



The COVID-19 Pandemic's Impact on Fintech Startups

Oumelkheir BENSAD*

University Tahri Mohamed Bechar
Algeria

bensaad.oumelkheir@univ-bechar.dz

Asma YAAGOUB

University Tahri Mohamed Bechar
Algeria

yagoubasma@gmail.com

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Abstract :

This paper aims to highlight the impact of the Covid-19 pandemic on fintech start-ups as they rely on modern technology to provide financial services. In the field of financial and banking technology presented a challenge because they provide smart services and the development and operation of business models, artificial intelligence and blockchain technology. This paper was based on a descriptive and analytical approach to find out the extent of the impact of the Covid-19 pandemic on global fintech start-ups in both America and Europe, the Middle East, Africa and Asia. The results obtained showed a decrease in investments, which reached 25.6 billion dollars, the number of investment deals to 1,221 compared to previous years. The impact was clear in terms of financing and investment, increase in the use of fintech in light of the crisis and the imposed social distancing measures, which made it easier for customers to deal remotely.

Key Words: Financial Technology, Start-ups, innovation, pandemic covid-19, Fintech.

JEL Classification: O32, F37, L26.

* Corresponding author: Bensaad oumelkheir (*bensaad.oumelkheir@univ-bechar.dz*)

Introduction:

The issue of financial technology has recently emerged as one of the most important topics of the day, as financial technology provides services to many individuals and companies in fast, easy, safer, and less expensive ways compared to traditional financial services. Financial technology also helps in strengthening the digital and knowledge economy that has become the dominant feature. For modern economies, traditional economic methods are no longer able to compete with those countries that have made great strides in the field of technology, and the concept of financial technology has become one of the concepts that have spread to the global level and were based in their beginnings in China, New York, London, Singapore, and Hong Kong. Many countries have encouraged the provision of financial services electronically by establishing start-ups in the financial field, where start-ups in the field of financial technology have succeeded in providing a variety of financial services, including payments services, digital currencies, money transfer, as well as lending, crowdfunding and wealth management in addition to insurance services. It relies on modern technology to provide financial services. Development and operation of business models, financial artificial



intelligence, and blockchain technology. start-ups in the field of financial and banking technology presented a challenge to the traditional financial services providers because they provide smart services and fintech start-ups operating with this technology have easy-to-use digital mechanisms capable of meeting the needs of customers, and these developments have been reflected in the financial institutions. It has invested in fintech entities in partnership with start-ups, investing in new companies, or acquiring companies that implement that technology. Global financial technology investments in the first quarter of 2020 amounted to \$ 25.6 billion and 1,221 investment deals(Pollari, I., & Ruddenklau 2020,p5). During the emergence of a global health crisis and the spread of COVID-19 as black swan event(Antipova 2021,p356), black swan” is when the gap between what we know and what we think we know becomes dangerously wide, this concept is closely related to uncertainty and learning. A black swan event is usually a surprise(Hajikazemi et al. 2016,p85) affected every region in the world significantly within a year 2020, the extensive efforts to contain the virus led to a major shift in the behaviour of customers and start-ups, a shift that affected many sectors, including the financial technology sector, and in light of the above, the problem of the study can be limited to the following question: How has the Covid-19 pandemic affected fintech start-ups?

The objective of this study is standing on the concept of financial technology, learn about the progress made by the countries of the world in the field of start-ups financial technology, Fintech Study about the impact of the Covid-19 pandemic on the financial technology sector, taking international experiences into consideration and making use of them to develop start-ups of financial technology in Algeria.

The importance of this study is evidenced by the importance of the financial technology sector in its various fields and the success of start-ups in it and the resulting reversal of the scales and the modern technologies they brought, as well as its importance in keeping up with what is happening in global developments and the consequences of the Covid-19 pandemic and its effects. Economic and social sectors around the world, especially the financial technology sector.

I. Fintech:

The development of financial technology: It is divided into three important stages in the history of the financial and banking sector to adopt technology (Pant, 2021,p47):

Fintech1.0 (1867-1967): This stage was marked by the laying of the first transatlantic cable to transmit telegraph messages between London, Paris, and New York in 1867, and then included other countries. This was the beginning of establishing a wide infrastructure to connect people, media, governments, and financial markets around the world.

