fragility of the traditional financial system lead by it uncovered through the global financial crises in 2008 and the concerns about the stability of banks; traditional banks still rooted in the market many hundred years ago, with strong ties with the major economic and political leaders almost in all of the countries they working in. Magnuson (2018) supports this idea, since large banks have grown to such gargantuan proportions, and have become so intricately connected with other sectors of the economy.

Banks benefit from the anxiety of people about the safety of their liquid wealth, and still seen as the place where money is safe.

The recent global financial crises showed that governments committed to support banks in dark nights; this is implicit privilege from the government which young FinTech entrants may not enjoy (Boot, 2017). Their failure would have drastic consequences on economic growth and activity. Governments, aware of this fact, thus have strong incentives to bail out struggling banks as governments should act to protect their citizens from economic harm (Magnuson, 2018).

The regulatory framework of FinTech firms shows that this business model encapsulates high risk, as its firms more vulnerable to adverse economic shocks, less transparent to regulators, and more likely to encourage excessively risky behavior by market participants. These risks can be greater than those presented by large traditional banks and financial institutions because decentralized FinTech markets (Magnuson, 2018).

Though traditional banks excelled by FinTech at the first stage, it still able to respond and become a players in the FinTech world themselves, FinTech represents a positive challenge that lead to improve operations and existing processes within banks. Vives (2017) see that they may also set up platforms, and in this way hold on to the customer interface.

Traditional banks can't accept real competitor in the market who captures substantial portion of what it see it its traditional "sanctuary". They will play it smartly to "absorb" FinTech rivals by following untraditional strategy as a core strategy, we called it containment strategy. This strategy doesn't entail direct ownership or traditional acquisition. It looks like cooperation initiatives with those rivals; showing that as a win-win game between the two parties. It accepts the new arrivals on the "back seat" of industry leadership; and part of the financial industry that still commanded by traditional banks.

Meanwhile, along with the containment strategy; traditional banks have to restructure its internal structure deeply through the in house development strategy, this is a concurrent vital requisite to help it in applying containment strategy with a greater success.

What supports the pervious argument is the experience of Islamic banks and financial institutions that came with fundamentally different financial system, after 40 years of their existence; they became no more than a part or sector of the traditional banking system.

Moreover, some researchers consider FinTech no more than a sort of development in information technology that have impact on the banking industry (Boot, 2017).

Different studies and professional reports adopted the viewpoint that banks will find it better to cooperate with FinTech players and technologies (Boot, 2017; Miklos Dietz, 2017)[4]. It also argues that the major risk for a bank does not come from FinTech players but from banks that are better at partnering.

In what regard to Arab countries, we see that the traditional banks enjoy semi monopolistic power that helped in overcoming many challenges many decades ago, FinTech will not be a big obstacle in its way to keep surveillance and upper hand in the financial services in general and banking sector in particular. Arab traditional banks succeed in absorbing the wave of Islamic finance and banking as a serious contender over forty years through containment strategy, these financial institutions with new premise became an ordinary member of the traditional banking system rather than being a substitute of it.

7. Concluding remarks and future research

Financial technology attracted overwhelming global interest, financial leaders and supervisory institutions, in addition to vast scientific research and professional reports that devoted to understand, measure this phenomenon and evaluate its impact on the global financial industry in general and banking industry in particular.

We tried to shed light on FinTech through this paper as a wave of development in financial industry that capitalized from the high technology and developments in telecommunication and information technology in a new financial business model, its impact on the financial industry in general and banking sector in particular, and the suggested strategic response by banks to face it. This paper provided theoretical work through content analysis approach, it is devoted to participate in the literature through achieving three goals; the first one is to shed light on the basics of FinTech by shed light on its definition, segments and global landscape, volumes, main firms, and the challenges and opportunities of FinTech for the banking industry. The second goal of this paper is to provide theoretical analysis of the future prospects in facing the FinTech challenge from the banks, how did they look at FinTech? How should they prepare their business environment to deal with FinTech?

The third goal of this paper is to answer the study question (I.e. Is Financial Technology a Rival or Complementary to the Banks?) we analyzed FinTech and its expected consequences on banks, we investigated through the different studies and professional reports if the traditional banks flexible enough to respond positively to this challenge, in addition to the suggested scenarios and the strategic response of the banks to deal with it.

