

**Role of governments in supporting Fintech adoption for financial inclusion in MENA region**

دور الحكومات في دعم تبني التكنولوجيا المالية من أجل الشمول المالي في منطقة الشرق الأوسط وشمال إفريقيا

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**Abstract**

This study aims to identify the role of governments in promoting the growth of Fintech Industry in MENA region in the context of accelerating the financial inclusion and supporting digital economy. By demonstrating the evolution and growth of Fintech in the region over the period 2015-2021, and explaining how Fintech industry is regulated and supported by governments, the research reveals that government support by providing a Fintech-friendly regulatory environment and favorable investment climate plays an important role in Fintech development. Therefore, governments in the region should provide opportunities for digital innovation and address the gaps in the information and communication technology infrastructure.

**Keywords:** Fintech, Financial inclusion, Regulatory environment, Government support, MENA region.

**JEL Classification Codes :** G28, O16

**ملخص**

تهدف هذه الدراسة إلى تحديد دور الحكومات في تعزيز نمو صناعة التكنولوجيا المالية في منطقة الشرق الأوسط وشمال إفريقيا في سياق تسريع الشمول المالي ودعم الاقتصاد الرقمي. من خلال إظهار تطور ونمو التكنولوجيا المالية في المنطقة خلال الفترة 2015 - 2021، وشرح كيفية تنظيم صناعة التكنولوجيا المالية ودعمها من قبل الحكومات، كشفت الدراسة أن الدعم الحكومي من خلال توفير بيئة تنظيمية صديقة للتكنولوجيا المالية ومناخ استثماري مناسب يلعب دور مهم في تطوير قطاع التكنولوجيا المالية. وهو ما يفرض على دول المنطقة إتاحة الفرص أمام الابتكار الرقمي، ومعالجة الفجوات في البنية التحتية لتكنولوجيا المعلومات والاتصالات.

**الكلمات المفتاحية:** التكنولوجيا المالية، الشمول المالي، البيئة التنظيمية، الدعم الحكومي، منطقة مينا.

تصنيف JEL: G28, O16

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## **Introduction**

In recent years, Fintech has become a buzzword in MENA region. Governments have paid increasing attention to these nascent technologies and its application as a tool for digital transformation in one hand and to improve the access to financial services for unbanked population in the other hand; It has been seen as a driving force for economic diversification and has been put at the top of the development agendas of many countries in the region.

According to KPMG, Fintech has the potential to promote sustainable economic development by improving wider access to financial services and improving the cross-border flow of goods, services, payments and information. (Woo, 2018, p. 5) Thus, adopting Fintech is important for the economies of MENA region, where half of adult population remain financially excluded while more than half of them have mobile phones and access to internet.

As a part of their financial inclusion strategies and policies, governments in MENA region are fully involved in supporting Fintech industry through different means. Therefore, the main question we will try to answer in this research is as follows:

What role can the governments in MENA region play to grow up the Fintech industry?

- Research hypothesis:

Government can support Fintech industry by providing a favourable investment climate and regulatory environment to attract Fintech investors and venture capital.

- Research objectives:

The objectives of this study are:

- To demonstrate the evolution of Fintech industry in MENA region.
- To show how Fintech is regulated and supported by governments in MENA region.
- To reveal the most important factors that helped Fintech to grow in MENA.

- Research importance:

This work will provide solid evidences for decision makers on how government can play a key role in supporting Fintech industry, in order to take the necessary measures to best adopt Fintech.

- Methodology

A descriptive analytical method, in addition to various statistical data and a case study approach was chosen to answer to the problem of the research, and to test the hypothesis.

The research is divided into two main parts as follows:

- Fintech landscape in MENA region.
- Fintech regulation and government support.

### **1- Fintech landscape in MENA:**

The term financial technology “Fintech” used to describe a variety of innovative business models and emerging technologies that have the potential to transform the financial services industry. “Fintech covers in one hand innovative business models such as mobile payment, crowdfunding, cryptocurrencies, high-frequency trading etc.... and in the other hand it covers the emerging technology such as Blockchain, Internet of things, cloud and artificial intelligence etc... (IOSCO, 2017, p. 4). This definition extended to include all companies that use financial technology to provide digital financial services.

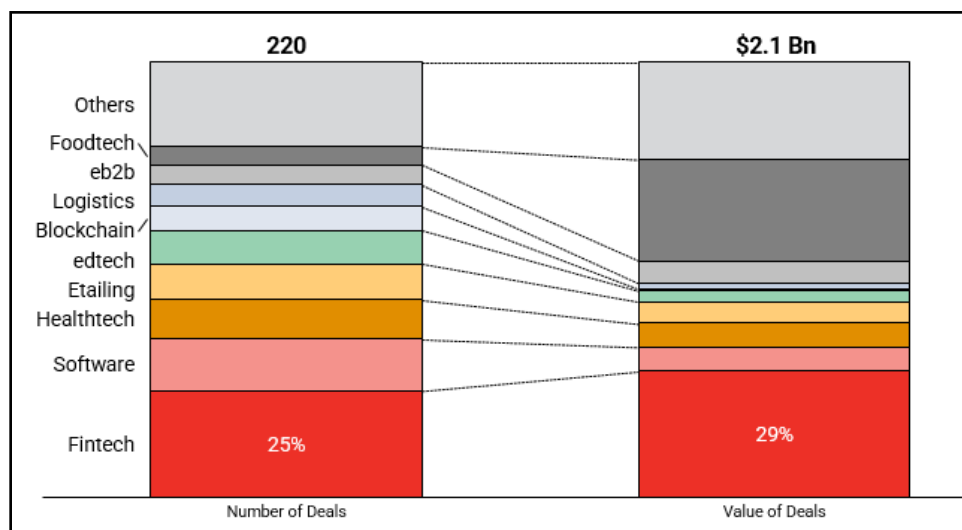
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### 1-1 Investment trend in MENA:

