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TRENDS OF FINTECH AND CRYPTOCURRENCIES JORDAN RECAPITULATION

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ABSTRACT

The purpose of our paper is to provide an overview of Fintech trends with a special focus on Jordan. It provides an explanation for the evolution of Fintech and how Fintech relates to banks through discussing the role of E-banking that considered the most modern approach of using banking services through electronic channels, so we give attention to this sector and how it is affected by Financial technology. Also, we briefly discuss E-banking services and the literature about Peer-to-peer lending and cryptocurrencies that considered an incredibly transparent alternative to the traditional fiat currencies which we are used to, and it is an alternative that will improve the society, in addition we preview the point of view for various countries toward the financial technology and cryptocurrencies. Our study focuses on Jordan where its financial sector considers a stable sector with a considerable effect and share in the Jordanian economy, Fintech in Jordan is a main factor that will strengthen and develop the financial industry in the country, where the Jordanian government plays a great role in supporting the financial sector especially 'Financial technology'.

Key Words: Fintech, Cryptocurrencies, P2P, Financial Inclusion, MENA, Jordan, E-Banking

INTRODUCTION

Due to the technological evolution and the appearance of new forms of technology during the last three decades, many sectors sought to take advantage from this technological change (Frame, Wall & White, 2019). For instance, the financial sector is one of the sectors that was affected significantly, since many of the sector's dealings and services were modified to keep pace with this technological change. Also, the future of financial services will vary from today, with more flexibility, efficiency, and choices for users. After the 2008 financial crises Fintech evolution begin to rise due to the combination between artificial intelligence and electronic financial services on mobiles, and according to the rise of using internet facilities interested users may be able to employ these facilities to provide them with needed services and making different transactions not only take the financial information as it is, but all also that leads to minimize the cost of financial transactions (Soloviev & Vladimir, 2018).

One of the hottest topics in the world of finance is "Fintech" which stands for Financial Technology. "Fintech" refers to the innovative use of technology in the design and delivery of financial services, the term Fintech includes a huge range of products, technologies and business models that are changing the financial services industry (Frame, Wall & White, 2019). It may provide a more comprehensive financial system on the local and global levels with more enlightened, empowered, and better-connected users (Carney, 2016). The BCBS has opted to use the Financial Stability Board's (FSB) working definition for fintech as "technologically enabled financial innovation that could result in new business models, applications, processes, or products

with an associated material effect on financial markets and institutions and the provision of financial services".

Due to the increasing competition in the financial services industry, new products, markets, and services will appear. Fintech includes several financial services that facilitate peoples' life such as: mobile banking, online securities trading and brokerage services, peer to peer lending and financing, money transfers, insurance online services, and payments and settlement services, including digital currencies (Soloviev & Vladimir, 2018). "Non-intermediated Peer-to-Peer (P2P) lending, cryptocurrencies and smart contracts are all parts of an emerging new mosaic of technology-assisted customized financial services" (Thakor, 2019).

Hou, Gao & Wang (2016) are the first to look at how internet finance growth affects banking industry discipline. They use text mining to create an index of internet finance based on word frequency statistics, which tests the dynamics of internet finance growth indirectly.

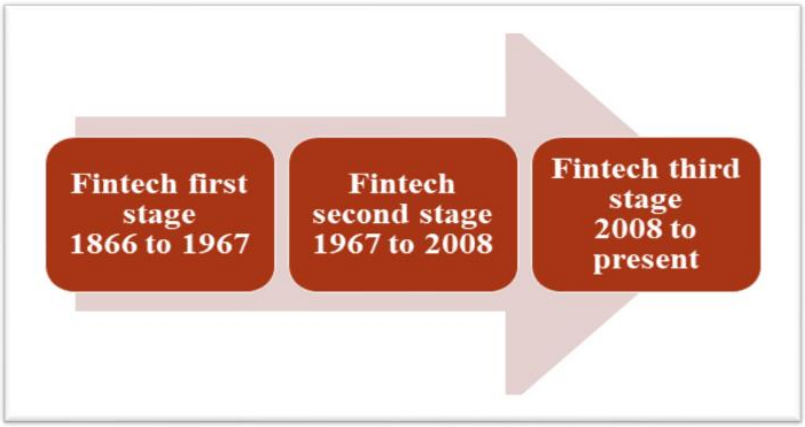
Our study focuses on two services of fintech; the first one is Peer-to-Peer Lending (P2P Lending) which refers to a process of lending money to individuals or businesses, through an electronic financial platform where the administrative procedures are completed by the internet like the contracts information for completing the lending, while the operational lending process is nearly like the traditional way of lending (Fang et al., 2014). According to Lenz (2016) P2P Lending considered a prospering type of crowdlending which is one of crowdfunding commercial types with a high level of capital raised comparing to other types.

The Second service is Cryptocurrencies as Chiu & Koepp, (2019) many users criticise cryptocurrencies as a means of payment saying that it is unsecure way or it found to serve fraud or illegal activities, but on the other hand there are many supporters who say that these currencies after making sure of its safety are a way of payment that found to help its users without any control or intervention from a third party. According to Antonopoulos, (2015, as cited in Chauhan & Arora, 2019), "Cryptocurrencies is defined as a form of digitally used currency which utilizes encryption techniques for securing the data & transactions." It managed by a block chain that saves all the currency users' transactions, also to ensure that all the payments made by cryptocurrencies are safe there are a decentralized technique that used.