Fintech2.0 (1967-2008): It was the beginning of the digital transformation using computers and automated teller machines, then the payment systems such as SWIFT developed, which formed the basis of large-scale online transactions, and in 1971 the first electronic exchange NASDAQ was established, a step towards



digitalizing the stock market in the early 1980s. The stage is three major crashes in the market, the most prominent of which is the collapse of the global stock market known as Black Monday in 1987, followed by the collapse of the bubble in 1999 and the last of which was the 2008 crisis, the collapse of the global financial market due to defaults on lending in the real estate market.

Fintech3.0 (2008-present): After the market crash in 2008, many regulatory changes were introduced that led to increased compliance costs and decreased profitability. Many employees lost their jobs and entered into fintech start-ups offering innovative financial solutions offering banking solutions, followed by the emergence of cryptocurrencies and mobile payments and digital platforms.

1. Definitions of financial technology:

According to the Digital Research Institute in the Polish capital Dublin, financial technology is "about modern technological inventions and innovations in the field of the financial sector, as inventions include a group of digital programs that are used in the financial operations of banks, which include transactions with customers and financial services. Such as money transfer, currency exchange, interest rate, and profit calculations(zoubeirayache,2020 ,p306) knowledge of expected profits for investments, and other banking operations .Arner (Arner, 2016, p. 22)defines it as "the use of technology to provide financial solutions", while Schueffel (Schueffel, 2016, p. 32-54) defines it as "a new financial industry that applies technology to improve financial activities.

As defined by (Fajar, 2020,p9)that the term financial technology according to the National Center for Digital Research (NDRC) describes innovation in the field of financial services can also be interpreted as an innovation in the financial sector that is given a touch of technology to change, simplify and accelerate all services in the financial sector, and Through the foregoing, it can be defined as a technological innovation in a group of services and products with more effectiveness, flexibility, and facilities for the financial and banking sector.

2. Startups in FinTech:

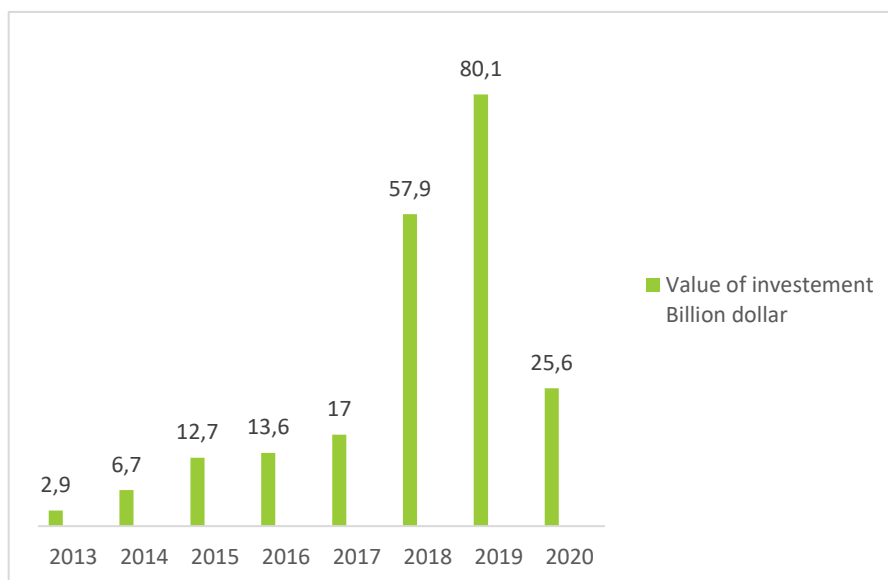
They are modern companies based on innovation and technology in financial services that can result in new business models, applications, processes, or products with a material impact associated with the provision of financial services. (Sahay, R., von Allmen, U. E., Lahreche, A., Khera, P., Ogawa, S., Bazarbash, M., & Beaton,2020,P8)