Although MENA region attracts only 1% of global Fintech funding, there is a high potential in the region (Duqah & Yazitzis, 2020, p. 56) as the trends of investment in Fintech point to favourable growth and development.

In 2021, Fintech investment in term of funding knew a significant growth and led the growth of digital economy in MENA that period.

**Figure 1: Funding split of start-ups by sector in 2021**



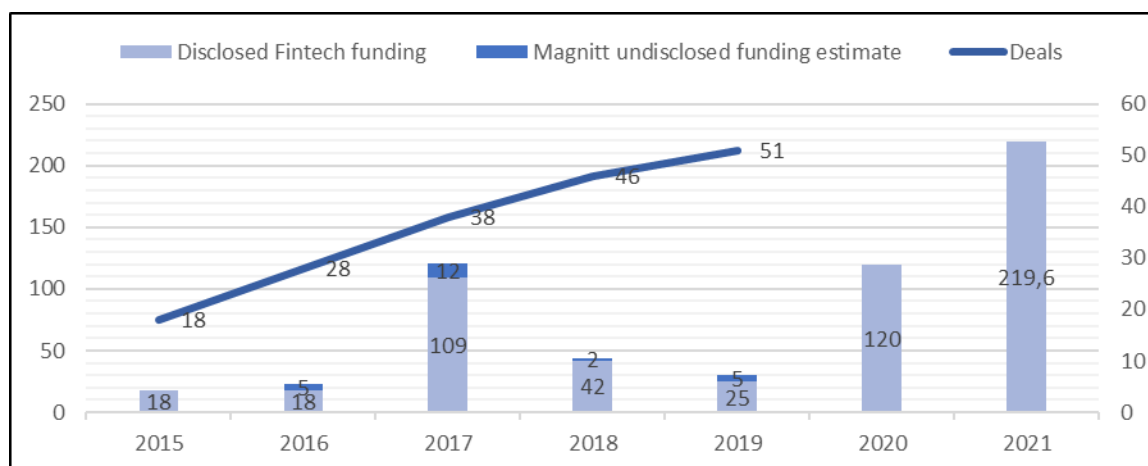
Source: (Redseer, Digital Economy : Fintech Leads In Growth, 2022)

The Redseer 2021 data shows that there were 220 deals in the digital economy worth \$2.1 billion, Of these, Fintech accounted for a quarter of the transactions (52 deals) and 29 per cent of the deal value (\$600 million). (Redseer, Digital Economy : Fintech Leads In Growth, 2022)

#### 1-1-1 Total funding and number of deals:

Fintech start-ups recorded a 183% year-over-year growth in funding in 2021 - the highest yearly growth rate over the past five years. (magnitt, 2022)

**Figure 2: Annual number of deals and total funding (\$) in MENA-based Fintech start-ups, 2015 – Q1 2021**



Source: (Magnitt, 2019, p. 6) & (magnitt, 2022)

Fintech industry has seen exponential growth in MENA region in a very short period of time, where a total of \$237M has been invested in 181 deals between Q1 2015 and Q3 2019 in MENA-based Fintech start-ups.

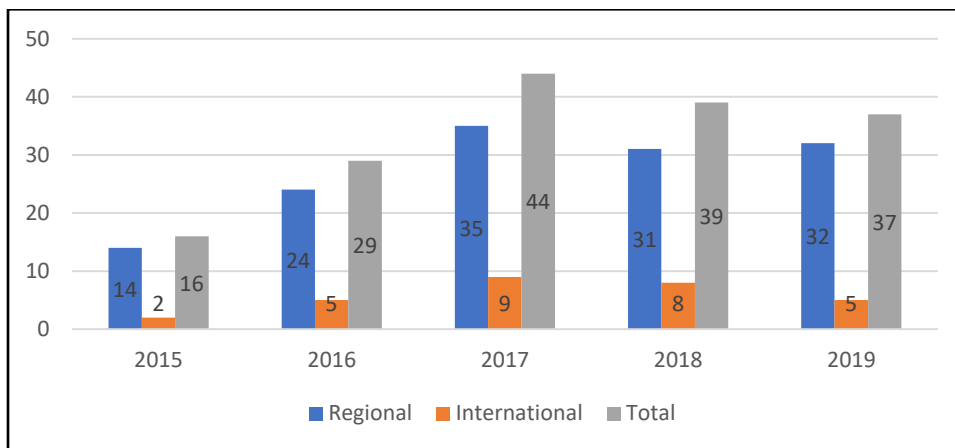
According to the MENA Fintech Venture Report by ADGM/ MAGNITT, 13% of all deals signed between 2018 and 2019 YTD attributable to Fintech, which made it the top industry across MENA in term of number of deals in that period, however the industry accounts for only 5% of total funding making it the fourth industry in term of funding behind Delivery & Transport, E-Commerce and Real Estate. (Magnitt, 2019, pp. 6-7)