FINTECH EVOLUTIONS

"Fintech" considered an emerging topic now a days and it has various definitions, in addition to the above definitions, (Thakor, 2019) defines Fintech as the way of using technology in order to give new financial services and enhance the way of providing them to consumers. The reason why Fintech considered an emerging topic is that the information technology affects almost everything in our lives, but the variety in fintech definitions makes it almost difficult to determine the size of fintech. However, using Venture Capital (VC) investment in fintech companies is a good way to measure the growth of fintech (Thakor, 2019), also Fintech facilitates our lives by simplifying the financial services for consumers and removing the complexity in payments and settlement ways (Mehrotra, 2019). Fintech the emerging topic that made an innovative use of technology has gone through several phases, according to Arner, Barberries & Buckley (2015) as cited in A report undertaken for Consumers International by Richard Bates (2017), the first phase was between (1866-1967) that area represents the dawning of Fintech, by establishing telegraph which facilitate the transmission of different financial transactions and information across borders. The second phase was between (1967-2008) at this phase the financial sector's investments in information technology prospered in the middle of 90's by being the largest purchaser among other sectors, but at this era Fintech still internally used and the traditional regulated financial services industry was the main controller and the only provider financial services, also ATM machines and online banking appeared at this stage.

Fintech third phase was from 2008 till present, after the financial crises happened in 2008 new different fintech companies have emerged to provide various financial products and services to overcome the idea of one controlling provider of financial services, now the users can have the opportunity to choose and get their needs from various fintech companies not from a single provider, that situation offers an improved service (Bates, 2017). In addition to that, International Organization of Securities Commissions' (IOSCO) report as cited in Thakor (2019) the cumulative investments in almost 8800 fintech companies exceeds 100 billion dollars in November 2016.



Source: Consumers International 2017

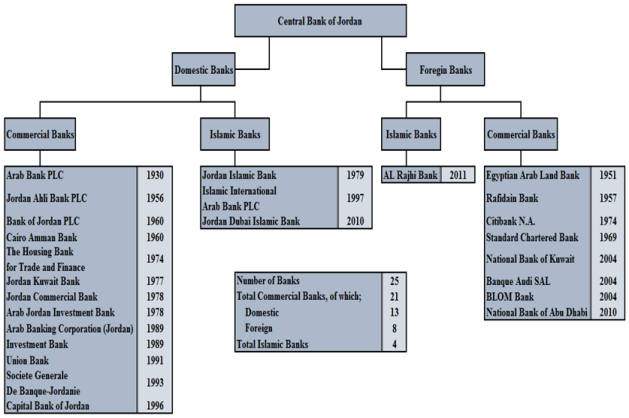
FIGURE 1
FINTECH EVOLUTION

ELECTRONIC BANKING SERVICES

Electronic banking is a part of electronic business and considered the most modern approach of using banking services through electronic channels. According to DeLone & McLean (2014) as cited in Karim (2019), E-business is the process of buying and selling products or/and services through internet networks, also they mentioned a lot E-business actions some of which are World Wide Web (WWW), Electronic Mail (EMail), Internet Applications, Electronic Data Interchange (EDI), Shopping cart software, E-tickets, Online banking, and Teleconferencing (Delone & McLean, 2014). The evolution of technology affects the banking sector especially the ways of competition between banks to provide a better service. This evolution also reduced the costs for both providers of the service and the consumers, where it helps the providers in having less processing costs while the consumers with fewer searches and switching costs. "The quality, range and price of these e-services decide a bank's competitive position in the industry (Alawneh et al., 2013). E-banking or online banking is an output of the technology which enables the users to execute several financial transactions through the website. To mention the main advantage of E-banking is its availability all the time to banks' customers, however the complexity in application and some safety factors affects it negatively (Ahmad & Rahman, 2010).

The Financial institutions have a significant role in any country's economy, but the first financial institution that comes to mind is bank, Banking sector was greatly affected by internet technologies due to the huge data processing that occurs in it (Sathye, 1999; Freixas & Rochet, 2008) define bank as an institution whose current operations consist in granting loans and receiving deposits from the public. Banks have increased investments in technology significantly to achieve many goals, one of them is to maintain in the chase of competition between opponents, another goal is to decrease the costs in order to increase profits to the max, also banks aim to enhance and

improve the customers' services to increase their satisfaction and preserve their loyalty (Rauf et al., 2018). Jordanian banks are one of the banks that affected by the technological developments, banking sector in Jordan considers one of the major pillars of the Jordanian economy, the significant growth of the sector that positively impacted its importance was in the early 2000s. according to Jordan central bank in 2015 the Jordanian banking sector consists of 25 banks,16 banks of them are Jordanian banks the remaining 9 are foreign banks, including a three Jordanian Islamic banks and one Islamic bank is a foreign bank. These banks work *via* a 785-branch network and 82 official offices (Al-Naimi, 2019).



Source: Bank liquidity risk and asset and liability management at Jordanian commercial banks Al-Naimi, (2019).

FIGURE 2
THE STRUCTURAL OF JORDANIAN BANKS

E-BANKING IN JORDAN

In Jordan after the technological innovation many banks had a considerable investment to improve their e-banking services and increase these services' quality to stay in the competition, since an increased quality of e-banking service is a main factor to many financial companies' success and e-banking helps to maintain a good relationship with bank's customers as (Karim, 2019) mentioned that the use of e-banking services helps in minimizing costs and enhance the efficiency, utilization of E-services.

According to NIC, 2001 as cited in Alawneh, et al., (2013). The small size and population of the country will facilitate the spread of new changes in technology which will make Jordan a leading country in the region regarding information technology. People of Jordan are it is main asset where it has a high rate of college educated people and many of the Jordanians either at their home or at work have an internet access, hence regarding a recent survey to the Ministry of Communication and Information Technology, (almost 57% of Jordanian families have a PC at home). Despite the technological development but the traditional banking services provided by branches are still the main method for people to deal with banks. However, banks in Jordan still strive to spread the online banking systems in order to enhance the financial services provided and to reduce costs since the technology affects the way the financial services are delivered to customers (Alawneh et al., 2013).