. Fintech start-ups can be emerging technology companies, e-commerce companies, or large technology companies. These start-ups use developing technologies such as cloud computing and blockchain, artificial intelligence, machine learning, data analytics robots, To provide low-cost financial services for a better value proposition (Pant, 2021, P47), fintech start-ups are receiving increasing investments on a global scale investments amounted to \$ 2.9 billion in 2013, \$ 6.7 billion at the end of 2014. At the end of 2017, the total investment amounted to \$ 17 billion. Fintech investments increased surprisingly at the end of 2018 at a growth rate of 34% and continued to rise in 2019 to reach 80.1, then decreased at the beginning of 2020 with the emergence of the Covid-19 crisis to \$



25.6 billion in investments (Article, 2020, p. 415) The next figure shows the volume of global investments in financial technology

Fig. 1 : « Global fintech investment »



Source : The Global Islamic Fintech Report 2020

3. Fields of financial technology:

Fintech start-ups provide a wide range of financial services, the most important of which are:

3.1. Payments and money transfer services:

These are the services provided by some start-ups through websites or mobile applications to make purchases from online stores without the need to navigate or disclose bank information to the consumer, as well as the ability to transfer money abroad "TransferWise" and currency exchange "Kantox" at the lowest cost, And simplify payment processes between individuals and "PayPal" is considered one of the largest companies that provide electronic payment services. The market value of this company is estimated at 60 billion dollars, while its annual turnover is estimated at 50.1 billion dollars with net profits exceeding 5 billion dollars .

- **Lending services and obtaining capital:** Includes start-ups that provide peer-to-peer lending services, crowdfunding, money turnover, and credit comparison platforms.
- **Peer-to-peer lending:** Peer-to-peer lending is a new type of sharing economy. P2P lending platforms help connect investors with borrowers without the bank acting as a middleman.
- **Crowdfunding:** They are electronic platforms to collect money from the general public to finance a project. The owner of the project presents his idea and clarifies the advantages and objectives of his project while determining the cost of the project. The idea owner can use the collected funds after completing the required amount to finance the project within a specified period(Pierret &



Steri, 2018,P10). The idea of crowdfunding sites was simple as an outlet for creators and entrepreneurs because it first contributed to increasing their financial freedom and secondly it helped rid them of the authority of investors.

- **Recycle money:** It is a platform for digital credit lending in a direct form without media that is fully driven by its network of users, meaning this service allows individuals to obtain credit without resorting to the bank, and it also allows users to build a credit record based on their performance in money cycles.
- **Credit comparison platforms:** These platforms have played the role of an alternative financing solution to support the growth of the SME sector. Comparison platforms provide various financing offers and offer all available formulas with the characteristics of each offer, making it easier for the beneficiary to search for the best offer in terms of the opportunity and the appropriate cost for him without the hassle of searching and the length of time for that.
- **Wealth management:** Under this item, the wealth management service includes both financial planning and investment portfolio management and a number of combined financial services for wealthy individuals, small business owners, and families who want financial assistance and advice inviting certified professionals to manage their wealth from coordinating banking services, real estate planning, legal resources, and professional tax and investment management.
- **Insurance technology:** There is a large number of employees who do not have a bank account, and therefore without a bank account it is not possible to find a credit record, but financial technology start-ups have found a solution for that, as it connects major insurance start-up with many mobile phone service operators to provide basic insurance products using the mobile phone in Areas that are not covered by insurance services(Deloitte, 2020,P4). And given the advantages that insurance technology provides to its users (ease of use and low cost)
- **Cryptocurrencies:** Financial technology enables a wide range of innovative financial solutions such as "Crypto-currencies" based on the data chain, or as it is called "Blockchain". The encrypted digital currency is a digital representation of a value that can be transferred, stored, or circulated electronically that is not issued by the central bank or public authorities, and it is not necessarily related to a paper currency (the dollar, the euro ...) but rather people accept it as a means of payment. The most popular virtual currency currently is Bitcoin, in addition to providing other services .
- **Services provided to banks based on a large database:** It provides solutions directed to the banking sector by collecting and analysing a large database of data that will improve customer relationship management.
- **Services provided to banks and companies:** Financial technology companies provide many solutions to improve the management of companies. We find



those that are directed to banks, such as the Block tech technology, which develops solutions based on Blockchain technology concerning recording transactions. As for companies, they also provide solutions such as control measures in information systems and risk management.