According to Forbes Middle East calculations, about 170 companies announced raising funds during the first half of 2021, registering a new record led by Saudi Fintech Tamara, which raised \$116 million over the past six months through two funding rounds. (pioneerinvestors, 2022)

### **1-1-2 Number of Private investors in Mena based Fintech start-ups**

There has been considerable increase in the number of private accelerators and venture capital firms that invest in MENA-based start-ups.

**Figure3: Number of Private investors in Mena based Fintech start-ups**



Source: (Magnitt, 2019, p. 16)

Among 163 The number of investors in 2019 Q3, 37 invested in Fintech start-ups, 86% are regional investors and 14% are international.

The regional investors which represent more than 80% of the total investors in MENA-based Fintech start-ups increased by 191% since 2015, this helped Fintech start-ups, boosting their development and growth. (Magnitt, 2019, p. 16)

### **1-2 Fintech split by sector and by country**

From geographical and sectoral perspectives, Fintech deals and funding are not shared equitably between different sectors and countries.

#### **1-2-1 Fintech funding and number of deals by countries**

From a geographical perspective, in term of funding and number of deals, according to 2019 Magnitt report, the United Arab Emirates accounts for almost 70% of all funding in 2019 YTD, followed by Bahrain (9%) and Lebanon (9%) and Egypt (7%) in term of number of deals the UAE and Egypt followed by Lebanon account for the vast majority of Fintech deals in 2019 YTD. (Magnitt, 2019, pp. 25-27)

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In 2021, UAE keeps leading the Fintech industry where most of the Fintech deals (32%) and funding (49%) across MENA was focused in. (magnitt, 2022)

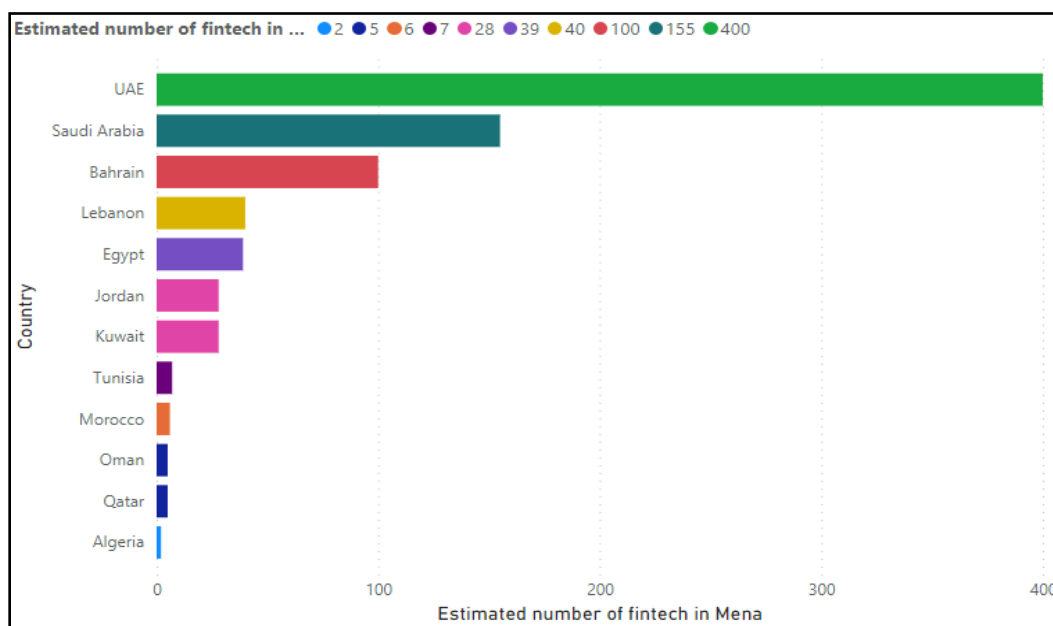
According to Q1 2021 MAGNITT report, the average MENA Fintech ticket size stood at \$3M. In both UAE and KSA averaged above this number. (MAGNITT, Q1 MENA Fintech venture investment report, 2022) Saudi Arabia saw the number of transactions more than tripling year-on-year, whilst total funding rose by an incredibly 2000%. Meanwhile, the UAE retained its leading position as a hub for the industry, with no less than 166 Fintech start-ups registered in the country. (Sheikh, 2022)

Bahrain and Lebanon saw significant developments as the two largest Fintech deals came from these countries. (MAGNITT, Q1 MENA Fintech venture investment report, 2022)

According to The Global Fintech Index 2020, UAE is ranked 1st in the region and 18 worldwide followed by Egypt ranked 60 and Lebanon ranked 65 worldwide.: (Findexable, 2019, p. 26)

When it comes to the number of Fintech start-ups, UAE account around 50% of the total number of Fintech in the region, followed by Saudi Arabia, Bahrain, Lebanon and Egypt.