ELECTRONIC BANKING SERVICES

The quality of a country's banking system can be considered one of the most critical elements of its development in the modern world. The stability of the economy is dependent on the

financial system's integrity, and the economic system's integrity is dependent on the banking system's integrity (Mehmood et al., 2014).

One of the most significant aspects of banking systems' performance is the increased use of electronic banking services (Mansi & Amany, 2015; Alazzam et al., 2015). Over the last few years, the banking industry has seen a lot of shifts. Fundamental developments in this industry have been aided by technological advancements and the widespread use of the Internet. New banking operations are based on the Internet (Kaleem & Ahmad, 1970). Many banks have adopted new methods of providing services to their customers as a result of rapid advancements in information technology. Technology aids in cost reduction and improves the bank's relationship with its customers by encouraging them to use different electronic services (Lee et al., 2005). New banking services, such as e-transfer, speaking bank, SMS services, e-trading for shares, electronic credit cards, ATMs, and other electronic services, have been introduced because of technological advancements in the banking sector (Kaddomi, 2008).

Services of E-banking are those services which use any electronic equipment to perform, according to these are some of e-banking services, online banking, ATM and debit card services, phone banking, SMS banking, electronic alert, mobile banking, fund transfer services, Point of sales banking, E-statements, Other e-commerce or value-added services (Electronic Banking Terms & Conditions).

FINTECH IMPACT ON BANKING SECTOR

The competition between fintech and banks is not as destructive as it looks, Fintech has a positive impact on Banks's sector as well as a negative one, the positive impact that it creates a healthy competition in the sector where banks own a considerable capital that enables them to compete and create the same products, so that because of this competition users of different financial services can have a variety of services from several providers.

On the other hand, there are a several points to address the negative effect of fintech on banks, first is the digital disruption effect that depends on the type of Fintech according to (the prominent financial magazine, Forbes as cited in Siek & Sutanto (2019) one third of bank's revenue contributes in the revenue growth of e-commerce significantly, which means that fintech can indirectly acquire the revenue growth of fintech, the second effect is the loss in value proposition in Bank's product. The third impact is that the banks can't estimate the customer's behaviors and draw conclusions that they are moving towards fintech services.

FINTECH IN MENA FOCUSING ON JORDAN

Users of financial services in the Middle East and NORTH AFRICA (MENA) represent the minority of the population, the majority are excluded from traditional banks' services and other financial services, the percentage of adults who still do not open their own bank accounts reached 86 % in our region which means that they can't reach to many of banks' useful financial services, hoping this percentage to decrease in the near future due to the rapid technological change. MENA like other regions in the world is affected by the financial and technological development, FinTech is one of the emerging topics in the region as the number of fintech startups are growing fast and attracting investors to invest in with millions of dollars, where in the last decade they devoted 100 million dollars to MENA's fintech startups, this radical transformation in MENA's financial services industry will affect all users in the region and facilitate their life (Getting The MENA Ready For A Fintech Revolution - Innovative Jordan, 2021). The most leading countries in fintech in MENA are United Arab Emirates, Jordan, Lebanon, and Egypt these four nations represent 73% of MENA's fintech start-ups (Getting the MENA Ready for A Fintech Revolution - Innovative Jordan, 2021).

This increasing growth in fintech in the region and its widespread success it is not without risk, risks that result from unclear frameworks that relate to regulations and supervision. Also risks from lack of confidentiality of information for financial services customers due to lack of effective controls on this information because of the nature of internet networks (CBJ, 2021). The Jordanian financial sector considers a stable sector with a considerable effect and share in the Jordanian economy, where the banks' assets represent about 180% of Jordan's GDP, mainly in cash or government securities. The continuing developments in technology in Jordan that will reflect on the financial system have been clear in the Jordanian people dealings though many indicators such as the increasing share of adults who have bank accounts, where it is increased to 42.5 % in 2018 compared to 24.6 % in 2014, in addition there is another indicator where the digital payments received or made by adults almost tripled from 2014 to 2018, also the evolution in using smartphones and the spread of the internet, all of that will encourage people to move to e-services more. Financial Technology in Jordan is one of the main four factors that will strengthen the financial industry in Jordan and contributes in the sectors' development (the national financial inclusion strategy 2018-2020 CBJ). Also, the Government of Jordan has a great role in supporting the financial sector; it puts an initial milestone of fintech in Jordan. For the purpose of increasing the financial inclusion in Jordan the Central Bank of Jordan has evolved a specific national strategy, also CBJ launched "JoPACC" Jordan Payments and Clearing Company is a private shareholding company in order to improve the electronic retail and micro payments also to enhance investments in E-financial services. JoPACC owns and manage "JoMoPay" a national payment system in 2013 that served both unbanked and underbaked customers. JoPACC operates E-FAWATEERcom a platform that enables users to pay and follow up many bills in an electronic way. CBJ also considered a key member of the Alliance for Financial Inclusion (AFI) since 2016, in Jordan also there was a strategy found this strategy is the first of kind in the Arab region it is (NIFS) National Financial Inclusion Strategy, according to NIFS Fintech considers one of its three main focus areas, all of these efforts reinforce the position of Jordan as one of the leading countries in Arab region with regards to Fintech and other innovative solutions (East, 2021). Another achievement to mention is that the Central Bank of Jordan to overcome the previous risks mentioned and to keep pace with the development of Fintech established "a Fintech Sandbox". This helps in increasing the protection and safety of customer's information which makes any financial transfer safe and secure, because that sandbox works as an incubator to support all of Fintech innovators which leads to increase the competition and enhance all financial services provided. In addition to all that Fintech Sandbox represent an experimental environment to all entrepreneurs in the field who willing to enter the market, it allows them to try new FinTech's without bearing any legal costs until being capable to survive and continue in this field (CBJ, 2021).

