FinTech Landscaping in the Arab World

Regional Report

April 2020

FINAL DRAFT

Disclaimer

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Executive Summary

What is our objective?

What we are doing

Objective: Conduct a high-level analysis of the Arab World's FinTech ecosystem including a list of all FinTech solutions identified in the region, with a deep-dive in 6 Arab countries – the *Countries of Focus*.

Facts

- Financial exclusion is most acute in the Arab world
- Digital financial service (DFS) regulations have been evolving in light of emerging technologies
- Smartphone and mobile penetration is high

Research

Conduct a FinTech landscaping study to identify:

- Emerging solutions in light of regulatory changes
- Ability of FinTechs to reach financially excluded groups (i.e. women, youth, refugees, SMEs, and low-income individuals)

The scope

- The 22 member countries of the Arab League (i.e. Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, UAE, Yemen)
- Deep-dive into 6 Countries of Focus (i.e. Egypt, Jordan, Lebanon, Morocco, Tunisia, and UAE, respectively)

Our definition of FinTech

Solutions combining innovative business models and technology to enable and/or enhance financial services provision, distribution, and/or infrastructure.

Introduction

Studies have shown that more than 6-in-10 adults in the Arab World do not have access to an account and cannot perform basic transactions (CGAP, based on Findex 2017 figures) compared to 3-in-10 globally.

International case studies suggest that FinTech solutions have the potential to improve financial access. In the Arab World, a region with one of the lowest financial inclusion rates, financial technology (FinTech) solutions are fast emerging. This has come as a product of the regulators increased level of engagement with emerging solutions and the region's overall high mobile and smartphones connections.

- CGAP, in collaboration with EY, conducted a regional FinTech study covering the Arab World (i.e. member countries of the Arab League). The study delivers three levels of analysis: an analysis of the FinTech solutions currently available in the market; a high-level analysis of the Arab World, including trends relating to FinTech and FinTech innovation; and finally an in-depth assessment of the study's 6 Countries of Focus, namely, Egypt, Jordan, Lebanon, Morocco, Tunisia and the United Arab Emirates, which acts as an aspirational ecosystem for the region in general.

- The study discusses emerging trends, challenges, and issues facing FinTech solutions in the Arab World, covering an array of angles including supply of FinTech solutions, regulation, demand, and capital availability. In the 6 Countries of Focus, we analyze the FinTech ecosystem along a 5-pillar framework with in depth analysis of **demand, infrastructure, regulation, capital, and talent** (*combined: FinTech Ecosystem*).

- Mainly driven by the high access to mobile and smartphones (MENA 2017: 375m mobile subscribers, 49% smartphone connections,59% mobile broadband connections), there are emerging FinTech solutions that could have the potential to improve financial access and usage in a region characterized by low access to financial services. Solutions include enterprise resource planning that assist micro-, medium-, and small-enterprises in tracking their business operations, ultimately mending the information gap between average-sized businesses and lenders; transactional accounts which potentially serve as a substitute to traditional banking, albeit at a lower cost, and payment solutions that help businesses accept digital payments.

- These FinTech solutions are supported by technological developments such as the adoption of open banking in Bahrain, the introduction of digital identity in the UAE and the roll out of internet banking services (i.e. e-banking) by numerous banks throughout the Arab World.

- This in turn, has led governments of Arab countries to embrace initiatives involving FinTechs whereby some countries have developed and adopted FinTech strategies (such as Egypt & Saudi Arabia) while others have been drafting FinTech (or other relevant) laws to be adopted in the near future. Some countries are still lagging in that sense, however, with the rise of the tech and FinTech initiatives by non-governmental bodies such as the Change Makers, Deal Makers, FIGI, Hult Prize, and numerous others by the World Bank, those governments might be encouraged to take action.

Executive Summary

Financial Technology or ("FinTech"), is fundamentally changing the way financial services operate, transforming the way consumers transfer, borrow, protect and manage their money. FinTechs globally have demonstrated innovative and user-friendly solutions and a level of flexibility that traditional institutions have struggled to provide.

Today, the Arab World has one of the world's lowest financial inclusion rates where almost 2-in-3 Arab adults do not have a transactional account. The financial system's traditional structure, comprised mainly of banks, have historically had high overhead costs deeming many individuals as not profitably serviceable.