**Figure 4: Number of Fintechs in MENA by country 2021**



Source: (Faria, 15) & (Santosdiaz, Fintech: Middle east and Africa 2021 The fintech lanscape report, 2021, p. 14)

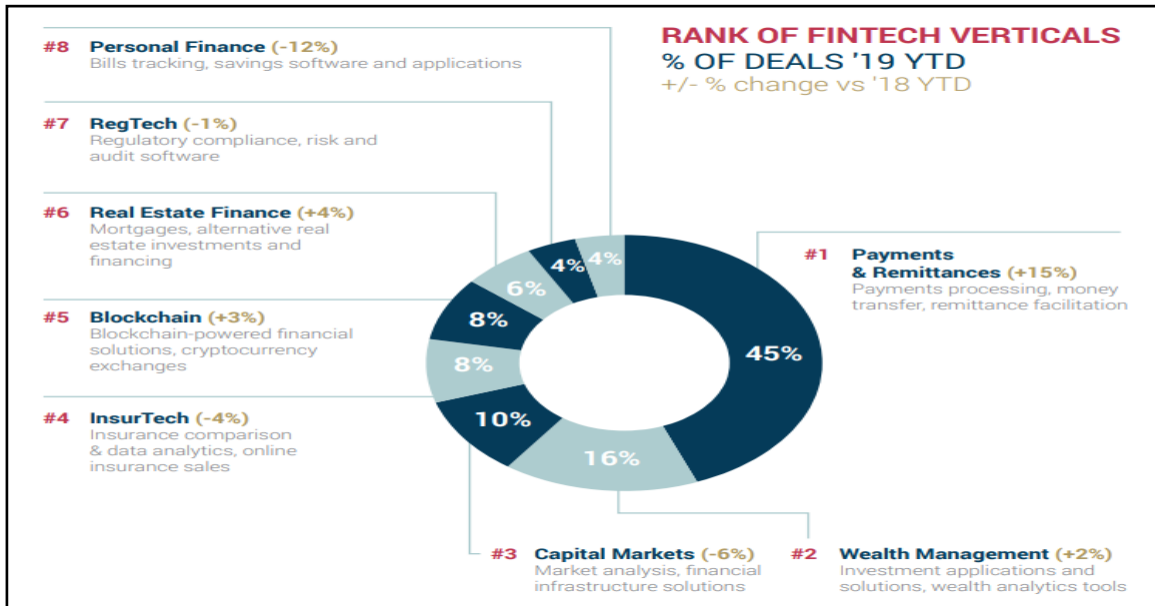
### **1-2-2 Fintech deals split by sector**

Within Fintech, payments and remittances secured the maximum number of deals accounted for the largest share of money raised given their universal importance.

There are many different types of Fintech start-ups, working in different financial sectors including Payments & Remittances, Wealth Management, InsurTech, Blockchain and others. Among 8 sectors, the largest proportion of the total Fintech deals received by the payments & remittances in 2019 YTD, accounting for nearly half of all deals. (Magnitt, 2019, p. 18)

Moreover, around 85 per cent of Fintech firms operate in the payments, transfer and remittances sectors (Santosdiaz, Fintech: Middle east and Africa 2021 The fintech lanscape report, 2021, p. 13).

Figure 5: Proportion of Fintech deals by sector

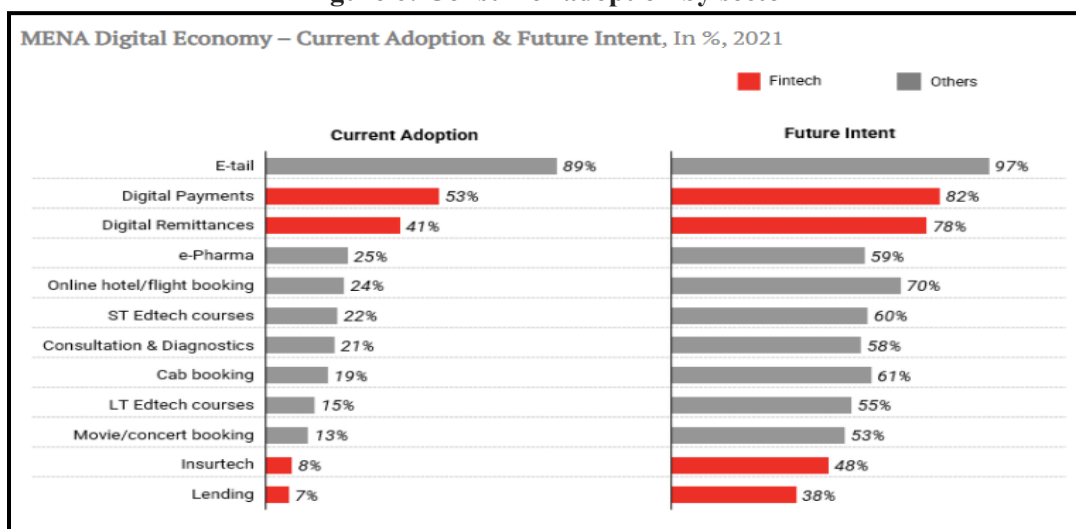


Source: (Magnitt, 2019, p. 18)