FINTECH AND FINANCIAL INCLUSION

Arner, Buckley, Zetzsche & Veidt (2020) argued in their paper that Fintech is the main driver for financial inclusion. Financial inclusion is also an emerging topic such as fintech both are considered a recent interest for academics and others who concerned about these topics. Generally financial inclusion defined as the growth in the financial services and systems to present a more comfortable use and access by people (Van, Vo, Nguyen & Vo, 2021), Central bank of Jordan in its national financial inclusion strategy defines Financial inclusion "as the state wherein individuals and businesses have convenient access to and use affordable and suitable financial products and services – payments, savings, credit, transactions and insurance– that meet their needs, help to improve their lives, and delivered in a responsible and sustainable way." (CBJ & National Financial Inclusion Strategy, 2018-2020). Financial inclusion allows users to manage their financial commitments in an efficient way and it provides the financial services to consumers at a reasonable cost, all that leads to greater economic growth (Arner, Buckley, Zetzsche & Veidt, 2020). This

growth is enhanced through Fintech companies' promotion on Financial inclusion, this promotion comes from raising the use of recent technologies like: "Digital identity, Internet of Things (IoT), Artificial Intelligence (AI) and innovative business Models" (Mehrotra, 2019).

FINANCIAL INCLUSION IN JORDAN

The Central banks in the developing counties gathered and established the Alliance for Financial Inclusion (AFI) in 2008 to concentrate especially on financial inclusion concept (Arner, Buckley, Zetzsche & Veidt, 2020). One of the leading banks in the area is the Central Bank of Jordan (CBJ), continue working on financial inclusion since 2012, Besides in 2015 the bank formulates the National Strategy for Financial Inclusion in Jordan (National Financial Inclusion Strategy 2018-2020, CBJ), after that in 2016 the Central Bank of Jordan (CBJ) became a key member in AFI, in the same year the CBJ made an event to launch the Financial Inclusion Vision for Jordan in September 2016 where the Governor of CBJ stated that "it is a right for everyone to have access to financial services." (National Financial Inclusion Strategy 2020), Financial Inclusion of Forcibly Displaced Persons: Perspectives of Financial Regulators, 2017). Jordan strives to build an inclusive financial system this can be achieved by establishing a strong infrastructure and legal framework also this strong financial system comes from recognizing the Financial Inclusion in Jordan as a key factor in sustainable economic growth and financial development (National Financial Inclusion Strategy - Vision Document). In addition, the NFIS for Jordan -to be consistent with the Jordanian growth plan and its 2025's vision and strategy -is anticipated to contribute to minimize any socio-economic inequalities. Also, NFIS strive to offer much more diverse funding resources and financial services to SMEs in Jordan; another goal of NFIS is to help the refugees to have a greater access and various ways in using financial services which enables them to contribute in the economic activities (CBJ, 2020).

WHAT IS PEER-TO-PEER (P2P) LENDING?

Peer-to-Peer lending means direct lending of money to individuals or businesses without an official financial institution participating as an intermediary in the deal. P2P Lending is commonly done through online platforms that match lenders with the potential borrowers (Wales, 2017). Peer-to- Peer Lending offers both secured and unsecured loans. However, majority of the loans in P2P lending are unsecured personal loans. Secured loans are infrequent for the industry and are usually backed by luxury goods. Due to some exclusive characteristics, peer-to-peer lending is considered as an alternative source of financing (Ireland, 2011).

The benefit from the P2P Lending is to Offers better rates of return than are available on bank deposits together with relatively low fees for Lenders, Provision of credit to some categories of borrowers unable to access bank lending. Also, as a perception that P2P lending is more responsible and of greater social value than conventional banking. While Technical innovation is constantly improving the quality and speed of service to both borrowers and lenders. Therefore, No hidden charges E.g., Charge for Payment of loan amount before due date, etc (Suryono et al., 2019).

P2P LENDING PLATFORMS

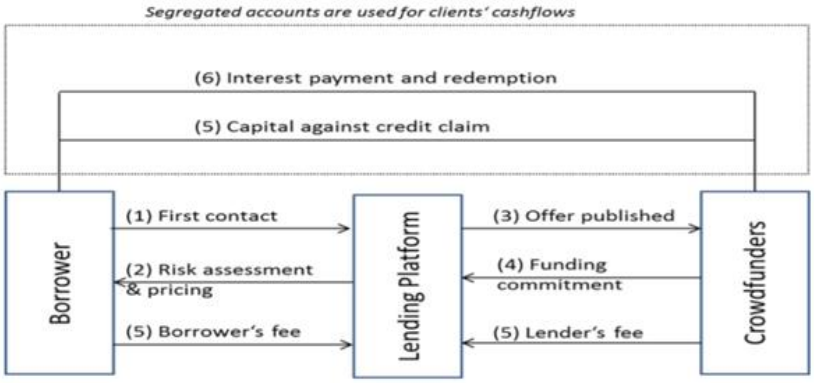
Web-based financial intermediation on a Peer-to-Peer (P2P) basis will eventually prevail as an economically superior form of organisation compared to the traditional banking business model. P2P lending is the most prevalent type of crowd funding, whereby an internet platform collects small amounts of funds from individuals in a crowd to finance collectively a larger loan to individuals or businesses. Contrasting commercial banks, the platform does not take risks through its own contractual positions. Whereas banks accrue risks by taking positions on their balance sheet,

platforms decentralise the risks by spreading them to their users. The advent of financial platform businesses challenges legislators and regulators in several respects: the "easy way" of modifying existing finance and banking laws is inadequate; the internal organisation and knowledge of staff is not well suited to amendable crowd funding; and capital mediation by crowd funding platforms requires a different regulatory approach than banking. There is no misgiving that P2P lending platforms will in the long run need a dedicated, single European regulatory framework (Lenz, 2016). Peer-to-peer lending are used synonymously, indicating that users of the platform are lending capital directly to their peers, mediated by a platform without a bank standing in between. Besides crowd lending, two other commercial types of crowd funding exist (Singh, 2020): firstly, the Crowd investing, where crowd funds are invested in a start-up company and the expected return is linked to the company's profits. It is a kind of entresol finance as it has features of equity as well as of debt capital; and secondly the reward-based crowd funding, where funds are used to finance specific projects and the expected return is of a non-monetary nature linked to the project.