Some segments are disproportionately excluded from financial services. Women, for instance, face barriers of formal laws and regulations or more nuanced issues of cultural norms. Similarly, small and medium enterprises (SMEs) have limited access to financial services (mainly credit facilities) for reasons such as they often lack of proper financial and legal documentation or because their loan sizes are too small for a traditional financial institution to profit from.

As Uber in transportation, and Udemy in education, technology is continuously changing the landscape of many sectors and industries around the world, and financial services are no exception. FinTech has disrupted the operations and delivery of financial services throughout the globe with more potential yet to be tapped. Through digital outreach, customized solutions, innovative credit reporting and scoring, and other methods, excluded groups are now accessing and reaping the benefits of financial inclusion. At the core of that shift are FinTech companies and solutions that combine innovative business models and technologies to enable and/or enhance financial services provision, distribution, and/or infrastructure. Through their utilization of technology, FinTech solutions have reduced operational costs, extended reach to a larger target audience through remote channels such as social media, or by hiring agents to act as in-person financial service access points instead of branches.

Feeling the impact of this global wave of FinTech in the financial services sector, Arab entrepreneurs shifted their focus to FinTech solutions. Though in relatively nascent stages, the FinTech industry has been gaining momentum both in terms of annual number of new solutions and early-stage investments raised. Nevertheless, FinTechs in the Arab World are facing major challenges such as cost of regulatory compliance, lack of growth investment capital, or unavailability of qualified talent.

In terms of compliance, regulators often place requirements that are challenging for startups to meet. To address this issue, many regulators in the Arab World launched Regulatory Sandboxes to test the innovative products and provide licensing paths for the emerging solutions. This allowed emerging complex solutions, such as blockchain, a path to compliance and potentially unleash their ability to transform sectors and regulations.

As for capital, FinTechs face difficulty in raising capital beyond their seed and Series A investments. For many, this has limited their upward potential, while for others, drove them out of business. Therefore, establishing patient dedicated funds is a must, especially for FinTechs that have surpassed seed and Series A investments, and are on track to financial stability. Strides have been made by VCs and angel investors in allotting capital to maintain the sector's growth. According to Arab Net's State of Digital Investment report, VCs now makes up 28% of investments (in monetary terms) and angel investors stands at 9%.

Moreover, FinTech innovation also requires multi-faceted talent that combines both IT and entrepreneurial skills to develop a product and deliver it to the market. STEM talent in each of those domains is abundant, however, their skillsets often does not match sector requirements. Therefore, curriculums and talent development programs must evolve to equip emerging talent with the right technical and business knowledge to further advance the sector with local talent.

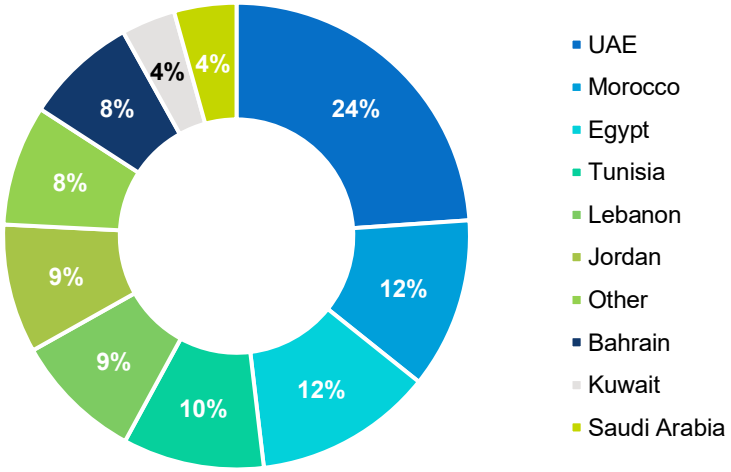
Overall, stemming from the Arab World's youthful and tech-savvy population, the region's strong ICT infrastructure, and the impact FinTechs can play in unlocking financial inclusion, it is clear that regional and country-level strategies are necessary to create an enabling ecosystem that can lead FinTechs forward. Initiating public-private partnerships, for example, is necessary to pave the way for investments in digital infrastructure, as is collaboration between the sectors in developing local human capital. Other multi-stakeholder cooperation in the areas of strategy setting, licensing and regulation, supervision and oversight, and other ecosystem governing matters are also crucial. Through these efforts, these economies would effectively evolve and create ecosystems that are attractive to entrepreneurship.