In addition to the universal importance of transfer and remittances, the UAE large expatriate population made remittances a key area for Fintech growth in UAE and broadly in MENA. Among all fintechs in MENA, 24 of them work in Islamic finance industry, of these 9 are based in Saudi Arabia and 15 in UEA. (Santosdiaz, Fintech: Middle east and Africa 2021 The fintech lanscape report, 2021, p. 25)

Regarding consumer adoption by sector, the rate for digital payments is 53% and 41% for digital remittances.

Figure 6: Consumer adoption by sector



Source: (Redseer, Digital Economy : Fintech Leads In Growth, 2022)

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While the current consumer adoption of InsurTech is at 8 per cent while lending is at 7 per cent. However, planned future use of these services stood at 48 per cent and 38 per cent, respectively, according to Redseer data. (Redseer, Digital Economy : Fintech Leads In Growth, 2022) This can explain why Transfer and Remittances business attract more funding from investors.

### **2- Regulation and government support:**

Governments in MENA region are involved in supporting the growth of Fintech industry for the purpose of enhancing financial inclusion.

#### **2-1 Type of Fintech government support in MENA**

To support Fintech industry, governments in MENA provide different financial and non-financial solutions, including, government funds open to Fintech start-ups, Fintech-specific accelerator and incubator programs and regulatory sandbox program.

##### **2-1-1 Government funds**

Government fund refers to fund created by the government for the purpose of providing financial support to start-ups to get the capital needed to launch their business.

Until the end of 2019, the cumulative size of Fintech funds launched by governments in MENA is amounted to 1.4 b\$. Of this amount, 1.25 b\$ is released in UEA shared between 3 funds, Dubai international Financial Center (100M\$), Abu Dhabi Catalyst Partners (1 billion\$), Abu Dhabi investment office (146 M \$), in addition to two other funds positioned to support the local start-up ecosystem in the UAE: Mohammed Bin Rashid Fund (supports start-ups in Dubai) and Khalifa Fund (supports start-ups in Abu Dhabi). Both funds provide grants to locals and do not take equity stakes in the companies themselves. UAE is followed by Bahrain with 100 million \$ fund (Alwaha fund of funds) and 57 million\$ fund in Egypt launched by Central bank of Egypt. (Mueller & S. Piwowar, 2019, p. 9)

##### **2-1-2 Accelerators and incubators**

Although both accelerator and incubator have similar characteristics, each one works in a different way with slightly different goals. While accelerators provide early-stage companies that already exist and have a minimum viable product with the education, resources and mentorship needed to accelerate their penetration to the market, incubators help entrepreneurs to develop their ideas into a business and provide the support needed to build their startups from the ground up. (Richards, 2022)




Regarding government Fintech accelerators and incubators in MENA region, there are some accelerators worth mentioning: (Hub71, Plug and Play ADGM Fintech, Visa Dubai Innovation Center) In UAE, Bahrain Fintech bay in Bahrain and Monshaat in Saudi Arabia. (Magnitt, 2019, p. 15)

##### **2-1-3 Regulation and regulatory sandbox**

The Fintech Regulation in the Middle East and North Africa (MENA) study assesses how a range of Fintech activities are regulated in the region. This includes understanding which regulators have a mandate for specific Fintech verticals, and whether activities are regulated by existing or bespoke frameworks, as well as noting which regulators plan to introduce regulatory frameworks in the near term. (CCAF, 2021)

regulatory sandbox can be described as a unit with a task to create new regulations for a particular industry in its early stages when there is not an existing framework in place, otherwise it can be used to improve existing regulations. On the one hand, regulatory sandbox allows regulations to be tested in a secure environment to determine how best to regulate a particular industry. (Frankenfield, 2022) On the other hand, regulatory sandboxes allow regulators to engage entrepreneurs more quickly and at a lower compliance cost (Santosdiaz, Fintech: Middle east and Africa 2021 The fintech lanscape report, 2021, p. 31). Thus, regulatory sandboxes provide a proper environment to allow Fintech industry to develop and grow.