FUNCTIONING OF P2P PLATFORMS

P2P lending platforms match the interests of borrowers and lenders to provide an unsecured loan. In chronological order, the process by which platforms mediate between lender and borrower is as follows: The borrower, an individual or a business, contacts the lending platform and indicates the required amount and maturity of the loan. The platform conducts its own assessment of the underlying credit risk. If the credit risk is acceptable and fits the platform's risk categories, the platform sets a risk-appropriate interest rate. If the borrower agrees with the platform's pricing, the platform publishes the offer to its users for a predefined period, typically two or four weeks. Requests for consumer loans are published anonymously, while those for business loans are normally published with the name of the potential borrower (Wales, 2017).

Lenders have this period to place their offers to provide small portions of the required financing amount. To gain access to the platform, they must first sign a service contract with the platform operator and complete a due diligence process to comply with Money Laundering-Regulations. Lenders' names are not published and are referred to on the platform by coded usernames. However, every platform user can see their individual offers and the remaining amount needed to fully cover the loan. When the sum of investment offers matches the required loan amount, the loan is originated (Wales, 2017; Bachmann et al., 2021). The platform collects the money from lenders' bank accounts and transfers it to the borrower. In return, investors receive a credit claim, as a fragmented part of the total loan, which documents the borrower's legal commitment to pay interest and to redeem the principal in the future. For this matching, the platform receives a fee paid by both sides: borrower and lenders. It is worth mentioning that the transfers of cash and credit claims are done (after deduction of platform fees) contemporaneously as counterclaims; the platform does not collect lenders' money in advance and forward it after the loan is originated. The platform then services the loan, collecting and distributing interest and redemption payments until the loan matures. Normally P2P loans are structured as monthly annuity loans. If the borrower defaults, the platform is obliged to arrange the collection of payments on behalf of crowd lenders although the platform itself is not liable for losses, which are borne by lenders/investors. Some platforms arrange a sale of non-performing 8 loans on behalf of lenders to a debt collection agent for a fixed price to recover a minimum amount (for example, 15% to 30%) of the credit claim. Others have developed automated litigation and recovery processes for when loans default. Here, the recovery rates are higher (Wales, 2017) (Figure 3).



Source: Peer-to-Peer Lending: Opportunities and Risks Lenz (2016)

FIGURE 3
MEDIATION PROCESSES OF P2P LENDING

P2P EMERGING AS A THREAT TO EXISTING BANKING INFRASTRUCTURE

The rapid growth of P2P lending platforms, doubling their business annually in recent years, and their perceived cost and other advantages relative to established banks, have led several commentators to make quite ambitious projections about the extent to which P2P lending can capture market share in banking lending markets (Thyagarajan, 2017). There are several reasons for expecting continued rapid growth of P2P lending. The exploitation of new technology, e.g., the fact that the Internet can facilitate disintermediation by allowing parties to communicate directly with one another, is of course a fundamental reason. But the potential for growth is also because of several competitive advantages of P2P lending platforms over the incumbent suppliers, *i.e.*, the banks. Lenders on P2P platforms have achieved substantially better returns over the past five years than they could have from investing their money in conventional bank savings deposits. This is mostly because of the cost advantages of P2P platforms compared to traditional banks. The attentive nature of their activities ensures that the administrative and overhead costs required for setting up a P2P platform are relatively low. Platforms are also able to match borrowers and lenders (because they are not holding any of the loans themselves) without any interest margin. While lenders on P2P lenders are exposed to greater risk (there is no deposit insurance and no promise of returns), these risks have at least to date been substantially compensated by much higher rates of return (Rainer, 2016).

A second reason for the growth of P2P lending has been that they provide greater access to credit. Since the onset of the global financial crisis, banks and traditional lenders have been more reluctant to provide credit to borrowers. Some entities and small trades that do not satisfy the more stringent criteria that banks now place on granting loans can, through peer-to-peer lending services, find alternative lenders who are willing to take on the risk as long as such loans or to offer them at lower rates of interest. Another factor in the initial growth of P2P lending is the perception that – by directly linking individual borrowers and lenders – it offers a more socially beneficial form of finance, without the concerns sometimes leveled at banks and other conventional financial intermediaries that they exploit their market power and pursue profit without adequate regard to the interests of their own customers. This perception, however, has been somewhat eroded by the increasing presence of institutional investors as lenders on P2P lending platforms. The final advantage of P2P lending is technological. Banks spend a great deal of money on technology, but most of that goes towards maintaining existing systems, rather than on innovating new ones. According to a report published by research and consulting firm (Jegher et al., 2013) in January 2012, banks planned to spend 77.6% of their 2012 technology budgets on maintenance Banks –

particularly retail banks – tend to have large, legacy systems that are difficult to replace because of the infrastructure that has been built around them. Start-up firms – P2P lenders but also 'challenger banks' seeking to compete with established banks in a fuller range of banking services using new technologies – can design and implement operational systems that take advantage of the latest Web 2.0 technologies, without being hindered by the need for continuity with older legacy systems. This in turn can allow them to offer better quality service both to borrowers (a simple loan application process with a rapid decision and a transparent and flexible portal for monitoring their repayments and outstanding commitments) and lenders (for managing their lending and tracking the status of their investments). In addition, modern technology allows P2P intermediaries to provide new approaches to intermediation not available with traditional bank business models. Thus, to take a UK example, the minimum investment in the P2P lender First Circle of £100 is spread over more than 100 borrowers with a maximum of 1% exposure to each. The investor can see all the available information such as credit rating, location, and business sector on each business they invest in (Morgan, 2020).