We suggested what we called it Containment Strategy. According to this strategy that we expect to be the best choice for traditional banks to face the FinTech challenge, we see that traditional banks will contain

[4] The Economist notes that banks and FinTech become increasingly collaborative (The Economist, Special Report, International Banking, May 6th 2017, page 12.

FinTech at the end, experience with Islamic financial institutions and banks prove that. Assuming this strategy needs another supportive strategy to develop the internal banks itself through In House Development Strategy that considered as an essential requisite.

At the end, we suggest some future research proposals, like the expected influence of FinTech on the financial stability, in addition to investigating the regulatory issues of Arabian banks to face the FinTech Challenge, and FinTech impact on the Islamic banking industry in the Arab countries and abroad.

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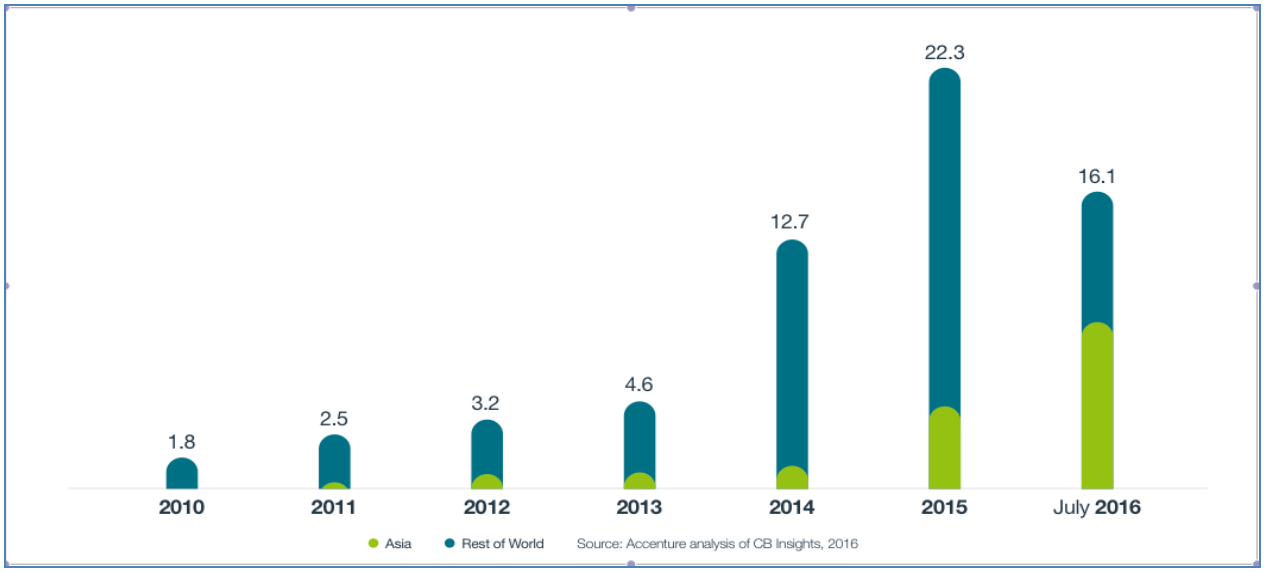


Figure 1: Global investments in FinTech ventures (in USD million, 2010-July 2016)
Source: (WAMDA, 2017)