- **Business to business B2B** : Fintech start-ups are working to create technological service solutions specifically targeted to companies and financial institutions, such as software used, financial security for customers, such as blockchain.
- **Reg tech Regulatory Technology** : Promote and improve regulatory compliance 30). by exploiting new technologies such as Machine Learning (ML).

II. COVID-19 Pandemic:

The COVID-19 pandemic began as a shock to the global health and healthcare systems. However, the nature of the epidemic coupled with the speed of its transmission requires societies to adopt measures of "social distancing" or stricter lockdown measures(Abdillah, 2020, p. 265) Imposed by the government. To control virus infection, this was the case in both affected and unaffected areas of the actual outbreak. Furthermore, these shocks can also lead to long-term changes in societies and economies. Most COVID-19 scenarios show global economies shrinking and not returning to pre-crisis levels. Until 2023 (Pollari, I., & Ruddenklau, 2020, p 5) The black swan event, as it was called, affected every region of the world significantly during the first half of 2020. Extensive efforts to contain the virus led to a major shift in customer and corporate behaviour, a shift that affected many sectors, including financial technology. In our world that remains uncertain.

III. Literature review:

The Global Impact of COVID-19 on Fintech Adoption Jonathan Fu, Mrinal Mishra (Pierret & Steri, 2018) the study relied on mobile application data from 74 countries to document the impacts of the COVID-19 pandemic and its adoption of digital finance and financial technology. The proposed hypotheses are as follows: The COVID-19 pandemic has increased the adoption of financial mobile phone applications, the impact on adoption is less in countries with higher levels of economic development and with higher rates of pre-adoption and greater in countries with larger market size (population and demographics), the impact on adoption is primarily driven by government restrictions rather than the spread of COVID-19 itself, and I have come to the following conclusions: The spread of COVID-19 and related government shutdowns have resulted in statistically and economically significant increases in downloads of fintech mobile phone applications the spread of COVID- 19 And related government shutdowns have led to an increase ranging between 24 and 32 percent in the relative rate of daily downloads of mobile money applications. The increase in downloads was mainly



by the United States, India, and Mexico, at the beginning of the crisis, but there is a group of other countries such as Indonesia and Turkey. And Russia, the Netherlands, and Brazil in recent weeks large proportional increases.

Financial Technology (Fintech) Corporate Strategy in Dealing with Pandemic Coronavirus Disease 2019 (Covid-19) (A. MALIK FAJAR,2020) The study aimed to clarify the strategies followed by fintech start-ups in Indonesia in dealing with their clients during the Covid-19 crisis. The more selective in verification, the greater the likelihood of bad credit and the lower the risk the study concluded with the following recommendations with the current situation, implementing new policies for start-ups immediately, increasing the quality of credit registration. react quickly when there are economic changes at the macro level, increasing opportunities by maximizing cooperation with e-commerce start-ups. Coordination with the Financial Services Authority, cooperation in various sectors. Collaboration is not only limited to start-ups to maintain but also to society and government as well.

The impact of COVID-19 pandemic : challenges and opportunities of Syariah financial technology (Tripalupi and Anggahegari, 2020) this study aimed to describe the challenges and opportunities of Islamic financial technology (fintech) in Indonesia. This study used the descriptive approach and reached the following conclusions that the effect was on the performance of the financial technology industry. Roughly 68% of fintech regulators have a negative influence. Approximately 23.4%, increased use of fintech through online shopping platforms, payments and loans, and the accelerated digitization of financial services, slowing down of economic activity various risks have arisen Decreased productivity due to changes in operating patterns in addition to increased risks of market uncertainty, reduced consumer demand, reduced number of transactions, and increased operational risks. For the fintech industry, the financial performance declined, which is the success rate of the 90-day loan repayment in February 2020, which decreased from 96.35% to 96.08%.

IV. Case of study: The impact of the pandemic Covid on start-ups Fintech:

1. Methodology:

The research approach applied in this study we used the descriptive approach when presenting the basic information, and then the analytical method when analysing the data and the study data and descriptive methods, and developed using a literature review or literature study approach in the form of Reports, scientific journals and internet platform.