**Figure 7: Regulatory environment in MENA**

	 Cryptocurrency trading/ICOs	 Payment services/ mobile wallets	 Crowdfunding
● <b>ADGM*</b>	1	1	1
● <b>UAE</b>	2	1	1
● <b>DIFC*</b>	2	2	1
● <b>BAHRAIN</b>	3	2	1
● <b>KSA</b>	4	3	2
● <b>KUWAIT</b>	4	1	4
● <b>JORDAN</b>	4	1	2
● <b>EGYPT</b>	4	1	2
● <b>LEBANON</b>	4	1	1
● <b>MOROCCO</b>	4	1	2

\* UAE Financial Free Zones

Current regulatory environment:

1. Regulations implemented
2. Regulations planned
3. No specific regulations, but conducted under regulatory supervision
4. No specific regime now or anticipated in the near future

Source: (Chance C. , 2019)

## **2-2 Case study: Regulation and financial support**

Different approaches to Fintech adoption were adopted in MENA countries according to the country's goals.

### **2-2-1 Case study 1: Egypt**

In the context of promoting financial inclusion and digital economy. Both the Central Bank of Egypt (CBE) and financial regulatory authorities are establishing Fintech laws that will enable multiple Fintech use cases, while also launching sandboxes to ensure consumer protection. In addition, building sovereign funds to close the gap of early-stage (Santosdiaz, Fintech: Middle east and Africa 2021 The fintech lanscape report, 2021, p. 42)

The Egyptian Government and the CBE are working closely with ministries and other governmental authorities to develop and encourage Fintech companies to integrate into the financial system. In February 2017, the President issued legislation setting up the National



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Council for Payment. Its members include the President, the head of the CBE and the head of the Financial Supervisory Authority. (Chance C. , 2017)

In March 2019, the CBE launched its Fintech strategy, which aims to make it a ‘regionally recognised Fintech hub in the Arab world and Africa, home to next generation financial services, talent and innovation development, the same year the CBE launched the sandbox framework.

In 2020, the CBE passed new banking laws that also have strong Fintech components to its Fintech strategy. (Santosdiaz, Fintech: Middle east and Africa 2021 The fintech lanscape report, 2021, p. 42)

In July 2020, Egyptian MPs in Parliament approved a new banking law that states that banks doing business in Egypt should have a minimum capital of \$310 million. The new law aimed at regulating the performance of the **Central Bank of Egypt (CBE)** and the banking sector and to catch up with the latest developments in the banking sector and operations and services such as e-payments, Fintech businesses, and cryptocurrencies. (Santosdiaz, Egypt's new banking law, 2022)

**Fawry** is a worth mentioning example of a successful Fintech start-up in Egypt, a digital transformation & E-Payments platform, offering financial services to consumers and businesses through variety of channels performing more than 3.069 million financial operations daily. (Fawry, 2022) Fawry is a Unicorn Fintech, 36% of its share capital, worth up to 1.6 billion Egyptian pounds (\$97 million), is listed in the flotation on the Egyptian Stock Exchange. (Magnitt, 2019, p. 20)

### **2-2-2 Case study 2: Algeria**

The Bank of Algeria and the Securities and Investments Organization and Monitoring Commission (COSOB) regulates and oversees the securities market in Algeria and both represents the Financial Regulatory Authorities. (Magrath & Inhofe, 2022, p. 226)

In the context of promoting financial inclusion, Algeria created an organizing e-banking entity, Filiale Interbancaire Monétique (FIB) to increase collaboration, facilitate change, and encourage businesses to adopt e-payment services and introduced its first e-payment service.

In 2018, Central bank policies referenced previous laws to help new actors to integrate the banking sector and to enhance the financial inclusion by providing access to financial services to all Algerians. The rules oblige all businesses to install electronic payment terminals. (AbtAssociates, 2020, p. 33)

In October 2020, the government launched the country’s first Fund for start-ups; the 2020 Finance Law introduced tax incentives for start-ups in innovative and emerging technologies; and a September 2020 executive decree established a national committee for the classification of start-ups, innovative projects and incubators.

30 September 2021 The Securities and Investments Organization and Monitoring Commission launched Algeria’s first Fintech regulatory sandbox, dubbed the “GIE-Algeria FinLab.” The Minister of Start-ups, Yacine El-Mahdi Oualid, stated that the sandbox aims to “enable start-ups and project leaders in the Fintech sector to develop their solutions to modernize banking and insurance services, while moving towards financial inclusion.” (Magrath & Inhofe, 2022, pp. 225-226)

In 23 December 2021, in a speech at the opening of the signing ceremony of the agreement launching the Electronic Payment Service for interoperability between Algeria Post

and the Interbank Network, organized at the International Conference Center (CIC). Mr. Benabderrahmane said that “the signing of this agreement between Algeria Post and the Economic Interest Group of Electronic Banking (GIE Monétique) and the Société SATIM (Société d'automatisation des transactions interbancaires et de monétique) reinforces the process of generalization of the use of electronic means of payment enabling more than 10 million electronic payment card holders to benefit from the online payment service” (APS, 2022).

In 2021, COSOB organised Fintech start-up challenge where 9 Fintech project winners are selected in different sectors including, Payment, InsurTech and RegTech (fintech startup challenge, 2022).