Executive Summary

FinTech has been gaining traction in the Arab World with more FinTechs emerging every year. Since 2012, at least 18 new FinTechs were established annually. In terms of emergence by country, UAE leads the region in number of active FinTechs as of December 2019.

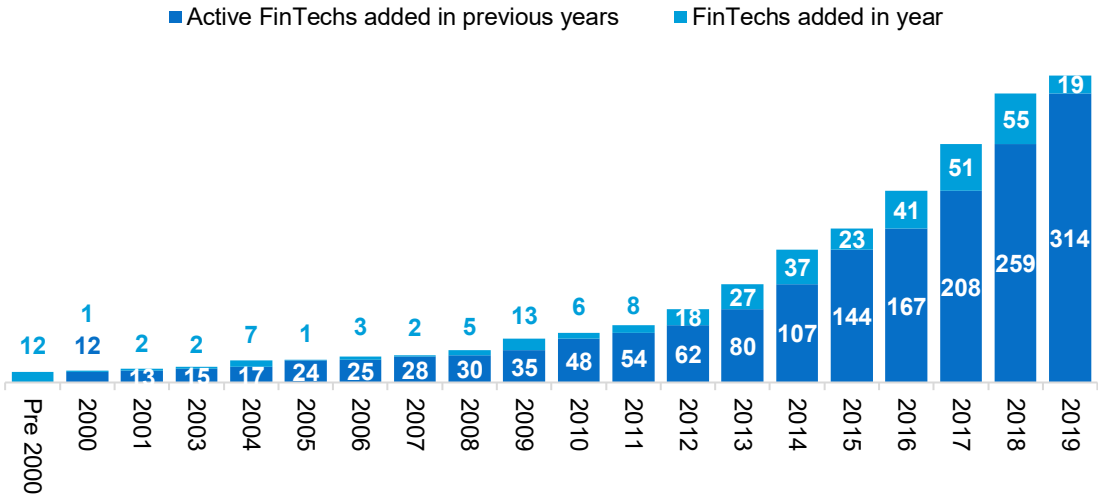
- A 94% internet access rate in the GCC (71% in Levant) was recorded in 2018, and MENA is considered to have had the 2nd highest internet penetration worldwide between 2014 and 2018. These figures indicate that the population in those areas are tech-savvy allowing for the demand for FinTech services/products.
- In addition, governments across the MENA region (UAE, Bahrain, Jordan, KSA, Kuwait, Egypt, Oman and Qatar) have, or are in the process of setting up regulatory sandboxes or Regulatory Labs (RegLabs) to support startups in general, and FinTech startups in particular. Governments are also supporting the up rise of FinTech through setting up FinTech Tech funds as well as setting up accelerators or incubator programs.
- The private sector is also playing in key role with a growth in the number of investors in MENA-based startups in the first six months of 2019 reaching 163, compared with 159 in 2018.
- In the Arab World, we have identified 349 active FinTech solutions. Since 2012, almost 20 new solutions were rolled out per year growing from an average of 5 in the decade before which underlines the spike in interest in the early 2010s.
- UAE leads with 83 identified FinTech solutions, followed by Morocco, Egypt, Tunisia, Lebanon, and Jordan. This acts as a motivator behind choosing the 6 countries of focus as they have contributed the most to the growth of this sector in the Arab World. The fact that the UAE has been able to produce almost as many FinTech solutions as Morocco and Egypt combined underpins electing it as a regional aspiration for FinTech ecosystem development.