2. Results :

During the COVID-19 pandemic, technology has created new opportunities for digital financial services to accelerate and enhance them, amidst measures of social distancing and containment. It is undeniable that COVID-19 has had an impact on fintech activity in 2020 and that is why we decided to shed light on the most important impacts in various leading countries. In the field of financial technology, with the help of a set of information and data extracted from the reports of



"KPMG" and "FINDEXABLE", the two leading sources of information on financial technology, Fintech.

3. Fintech hubs by region:

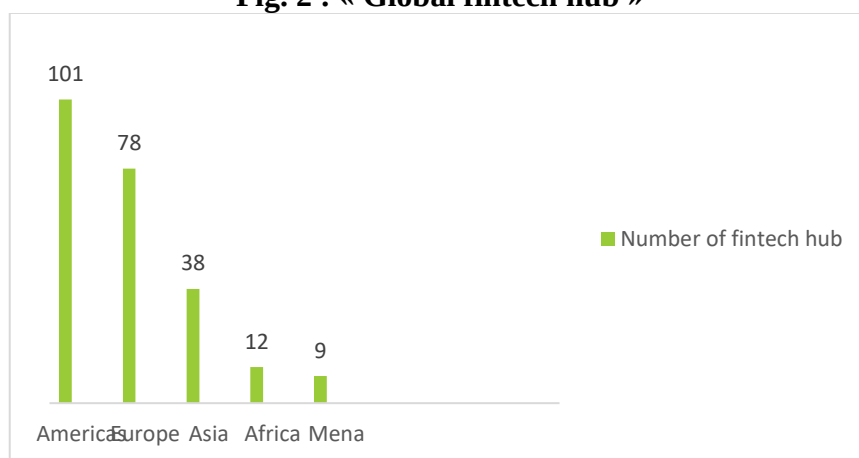
The Americas : Fintech activity is dominated by the United States as a region as well. Some of the most dynamic emerging centers in the world (including 21 cities in Latin America) are located (Global FinTech Report, 2020, p. 31).

Europe: Diversity in Europe and its commitment to organizational coordination (Baba et al., N.d., p. 23) remains a major strength, the region is second only to America in terms of the number of hubs with 78 groups that the regional fintech also receives a large proportion of the venture capital (Sahay, R., von Allmen, U. E., Lahreche, A., Khera, P., Ogawa, S., Bazarbash, M., & Beaton, 2020, p. 15–24) Related to other sectors (by 20% of total venture capital investments) a higher proportion of Asia and the United States.

Asia: Despite the scale and success of China's digital systems platforms, India is Asia's first financial technology hub(Global FinTech Report 2020,p32), with 11 Indian cities, in contrast, we find only 6 Chinese cities.

Africa & Mena: It is the least developed region in terms of financial technology hubs, with around 12 in Africa and 9 in the Middle East and North Africa(Global FinTech Report 2020,p32), owing to the fact that fewer than half of the population has a bank account.

Fig. 2 : « Global fintech hub »



Source : Global Fintech Index 2020 Africa

And among the top ten global financial technology deals in the first half of 2020, Table 1 shows the top 10 profitable deals made by fintech start-ups :

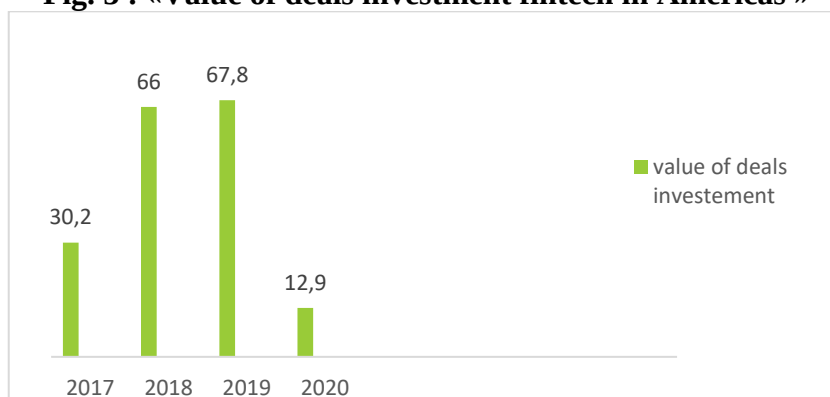
**Table 1 : «Top 10 fintech start-ups investment deals in H1 2020 »**