### **2-2-3 Case study 3: UAE**

The Central Bank of the United Arab Emirates (UAECB) is the primary monetary authority governing all financial institutions operating in the country that don't fall within the financial free zones, the geographic economic centers that develop and enforce their own regulations and laws. The Abu Dhabi Global Market (ADGM) Office of Data Protection (ODP) is the primary data authority for the ADGM financial free zone. The ADGM Financial Services Regulatory Authority (FSRA) seeks to ensure a fair, stable and robust financial services sector in the ADGM financial free zone. The Dubai Financial Services Authority (DFSA) regulates the financial services sector in the Dubai International Financial Centre (DIFC) financial free zone. The Securities and Commodities Authority (SCA) regulates and oversees the UAE's financial markets. (Magrath & Inhofe, 2022, p. 15).

The UAE government has decentralized its approach to Fintech by introducing more than 40 “free zones” among the seven Emirates: Dubai, Abu Dhabi, Sharjah, Fujairah, Ras Al Khaimah, Ajman, and Umm Al Quwain (Mueller & S. Piwowar, 2019, p. 22).

Each of these financial free zones provides a platform for entrepreneurs to test and develop financial products, as they have a bespoke licensing regime which applies to the relevant Fintech operations, following the regulatory model. (Chance C. , 2017, p. 6)

Beyond facilitating regulatory networks to develop the region into a globally interconnected Fintech hub, the UAE have launched regulatory sandboxes to attract international firms to their respective countries.

In November 2016, FSRA launched the RegLab sandbox, the first in the region and the world's second most active Fintech sandbox. Designed to foster innovation within UAE Fintech market. (Santosdiaz, Fintech: Middle east and Africa 2021 The fintech lanscape report, 2021, p. 31)

The following year, both Dubai Financial Services Authority and the Central Bank created their own regulatory sandboxes (Mueller & S. Piwowar, 2019, p. 37).

April 2017 interim report on global Fintech hubs published by Deloitte, listed the ADGM RegLab high on its list of the world's best Fintech hubs, and stated it was the leading hub in MENA (Chance C. , 2017, p. 6).

in November 29<sup>th</sup> 2020, the central banks of the United Arab Emirates and Saudi Arabia successfully completed a cross-border central bank digital currency (CBDC) pilot, called Project Aber. The experiment utilized DLT to facilitate cross-border payments between the two countries, with a dual-issued digital currency. Three use cases were tested: payment

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between central banks, domestic payments between commercial banks and cross-border payments between commercial banks. (Magrath & Inhofe, 2022, p. 18)

February 23<sup>rd</sup> 2021, a joint statement announced the addition of the Central Bank of the United Arab Emirates and the Digital Currency Institute of the People's Bank of China to the Multiple Central Bank Digital Currency (m-CBDC) Bridge Project, spearheaded by the Hong Kong Monetary Authority and the Bank of Thailand. The project, supported by the Bank for International Settlements (BIS) Innovation Hub, explores the use of a CBDC and distributed ledger technology (DLT) in instantaneous cross-border payments, and investigates scalability, interoperability, privacy and governance. It aims to simplify cross-border fund transfers by lowering costs, reducing inefficiencies and easing the burden of complicated regulatory compliance (Magrath & Inhofe, 2022, p. 17).

Financial free zones such as the Abu Dhabi Global Market and the Dubai International Financial Centre have promoted the growth of the regional Fintech sector through various avenues such as regulatory sandboxes, accelerators and events. "This has allowed regional Fintech companies to innovate at a fast pace and partner with leading companies to create new products and services." (Kamel, 2022).

### **Conclusion:**

Fintech investment in MENA makes up only about 1 per cent of the total global venture capital investment in the sector, according to a research report by Deloitte, but that number does not really reflect the development of this industry in MENA region. Fintech investment is driving growth in the Mena digital economy; The Redseer data shows that in 2021 there were 220 deals in the digital economy worth \$2.1 billion, Of these, Fintech accounted for a quarter of the transactions. In MENA most of investments are secured by transfer and remittance business, and despite the encouraging growth of Fintech, the split between countries is not equal, as UAE accounting for the largest share of total Fintech funding.

A favourable regulation environment and government support in MENA especially in UAE contributed in growth of Fintech, if we compare between countries in MENA, we notice that the more Fintech is supported by governments through regulation and funding the higher it grows.

In light of what was presented in the study, we were able to reach a set of results, which we summarize as follows:

- Fintech adoption is supported by governments as part of their financial inclusion policies.
- Innovative and improved regulations and greater access to accelerators are among the factors enabling Fintech start-ups in the region to raise funding.
- Regulatory sandboxes and favorable regulatory environment are among the key elements that help MENA to attract investors and boost the growth of Fintech.
- Fintech is not supported in same way by all governments of MENA, making the industry concentrated in a few countries, as UAE lead the growth by securing 50% of all funding, followed by Egypt and Lebanon.
- Transfer and remittances are the sectors that secured the majority of funding due to their universal importance, in addition to large expatriate population working in the UAE.

- Algeria is among the less attractive country in MENA region for Fintech investors, despite the government efforts regarding regulatory sandbox and Fintech friendly laws. Therefore, a favorable investment climate is another challenge that should be taken into consideration by the government.