ADVANTAGES OF PEER-TO-PEER LENDING

According to Bottiglia & Pichler (2016) Peer-to-Peer loans can offer quite a few rewards over other forms of borrowing, such as more competitive interest rates, flexible terms, and a fast and convenient online application process, Table 1 gives more details for these advantages.

Table 1
THE ADVANTAGE OF THE P2P LENDING

• **Online application for a P2P loan is quick and convenient:** As peer-to-peer lending platforms are typically entirely online, it means that the application process is quick and convenient. This can be very convenient if you wish to secure your funds quickly. Maximum P2P platforms have a waiting list of investors to provide loans to borrowers which, when combined with an automated matching process, means turnaround time on getting your money can be very Swift – sometimes as little as a few hours.
• **Access to lower rates:** With Peer-to-Peer lending, borrowers can often access loans with interest rates lower than they could obtain from traditional lenders like banks and building societies. As investors are providing money directly to borrowers through a P2P platform, there are not the typical overheads associated with most financial service providers, which often allows both parties to benefit from more favorable rates.
• **No effect on credit score to get quote:** One can get a personalized quote that does not affect their credit score. This gives the prospective borrower a better idea of the rate that will be offered and the affordability of any prospective loan.
• **P2P lending provides another option for a loan to traditional lenders:** P2P platforms now fulfill an important role for those looking towards alternative finance for some of their many financial needs, which is generating a healthier marketplace for consumers.
• **Autonomy between lender and Borrower:** This setup offers the best of both worlds: lower rates are often available for borrowers with no middleman present, but support is still provided by the P2P platform. Even supposing peer-to-peer loans are financed by investors rather than a bank, the P2P lending platform ensures things stay simple by acting as an intermediary between parties.
• **P2P loans are unsecured and can be more flexible than traditional loans:** Because Peer-to-Peer loans are unsecured, there is no need to provide any collateral and P2P loans offer much more flexibility than other types of loan. This also ensures that the application process remains

quick and uncomplicated, allowing access to funds in a shorter period.
• **Greater returns to the investors:** P2P lending generally provides higher returns to the investors relative to other types of investments.
• **Easy access to source of funding:** For some borrowers, peer-to-peer lending is a more accessible source of funding than conventional loans from financial institutions. This may be caused by the lower credit rating of the debtor or a typical purpose of the loan.
• **Lower interest rates:** P2P loans frequently come with lesser interest rates because of the greater competition between lenders and lower origination fees.

Source: Crowdfunding for SMEs. Bottiglia & Pichler (2016).

DISADVANTAGES OF P2P

Nevertheless, peer-to-peer lending comes with a few disadvantages: High Credit risk: Peer-to-peer loans are exposed to high credit risks. Many debtors who apply for P2P loans possess low credit ratings that do not allow them to obtain a conventional loan from a bank. Consequently, a lender should be aware of the default probability of his/her counterparty. No insurance or government protection: The government does not provide insurance or any form of protection to the lenders in case of the borrower's default. Legislation restrictions: Some dominions do not allow peer-to-peer lending or require the companies that provide such services to comply with investment regulations. Consequently, peer-to-peer lending may not be available to some borrowers or lenders (Copperman, 2016; Lenz, 2016).

WHO DOES THE P2P PLATFORM BENEFIT MORE?

With so many positives in the model that lead cater to 30% of the population (more than the banking population) P2P platforms are always high-risk high-return mediums for the Lenders (investors) as majority of the Borrowers who use these platforms have poor credit ratings. These points towards the conclusion that the Scale weighs more in favour of the Borrower than the lender P2P platforms. This can be countered with stronger regulations and frequent auditing of the NPAs of the systems to make sure that the P2P platforms are as safe a haven for the lender as it is for the investors (Shumsky, 2020).

P2P PLATFORMS IN JORDAN

In the Middle East, crowd funding (in which donors contribute to a campaign) and crowd investment (in which investors contribute for a slice of a company's equity) become very popular since the year 2013 as alternatives to the challenge of seeking seed and angel investment.

The rise of crowd funding platforms Aflamnah & Zoomaal, which, since its launch in July, 2013 had hosted eight successful projects in the span of 4 months, the most famous of which was Lebanese indie-rock band Mashrou3 Leila's US $66,000 campaign to fund its third album. In May 2013, a new platform for equity crowd investment, Eureeca, had launched and then helped skills community Nabbesh raise $30,000 in 24 hours, before reaching its goal of $100,000.

Then, with the launch of Liwwa in Amman in the month of November 2013, Jordan finally received its first regional peer-to-peer lending site, with a local twist: it's Sharia compliant. The platform's P2P lending model – pioneered by co-founders Samer Atiani & Ahmed Moor –appealed

to investors and beneficiaries in ways that Zoomaal & Eureeca didn't, regardless of their religious beliefs: it had a set profit rate of around 7%. Beneficiaries then received a lease-to-own deal on equipment they need to run their business profitably; the only general caveat is that investment amounts are very small (Taylor, 2013).

WHAT ARE CRYPTOCURRENCIES AND WHY ARE THEY IMPORTANT?