Fintech	Value deal	position	range
Gojek	\$3B	Jakarta, Indonesia	Payments/transactions
Open Lending	\$1.3B	Austin, US	Lending
Grab	\$886M	Singapore	Payments/transactions
Stripe	\$850M	SanFrancisco, US	Institutional/B2B
RDC	\$700M	King of Prussia, US	Regtech
Chime (Financial Software)	\$700M	SanFrancisco, US	Banking
N26	\$570M	Berlin, Germany	Banking
Revolut	\$500M	London, UK	Payments/transactions
Robinhood	\$430.3M	Menlo Park, US	Wealth/Investment management
Navi Technologies	\$397.9M	Bengaluru, India	Payments/transactions

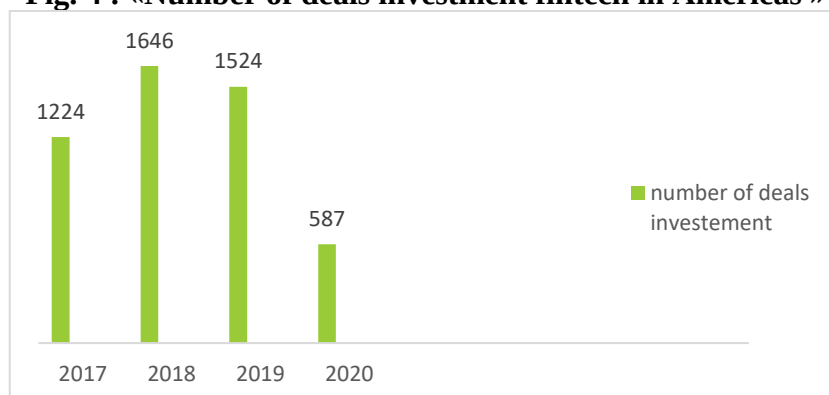
Source : KPMG Fintech2020 <https://home.kpmg/xx/en/home/industries/financial-services/pulse-of-fintech.html>

Fintech start-ups received increasing investments on a global scale in the first half of 2020, according to the above table. Gojek (Abdillah, 2020,P265) is in the first place and it is an application that provides payment / transaction services. This application contains the most important service, which is Go-Pay, which has a good level of efficiency through analysing big data, the value of the deal was \$ 3 billion (Trisnowati et al., 2020, p 505).

4. Global fintech investments in light of the Covid pandemic:

Fig. 3 : «Value of deals investment fintech in Americas »

Source : KPMG Fintech2020

**Fig. 4 : «Number of deals investment fintech in Americas »**

Source : KPMG Fintech2020

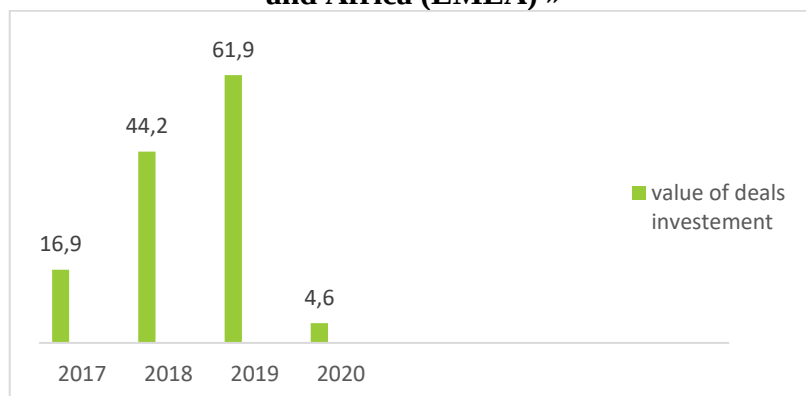
The total investment activity in financial technology in America from 2017 to 2020 (investment capital, private equity, mergers and acquisitions) shows a sharp and clear decline in the field of financial technology in America, where the value of deals in 202 \$ 12.9 billion and the number of deals in 202 \$ 12.9 billion. In comparison to previous years, it dropped to 587 agreements. The United States received the majority of the venture capital investment in the field of financial technology in America (8.6 billion USD), since American investors perceive financial technology as a huge growth instrument, and the area of payments was the greatest sector for venture capital investment ,Stripe has raised \$ 850 million, and Chime raised \$ 700 million(Pollari, I., & Ruddenklau 2020,p38).