FinTechs by country*



** Based on currently active FinTechs with available information*

Annual FinTech additions in the Arab World*



** Based on currently active FinTechs with available information; 16 solutions did not have clear roll out date and were thus excluded from this chart.*

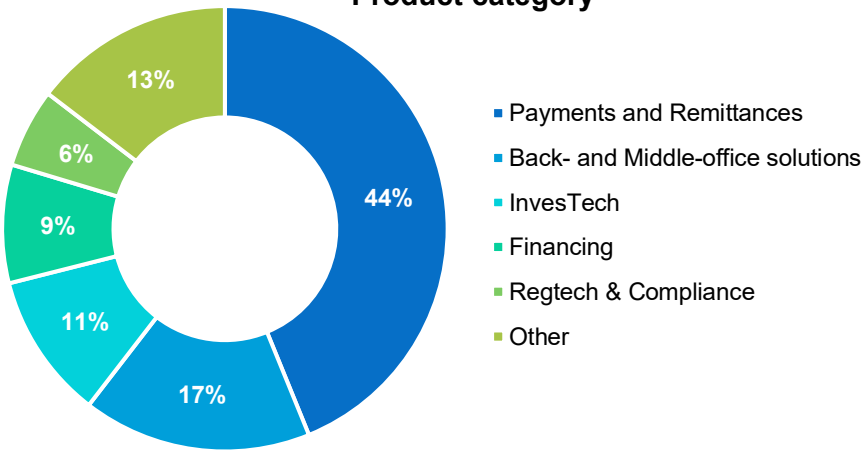
- The majority of FinTechs emerging in the Arab World are independent solution providers rather than FinTechs developed by broader organizations (excluding solutions developed by banks that are focused on improving the banking experience of existing customers) that carry out other services, underpinning the importance of capital to independent FinTech solution providers. This led private sectors and governments to set up funds, coupled with more foreign direct investments in the region. However, funding for more mature FinTechs requiring larger amounts is scarce in the Arab World.

Executive Summary

The largest proportion of identified active FinTech solutions offer solutions related to Payments and Remittances such as mobile wallets and payment gateways. These are followed by back- and middle-office solutions such as enterprise resource planning (ERP) solutions. Furthermore, 149 of identified solutions have the potential to accelerate financial inclusion in their countries of operation.

- Most emerging FinTech products have been solutions of Payments and Remittances, possibly explained by public sector focus and involvement in recent years. Back- and middle-office solutions such as enterprise resource planning solutions come in second. Moreover, there are only 10 digital banking and 6 InsurTech solutions, providing an opportunity considering the low penetration of banks and the low adoption of insurance policies of Arab adults. It is worthy to note that in most countries digital banks still require at least one visit to a branch to complete KYC and onboarding as regulators are cautious of moving to e-KYC due to AML/CFT risks.
- In terms of financial inclusion, among the identified FinTechs, 149 solutions have been identified as financially inclusive by either explicitly having a financially inclusive mandate or by offering solutions similar to other companies with financial inclusion mandate or impact. As the Arab World lags behind other regions in the context of Financial Inclusion, the emergence of FinTechs may catalyze improvement on this front.
- However, since the majority of FinTechs require smartphones and/or internet access, low-income consumers might not be able to benefit from the services offered by those solutions. To address that, some FinTechs utilize USSD technology which is compatible with feature (basic) phones.

Product category*



Key stats – FinTech

		GCC countries	Non-GCC countries
Total number of active FinTechs identified	349		
#	Number of FinTech solutions identified	144	205
	FinTechs as part of a broader organization	8%	22%
	Independent FinTech providers	92%	78%
	Solutions with a Financial Inclusion mandate	51	98
	Adopted FinTech Strategies	Egypt, KSA, Bahrain, UAE	
	Adoption of FinTech strategies/ relevant laws - In Progress	Jordan, Iraq, Tunisia, Morocco	
	Country with the most number of FinTech solutions identified	UAE	
	Main technological trends present	Open Banking (Bahrain), Regulatory Sandbox, internet banking services	

** Based on currently active FinTechs with available information*
*** Other includes: Financial data analysis (4%), Search engines and comparison sites (3%), Banking (3%), E-marketplaces (2%), InsurTech (2%), and Financial education (1%)*

FinTech Survival Rate in the Arab World

Despite limited traction for many FinTech solutions, Arab World FinTechs boast strong survival rates. Of FinTechs launched in 2014 or after, 90% survived, and 98% of those launched on or after 2016.