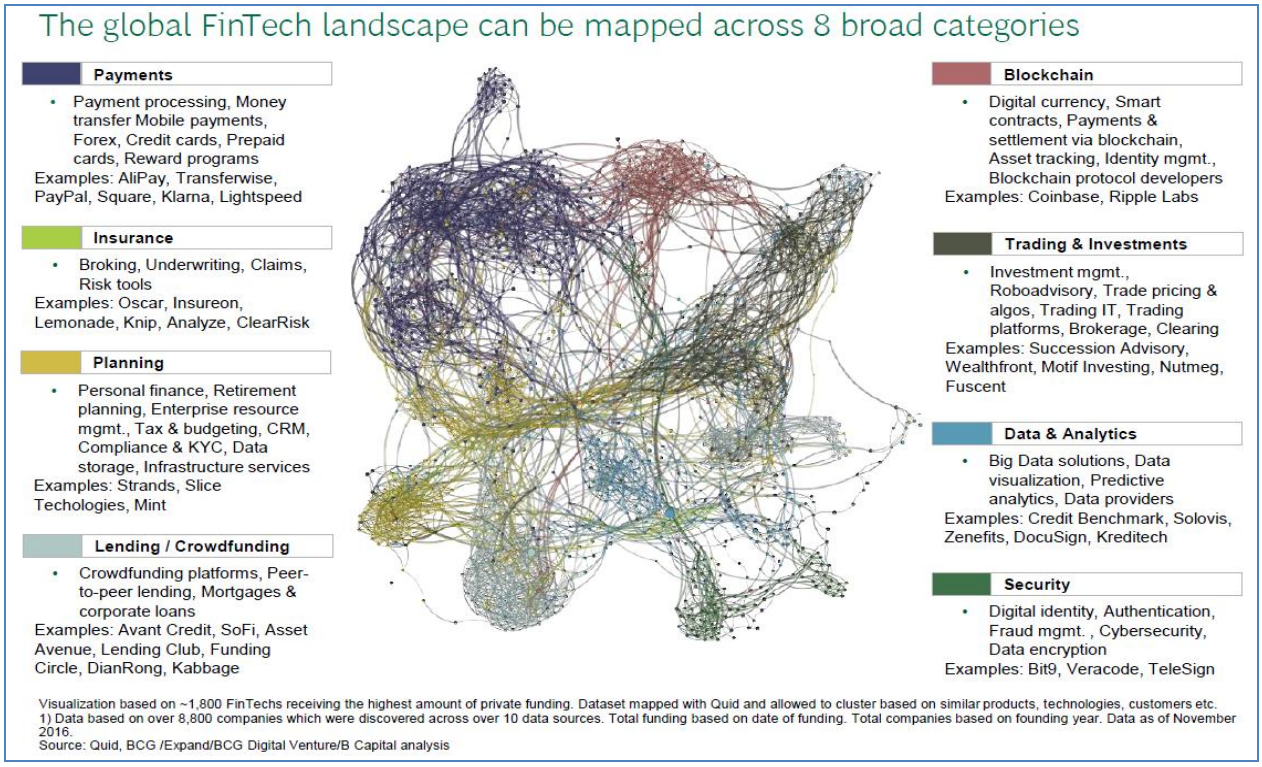
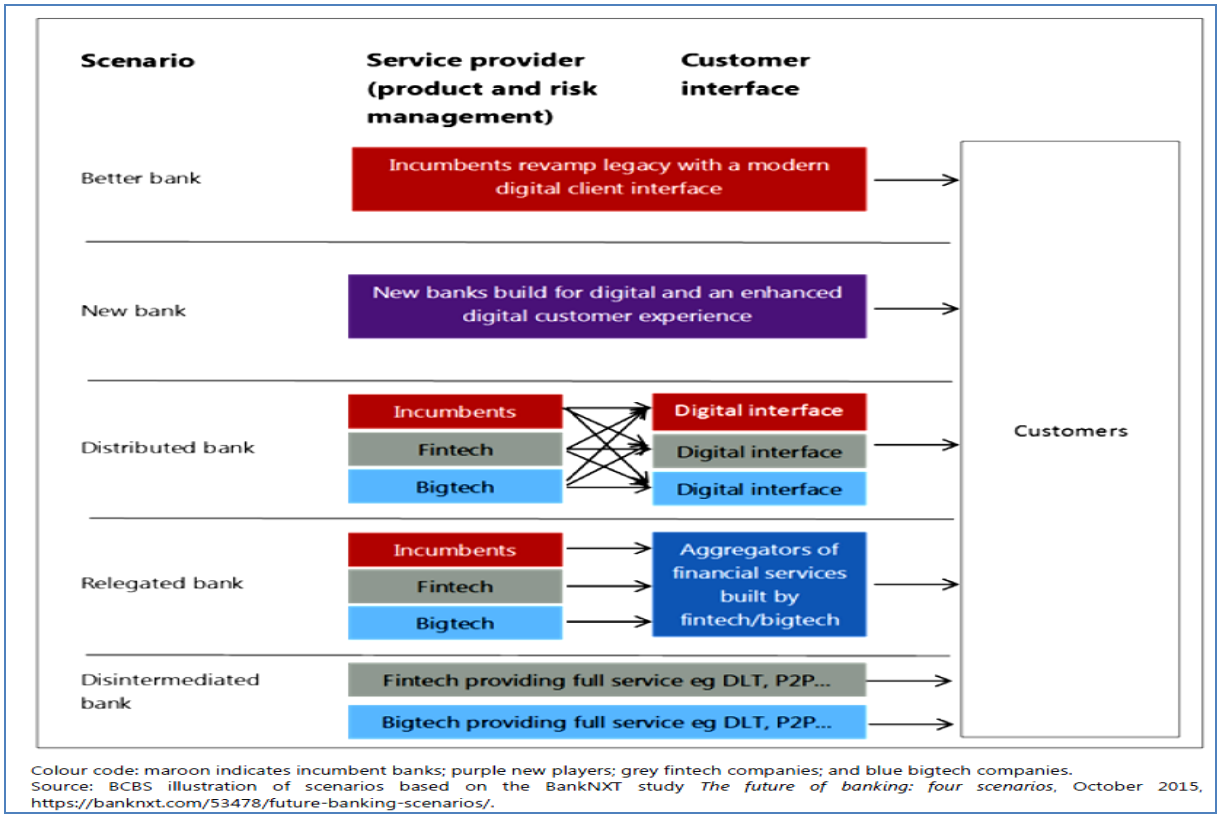