The pandemic has caused unprecedented economic damage in Europe, with economies decreasing by 11% in 2020 and not rising to pre-pandemic levels until 2023 (McKinsey & Company, 2020, p. 2-6). As shown in Figure 5, some fintech start-ups in Europe are in an enviable position to collect funds the pandemic has also severely impacted single-line businesses such as peer-to-peer (P2P) lending and market financing B2B fintech firms that sell services and technology to financial institutions are grappling with extremely hard selling environments. These firms match borrowers and lenders, earn the difference between interest charged to borrowers and money returned to the lender, and B2B fintech firms that sell services and technology to financial institutions are grappling with increasingly challenging selling environments. The COVID-19 virus poses a real risk to fintech start-ups across Europe, particularly those that are in their early stages with limited cash. Due to the constraints of traditional communication channels, entrepreneurs and new start-ups suffer new challenges. However, because of the pandemic's impact on digital customer behaviour, such as increasing demand for digital tools, products, and services, the pandemic is also creating possibilities. In spite of low mergers and acquisitions activity, which led to a significant drop in financial technology investment in Europe in 2020, fintech start-ups with good capital and those who can adjust quickly to changing client needs will experience considerable growth in venture capital has remained very strong of a fintech venture capital investment from 2020, rival banks attracted five of Europe's top 10 deals(Pollari, I.,



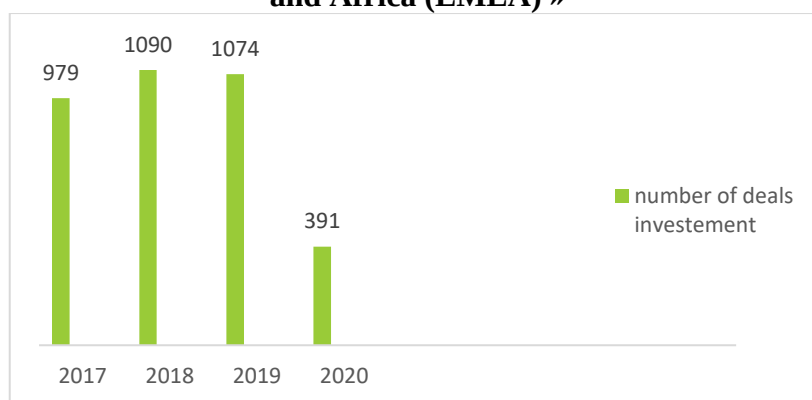
& Ruddenklau 2020,p47), including N26 (Germany) and Revolut (UK) Klarna (Sweden), Starling Bank (UK), and Qonto (France). The transactions suggest an increasing focus on competitor banks as they develop and become more competitive, not just in Europe, but around the world. Both Revolut and N26 have joined Klarna in the US market.

Fig. 5 : «Value of deals investment fintech in Europe, Middle East and Africa (EMEA) »



Source : KPMG Fintech2020

Fig. 6 : «Number of deals investment fintech in Europe, Middle East and Africa (EMEA) »