Survival rate

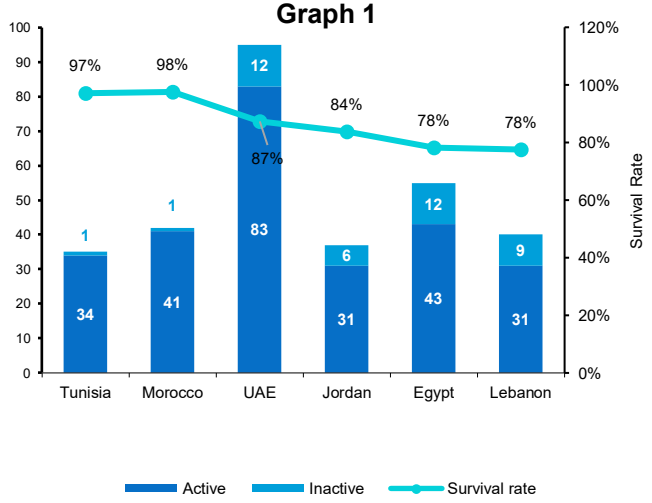
- Overall, at 85%, the survival rate of FinTechs in the Arab World is considered above average. Within the six countries of focus in which the highest number of solutions have been emerging, Morocco recorded highest survival rate of 97%, while Lebanon, the lowest survival rate, at 78%.
- Assuming a cut off date of 2014 (2014 to 2019), the survival rate increases to 90%.
- Assuming a cut off date of 2016 (2016 to 2019), the survival rate increases to 98%.

All FinTechs	
Solutions	401
Inactive	52
Failure rate	13%
Active	349
Survival rate	87%

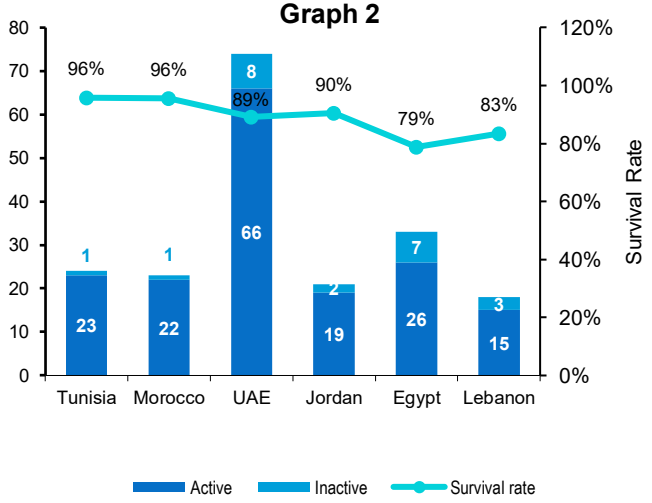
Cut off date: 2014	
Solutions	250
Inactive	25
Failure rate	10%
Active	225
Survival rate	90%

Cut off date: 2016	
Solutions	169
Inactive	4
Failure rate	2%
Active	165
Survival rate	98%

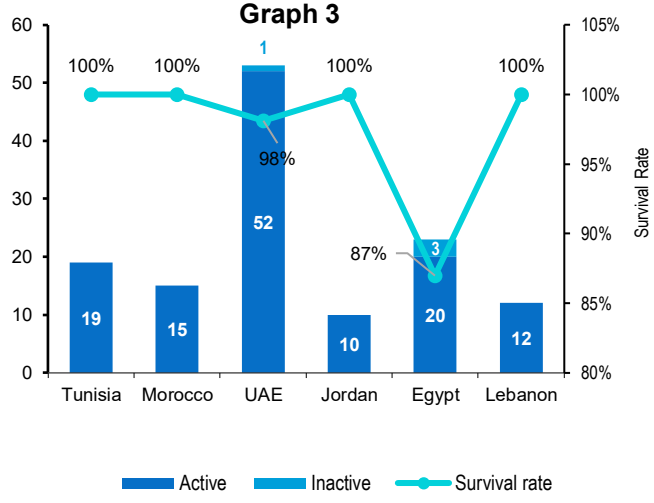
Graph 1



Graph 2



Graph 3



Note: Data illustrated on this page is based on available data and may not reflect actual survival/failure rates.