Through this research, we came up with the following recommendations that we consider important for an appropriate Fintech environment:

- Develop the necessary legal and policy frameworks and launch regulatory sandboxes to reduce risks and protect users.
- Boost public funding in innovative Fintech solutions and incentivize private sector funding.
- Learn from other countries whom have obtained valuable experiences already, as it is crucial to develop a competitive Fintech environment.
- Promote innovation and create a conducive environment for Fintech start-ups and skill development to attract local talent.
- Recruit recognized global leaders in Fintech and incentivize them to share knowledge.

#### **Bibliography List :**

1. APS. (Dec 23, 2021). Interopérabilité AP/Banques: le paiement en ligne à la portée de plus de 10 millions de citoyens. Retrieved from aps: <https://www.aps.dz/sante-science-technologie/133172-interoperabilite-ap-banques-le-paiement-en-ligne-a-la-portee-de-plus-de-10-millions-de-citoyens> on (29/06/2022)
2. CCAF. (2021). FinTech Regulation in the Middle East and North Africa. Cambridge: University of Cambridge, Judge Business School. Cambridge.
3. Chance, C. (2017). fintech in the middle east – an overview. Clifford Chance. London.
4. Chance, C. (2019). Fintech in the Middle East: Development across MENA. Clifford Chance. London.
5. Duqah, R., & Yazitzis, A. (2020). Middle East FinTech Study. Deloitte London.
6. Faria, Julia. (Jul 26, 2021). Number of fintech startups in Africa as of H1 2021, by country. Retrieved from Statista.com: <https://www.statista.com/statistics/1252512/number-of-fintech-startups-in-africa-by-country/> on (10/05/2022)
7. Fawry. Aout us. Retrieved from Fawry.com: <https://fawry.com/aboutus/> on (2022, 01 18)
8. Findexable. (2019). Findexable The Global Fintech Index 2020 city rankings report. Findexable. London.
9. fintech startup challenge. Retrieved from <https://algeriastartupchallenge.com/>: <https://algeriastartupchallenge.com/fintech/> on (2022, 07 10)
10. Frankenfield, J. (October 28, 2021). Crypto Regulatory Sandbox. Retrieved from Investopedia.com: <https://www.investopedia.com/terms/c/crypto-regulatory-sandbox.asp> on (10/07/2022)
11. IOSCO. (2017). IOSCO research report on financial technology (fintech). IOSCO. Madrid.
12. Kamel, D. (Aug 30, 2021). FinTech investment leads growth in Mena digital economy. Retrieved from <https://www.thenationalnews.com/business/2021/08/30/fintech-investment-leads-growth-in-menas-digital-economy/> on (10/05/2022)
13. Magnitt. (2019). MENA Fintech venture report. MAGNITT. ABu Dhabi.
14. Magnitt. (February 2022). Fintech 2022 Venture Investment Report. Retrieved from [magnitt.com: https://magnitt.com/research/fintech-2022-venture-report-50806](https://magnitt.com/research/fintech-2022-venture-report-50806) on (07/07/2022)

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15. MAGNITT. (April 2021). Q1 MENA Fintech venture investment report. Retrieved from magnitt.com: <https://magnitt.com/research/fintech-mena-q1-2021-50755> on (02/07/2022)
16. Magrath, M., & Inhofe, G. (2022). 2022 global financial regulations report — executive summary. Oenspan. Oakbrook Terrace.
17. Mueller, J., & S. Piwowar, M. (2019). The rise of fintech in the middle east: An analysis of the emergence in Bahrain and United Arab Emirates. Milken Institute. California.
18. pioneerinvestors. (July 28, 2021). Most fundraising startups in the MENA during the first half of 2021. Retrieved from pioneerinvestors.org: <https://pioneerinvestors.org/most-fundraising-startups-in-the-mena-during-the-first-half-of-2021/> on (15/06/2022)
19. Redseer. (Augst, 2021). Digital Economy : Fintech Leads In Growth. Retrieved from Redseer.com: <https://redseer.com/newsletters/digital-economy-fintech-leads-in-growth-2/> on (08/07/2022)
20. Richards, R. (10 June 2021). accelerators Vs incubators: How to Choose the Right One. Retrieved from masschallenge.org: <https://masschallenge.org/article/accelerators-vs-incubators> on (09/07/2022)
21. Riley, P. et al. (2020). Digital Financial Services in the MENA Region. Abt Associates. Rockville.
22. Santosdiaz, R. (2021). Fintech: Middle east and Africa 2021 The fintech lanscape report. The Fintech Times. London.
23. Santosdiaz, R. (October 11, 2020). Egypt's new banking law. Retrieved from thefintechtimes.com: <https://thefintechtimes.com/egypts-new-banking-laws/> on (11/04/2022)
24. Sheikh, Asad. ( Apr 25, 2021). MENA's top 5 Fintech funding rounds from Q1 2021. Retrieved from magnitt.com: <https://magnitt.com/news/mena-top-fintech-rounds-q1-52636> on (10/07/2022)
25. Woo, P. (2018). Fintech: a game changer Transforming sustainable Finance across Asia. The Asia-Pacific Business forum. KPMG. Amstelveen.