Cryptocurrencies are not same as what we know as normal currency, like the USD, British Pound, and Euros, etc. For one, you can only use digital currencies online because they do not come in physical form, and cryptocurrencies are not under the control of any government or central bank. Instead, cryptocurrencies are structured under the blockchain system, which is a collective and distributed ledger that keeps track of every transaction, contract and agreement that goes on within the network. Blockchain transactions are irrevocable and completely transparent, which makes it an even more reliable form of exchange than what we are used to. refer to Glier (2018) & Garrod (2018) utilizing tokens comes with a plethora of advantages including, the table 2 reveals us in detail these advantages.

Table 2
ADVANTAGE OF CRYPTOCURRENCIES

Lower transaction fees	You own it: Saving	Accessibility	It is really fast	Your identity is protected:
Cryptocurrency fees are incredibly low (and sometimes nonexistent) when compared to those charged on normal credit card transactions.	Money at a bank makes one vulnerable because those institutions can limit your access or freeze your funds at any time. Digital currencies, on the other hand, are controlled by private and public keys, which enable one to always control access to the funds.	There are currently Millions of people around the world who do not use banks, whereas the internet is widely available, which makes it easy to send and receive payments *via* the digital currency.	Wiring funds across seas can take anything from 3 business days to a week, whereas cheques can take even longer. Cryptocurrency transactions are quick, with the most complicated transactions taking only 10 to 20 minutes at the most.	If you have ever done online shopping, then you know that at the end of each transaction you are required to provide sensitive information such like one's credit card number, its expiration date as well as the CSV number, a practice which is very risky. Transacting with digital money does not require any of that, and the only information you need to send the vendor you are buying from is the amount you are paying, and you are done.

Source: Why is Crypto so important and should I care? Garrod (2018).

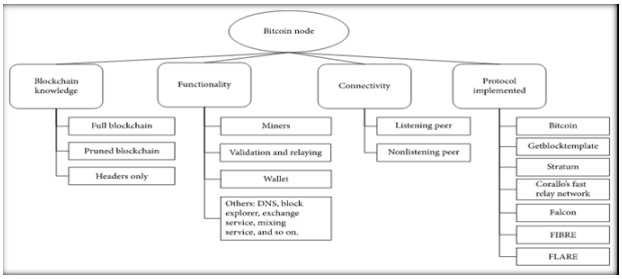
CRYPTOCURRENCY NETWORKS: THE PARADIGM SHIFT IN P2P

P2P networks are the apparatus used by cryptocurrencies to disseminate system information while keeping the whole system as much decentralized as possible. Cryptocurrency P2P networks have new characteristics that propose new challenges and avoid some problems of existing P2P

networks. By illustrating the most relevant cryptocurrency network, Bitcoin, we provide details on different properties of cryptocurrency networks and their similarities and differences with standard P2P network paradigms. Our study allows us to accomplish that cryptocurrency networks present a new paradigm of P2P networks due to the mechanisms they use to achieve high resilience and security. With this new architype, thought-provoking research lines can be further developed, both in the focused field of P2P cryptocurrency networks and when such networks are combined with other distributed scenarios.

CRYPTOCURRENCY OR CRYPTOCURRENCY SYSTEM (CONSIDERING BITCOIN)

Bitcoin is a cryptocurrency based on accounting entries. Consequently, bitcoins should not be digital tokens but as the balance of a Bitcoin account; A Bitcoin account is defined by an elliptic curve cryptography key pair and The Bitcoin account is visibly recognized by its Bitcoin address, obtained from its public key. Using this public data, users can send bitcoins to that address. Then, the equivalent private key is needed to spend the bitcoins of the account. Superior purpose software, commonly referred as wallets, has been developed to create and manage those private keys and addresses (Kikwai, 2017). Furthermore, the Payments in the Bitcoin system are performed through transactions between Bitcoin accounts, as A Bitcoin transaction indicates a Bitcoin movement from source addresses to destination addresses. Source addresses are known as input addresses in a operation, and destination addresses are named output addresses (Conti et al., 2018). The Bitcoin was first presented to the public in a white paper in titled as "A Peer-to-Peer Electronic Cash System", 2008 describing its main concepts (Wright, 2008). Post some months, an open-source implementation of the Bitcoin client was out, giving birth to the cryptocurrency we now know and the P2P network that supports it. Such P2P network definition and implementation have been cloned in multiple new cryptocurrencies that derive from the Bitcoin implementation. In these new cryptocurrencies, the network configuration has been implemented almost identically. For instance, as described in Delgado-Segura, et al., (2018), "Cryptocurrency P2P networks: A comparison analysis,"), Litecoin, Dogecoin, Dash & Peercoin have the same network message types of Bitcoin, being the resulting networks for those cryptocurrencies very similar and in some cases identical to the Bitcoin one.



Source: Cryptocurrency Networks: A New P2P Paradigm, Delgado-Segura, et al., (2018).

FIGURE 4
BITCOIN NODE CLASSIFICATION

Since its disposition in 2009, where the only Bitcoin client available was the reference client, the Bitcoin network is now made up of very heterogeneous peers, whose hardware capabilities and software implementations differ largely from each other. Furthermore, even new protocols have been created with the goal of optimizing certain tasks the Bitcoin ecosystem needs (Houben & Snyers, 2018).

MENA & JORDAN'S STAND ON CRYPTOCURRENCY

The evolution of cryptocurrencies has been met with a variety of regulatory and legislative responses across national jurisdictions, with few signaling approval of the general transactional and functional aspects of cryptocurrencies, while some others responding with legislative prohibitions or restrictions. This diversity of 2 legislative responses signals on one hand the perplexity of authorities as to the full possibilities of cryptocurrencies Abramowicz (2016). This diversity of 2 legislative responses signals on one hand the perplexity of authorities as to the full possibilities of cryptocurrencies, and on the other hand a realization of the inadequate oversight and governance role those authorities would have in the fully disinter mediated nature of cryptocurrency transactions (Adhami & Giudici, 2019). However, over the past few years, a greater sense of initiative has been expressed by regulatory authorities regarding the cryptocurrency space. Above all, the stimulus has come from investors and civil society groups who have been wronged by fraudulent or deceptive practices; as well as the severe decline that occurred after Christmas Day, 2017, from which many late-entrant investors have yet not recovered, and they therefore articulated the need for some sort of protection through traditional regulatory authorities. In addition, there has been an increasing body of evidence that cryptocurrencies can be used in money-laundering or terrorist-financing (AML/CFT) as well as other nefarious activities (Ahvenainen, 2018). This also behooves governments to intervene and close the gap for such actors to misuse virtual assets.