Executive Summary

With almost 180 million adults (15+) without access to an account, the Arab World is among the most financially excluded regions in the world.

The issue of expanding financial services reach in the Arab World has been gaining additional importance throughout the years. The Arab Monetary Fund's Financial Inclusion Task Force was established in 2012 as a means of improving financial inclusion in the region.

Motivation for financial inclusion is two-fold:

- Studies show that access to financial services promotes resilience for individuals and societies by facilitating recovery from shocks, and encourages investments by low-income people. Furthermore, for women in particular, financial inclusion also promotes their participation in the labor force, improve their role in the household and generate positive outcomes for the family and society at large.

- Emerging evidence also suggests that financial inclusion may contribute to increased economic growth and reduction of poverty. Empowerment of women, increasing the participation of previously excluded groups in the market, and innovatively introducing new avenues for revenue can motivate growth in economies. Assisting small- and medium-enterprises access financial services would also play a major role in catalyzing growth in economy as they make up a notable majority of all business in any given economy. On a government-level, digital financial services (DFS) leads to higher transaction traceability and reduction of cost of cash on the economy which according to research amounts to 1.5% of GDP in a given year.

When combining the benefits, it becomes evident that financial inclusion is beneficial on several levels. Given that FinTech solutions are malleable, innovative, and have outreach that traditional financial service channels cannot afford on an overhead basis, they may prove impactful in terms of financial inclusion. As such, investment in FinTech solutions may pave the way to achieving long-term sustainability, fulfill strategic goals, and assist in achieving financial inclusion at large.

Key stats - Findex

% 2017	Has an account, global average	**69%**	
	Has an account	**GCC 76%**	**Non-GCC 28%**
% 2017	Has an account, global average, female	**65%**	
	Has an account, Arab World average, female	**GCC 63%**	**Non-GCC 21%**
% 2017	Adults saved at a FI, global average	**27%**	
	Adults saved at a FI, Arab World average	**GCC 19%**	**Non-GCC 8%**
% 2017	Saved informally, global average	**N/A**	
	Saved informally, Arab World average	**GCC N/A**	**Non-GCC 13%**
% 2017	Adults borrowed from a FI, global average	**11%**	
	Adults borrowed from a FI, Arab World average	**GCC 13%**	**Non-GCC 5%**
% 2014	Borrowed from store, global average	**8%**	
	Borrowed from store, Arab World average	**GCC 16%**	**Non-GCC 12%**

GCC, Non-GCC, and informal saving are computed as simple averages of applicable countries due to limited data.

2 FinTech Landscaping

FinTech Landscaping Methodology

Guidelines and methodology of FinTech Landscaping

FinTech landscaping methodology:

- The FinTechs were identified on a best effort basis using our knowledge of the FinTechs present, press releases, interviews with licensing parties, and interviews with incumbents and accelerators. We also attended 20+ events
- The information presented in the Database was also compiled on a best effort basis based on desktop research including company/solution websites and internet search. This included websites such as MAGNiTT, LinkedIn, Crunchbase, press coverage, etc.
- Identified solutions were categorized based on joint conceptual work between EY and CGAP. Please refer to Appendix A for the categorization standards and definitions.
- All desk research including identification of FinTech solutions was concluded on 31 December 2019.
- It is important to note that classifying FinTech solutions is novel given the degree of overlap between any given categories. Therefore, this analysis is done on a best-effort basis by multiple industry experts.

FinTechs with a financial inclusion potential:

- FinTech with a financial inclusion potential were determined based on:
    - FinTechs with a clear and explicitly stated financial inclusion mandate.
    - OR FinTechs which offer the same product as another company/solutions with a clear financial inclusion mandate, and as such could be viewed as competing for the same customer.
    - OR FinTech that have had material impact on financial inclusion or provide services similar to other that did, without an explicit financial inclusion mandate.