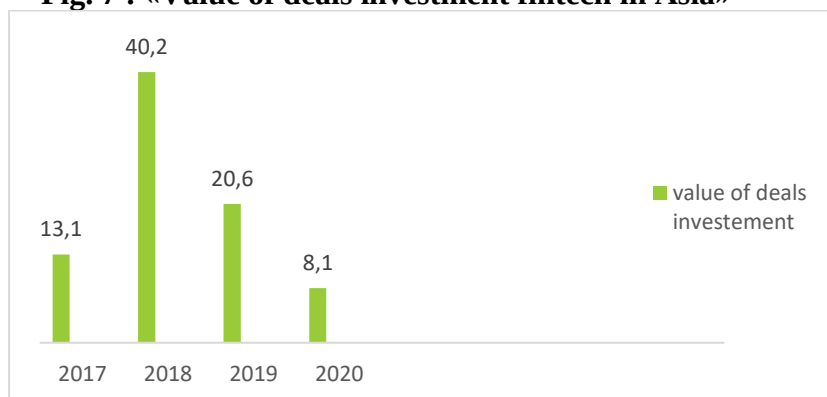
Source : KPMG Fintech2020

Many Middle East countries have continued to make an effort to establish themselves as fintech hubs, with funding simply focusing on early-stage deals in 2020(Pollari, I., & Ruddenklau 2020,p47). The financial technology market in the the Middle East's financial technology market is expected to grow and develop in the near term. Fintech ecosystems should be developed. With financial technology hubs slowly maturing, we find the United Arab Emirates and Bahrain among the most promising technology hubs, in addition to Saudi Arabia, which has made significant strides in developing this sector, with the value of financing and deals exceeding 13.1 million Saudi riyals (fintechsaudi, 2020) With the growth of fintech start-ups in their early stages, the region is likely to have higher levels in investment.



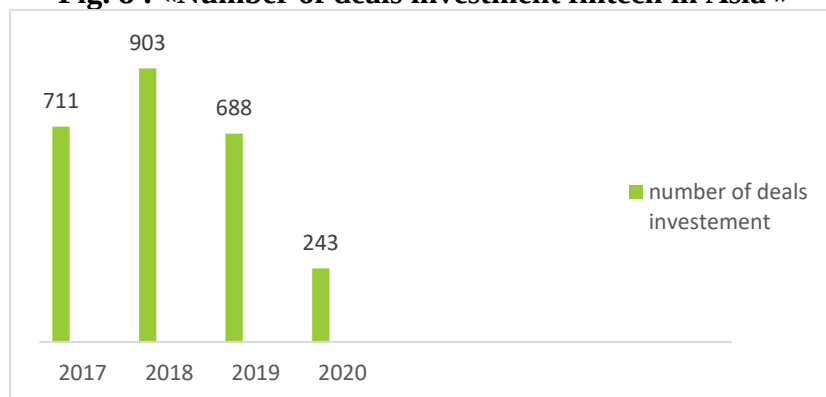
In terms of fintech investment in 2020 Asia is the most controversial region with Gojek an Indonesian platform provider increasing its investment by \$ 3 billion and Grab a Singapore-based competitor increasing its investment by \$886 million. Both platform providers are working hard in the region to increase payment services, Grab bought Bento a robot counselor in January 2020 while Gojek (Abdillah 2020,p265) Moka cloud point of sale and offline payments were acquired in April 2020, Larger fintech start-ups in Asia struggled to establish profitability and attract new investments, while the larger fintech start-ups in Asia started to gain ground. Gojek received funding from Google, Tencent, Facebook, and PayPal, while Facebook announced a \$5.7 billion investment in Reliance Jio, an Indian start-ups that launched both direct e-commerce platforms and WhatsApp.(Pollari, I., & Ruddenklau 2020,p62).

Fig. 7 : «Value of deals investment fintech in Asia»



Source : KPMG Fintech2020

Fig. 8 : «Number of deals investment fintech in Asia »



Source : KPMG Fintech2020

However ,COVID-19 leads to a concentration of funding in well-known start-ups early stages , since investments in the United States, India, and Europe have become more challenging, Chinese tech companies are increasingly focusing on Southeast Asia (Pollari, I., & Ruddenklau 2020,p62). Because businesses are difficult to diligence in the early stages.



Conclusion:

The current conditions imposed by the COVID 19 pandemic have made all the economies of countries subject to pressure and a state of uncertainty, and the same is true for fintech start-ups, as obtaining funding has become difficult, especially for those that are still in their early stages. On the other hand, the pandemic's impact was good in that it opened up new opportunities for some fintech start-ups around the world, as there was an increase in the use of digital financial services and e-commerce during social distancing and quarantine.

It's important to note that Arab countries haven't strayed far from this subject. Bahrain, the United Arab Emirates, and Saudi Arabia have achieved significant progress in the field of fintech and have established themselves as pioneers. Finally, we propose a reintroduction as a recommendation for Algeria to benefit from successful worldwide experiences. Restructuring the banking industry with the goal of reducing public banks' monopoly in this sector, as well as seeking to adapt the legal framework to the demands of modernization of services, global market openness, and infrastructure reviews, particularly banking infrastructure.

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