Figure 2: the FinTech landscape

Source: FintTech Control Tower, Expand, November 2016



Colour code: maroon indicates incumbent banks; purple new players; grey fintech companies; and blue bigtech companies.
Source: BCBS illustration of scenarios based on the BankNXT study *The future of banking: four scenarios*, October 2015, https://banknxt.com/53478/future-banking-scenarios/.

Figure 3: Overview of the five scenarios and the role players

Source: (BCBS, 2017)

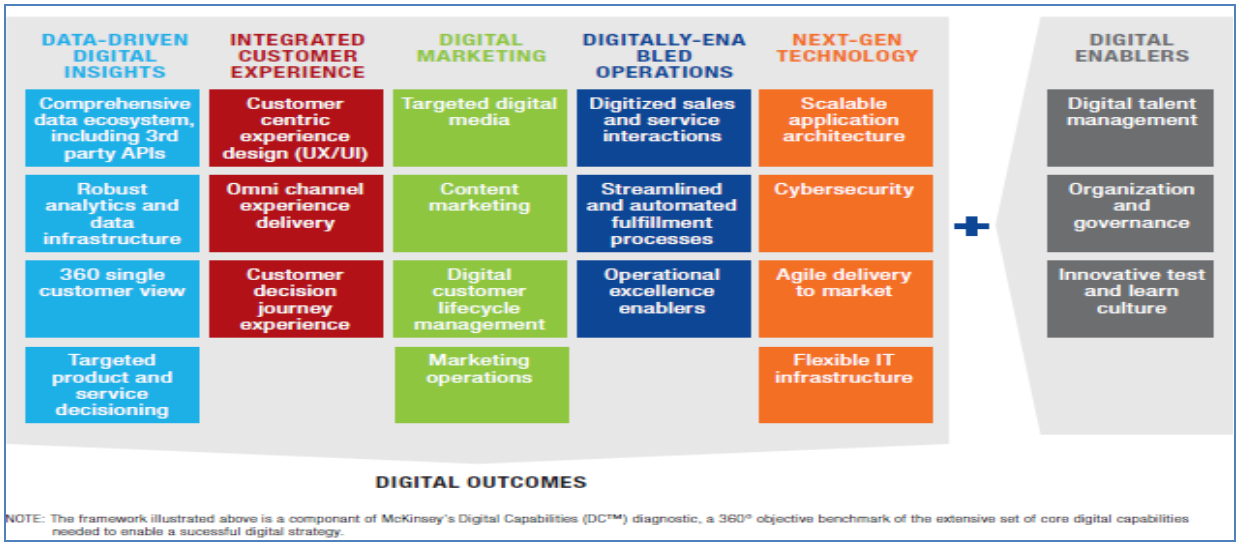


Figure ٤ : Banks' digital imperatives[5]

Source: (Mackenzey, 2015)

5 Please refer to (Mackenzey, 2015) for further details.