"IRS Virtual Currency Guidance: Virtual Currency Is Treated as Property for U.S. Federal Tax Purposes; General Rules for Property Transactions Apply" mention as a Per IRS, bitcoin is taxed as a property and the U.S. Treasury classified bitcoin as a convertible decentralized virtual currency in 2013 The Commodity Futures Trading¬ Commission, CFTC, classified bitcoin as a commodity in September 2015. The Bitcoin was mentioned in a U.S. Supreme Court opinion (on Wisconsin Central Ltd. v. United States) regarding the changing definition of money on 21 June 2018 Farquhar, Peter (22 June 2018). (The US Supreme Court just spoke about a bitcoin future for the first time". Archived from the original on 22 June 2018) If money services businesses, including cryptocurrency exchanges, money transmitters, and anonymizing services (known as "mixers" or "tumblers") do a substantial amount of business in the U.S., they are required to register with the U.S.FinCEN as a money services business design and enforce an Anti-Money Laundering (AML) program, and keep appropriate records and make reports to FinCEN, including Suspicious Activity Reports (SARs) and Currency Transaction Reports (CTRs) ("Prepared Remarks of FinCEN Director Kenneth A. Blanco, delivered at the 2018 Chicago-Kent Block (Legal) Tech Conference". Fincen.gov. U.S. Department of the Treasury. 9 August 2018. Retrieved 13 August 2018).

In February 2014, Central Bank of Jordan warned the public against use of Bitcoin and other Cryptocurrencies available to trade (Obeidat, 2014). Thus, it is safe to say that Bitcoin is neither banned nor illegal, but it is discouraged in Jordan, like the stand Saudi Arabia and Lebanon have on the Cryptocurrency. The Central Bank of Jordan had issued a circular to all banks operating in the Kingdom, currency exchange companies, financial companies and the payment service companies prohibiting them from dealing with virtual currencies, particularly in bitcoins but that did not discourage the small businesses and local vendors from using Bitcoin. The UAE has been prejudiced by recent FATF guiding principle to amend is regulatory framework to incorporate cryptocurrencies Chohan (2017).

CONCLUSION

The emergence of fintech has also redefined the roles of conventional financial intermediaries for example, in the fintech lending market, the increasing lending volume will give rise to commission revenue, which could then lead to an underestimation of the credit risk of the counterparty, and this is where the insurance sector could hopefully take part. Unfortunately, most

of the articles are focusing on the main players and have neglected those at the supporting and back-end level, such as security, insurance, IT infrastructure, and others. In the context of developing countries like Jordan and MENA countries that are not financial centers such as Hong Kong or Singapore, there will probably be no significant consequences in terms of direct job losses because of fintech innovation. Congruently, Cryptocurrencies are an incredibly transparent alternative to the traditional fiat currencies that we are used to, and it is an alternative that improves the society. Like anything that represents a change in society, it will have to go through a significant amount of resistance before it can be widely accepted and used. Nevertheless, thanks to the effective and secure technology provided by blockchain, borrowing, lending, and saving money will become infinitely more efficient and transparent. Additionally, crypto-currency lending offers P2P investors and access to the global market. In process, they can lend to anyone, anywhere, who significantly decreases the systemic risk attached to the ebb and flow of local economic conditions, and thanks to the lack of overheads and low operational costs associated with crypto lending platforms, investors get to enjoy even higher returns. There is no doubt in the fact that Crypto-currency is the future of world currency, as already Seventeen other countries have similar AML requirements as U.S.A., But as of 2018 U.S. FinCEN receives more than 1,500 SARs per month involving cryptocurrencies which leads to a strong requirement to design a strong global AML Programme to build a strong and safe environment for an increased use of Crypto-currencies.

While,The Central Bank of Jordan still prohibits financial institutions from dealing in virtual cryptocurrencies or facilitating the transaction in any way, switching them for another currency, opening accounts for customers to deal with them, receiving remittances for them or for the purpose of buying or selling them, Being an illegal currency because there is no obligation on any central bank to exchange its value for money, and to deal with it has a high risk of fluctuating its value significantly, the risks of financial crimes and electronic pirates, and the risk of losing its value because there is no guarantor or assets against it. As the Cryptocurrencies are the main umbrella under which all types of legal and illegal cryptocurrencies, types of cryptocurrencies, illegal virtual currencies, electronic money, and cryptocurrencies issued by central banks are legal currencies. The definition and legality of cryptocurrencies continues to vary among countries and international organizations where there is no unified definition or legal framework that combines them, but there is a holistic agreement in terms of the concept that cryptocurrencies depend in their composition on encryption techniques in protecting their transactions and mostly depend on the use of blockchain technology in their circulation, and it can be said that any type of cryptocurrency based on encryption can be called exchanged currencies, but virtual currencies remain at the forefront of other types of cryptocurrencies based on encryption science. Although virtual cryptocurrencies have several benefits for the economic and individual population in light of their distinctive features, there are many risks and challenges they face, specifically the risks of fraud, money laundering and terrorist financing, which are considered in their entirety a direct threat to the security and stability of the financial system, which calls for regulatory authorities to regulate or ban them in the context of the state.

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