FinTechs exclude:

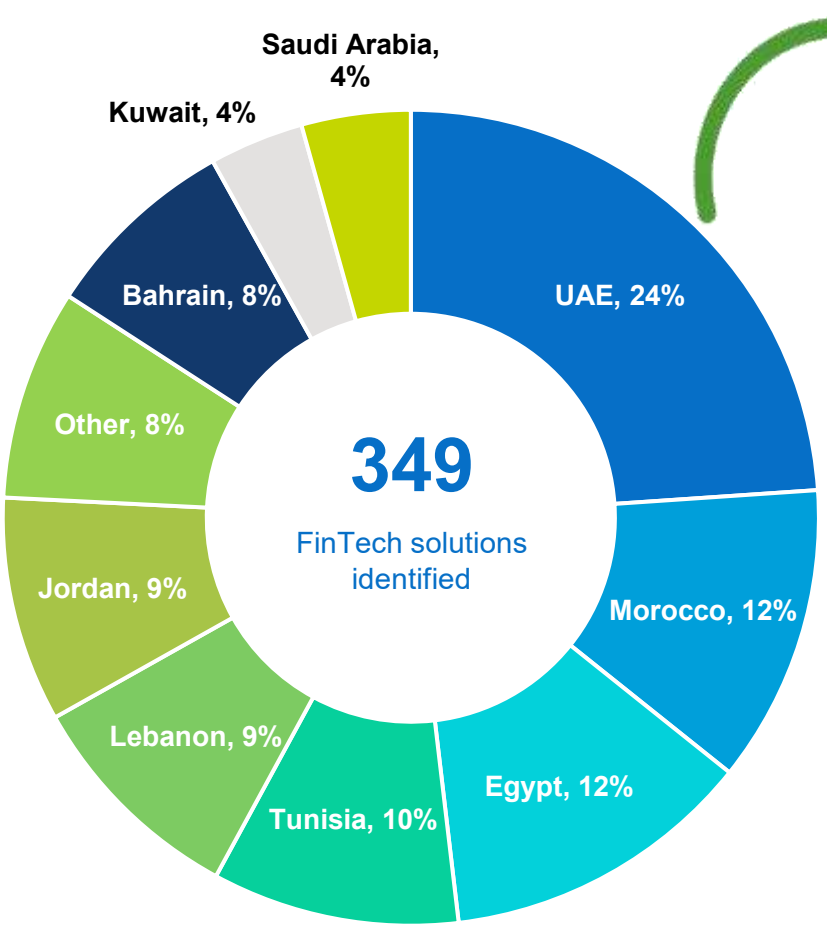
- Services offered by incumbents – except for mobile wallets offered by banks
- Internet banking services (e-banking application) whereby people access and transact using their bank account applications
- Solutions offered by foreign companies with limited penetration of regional market. (Note: Solutions offered by foreign companies with regional focus have been included).
- FinTechs in their idea stage with no license (where applicable).
- Companies with majority public ownership OR enacted by a special law.

Other:

- For more details on categorization, please refer to Appendix G on pages 86 and 87.
- Limited availability of data from a number of countries in the Arab World may have led to the unintended omission of some FinTech solutions.
- Enterprise Resource Planning (ERP) solutions have been added due to their role in improving SME data quality and collection.

FinTech Landscape in the Arab World: Introduction

We have identified 349 FinTech solutions provided by 326 unique FinTech providers. Of those FinTechs, 44% of solutions fall under the Payments and Remittances category and 43% have a Financial Inclusion aspect



- **349** Active FinTech solutions identified
- **326** unique FinTech providers
- **44%** of FinTechs are in the Payments & remittances category
- **18+** FinTechs established annually since 2013
- **UAE** hosts the most FinTechs followed by Morocco, Egypt, Tunisia, Lebanon, and Jordan
- **22** solutions are headquartered globally and operate in Arab countries focused primarily on Payments & Remittances
- **43%** of solutions have a Financial Inclusion potential – 149 identified active financially inclusive FinTech solutions

Note: FinTechs with financial inclusion were determined based on:

i. **Having a clear and explicitly stated financial inclusion mandate;**

ii. **OR FinTechs which offer the same product as another company/solution with clear financial inclusion mandate, and as such could be viewed as a competing for the same customer.**

iii. **OR FinTechs that have had material impact on financial inclusion or provide services similar to others that did, without an explicit financial inclusion mandate.**

** Based on currently active FinTechs with available information*

FinTech Landscape in the Arab World

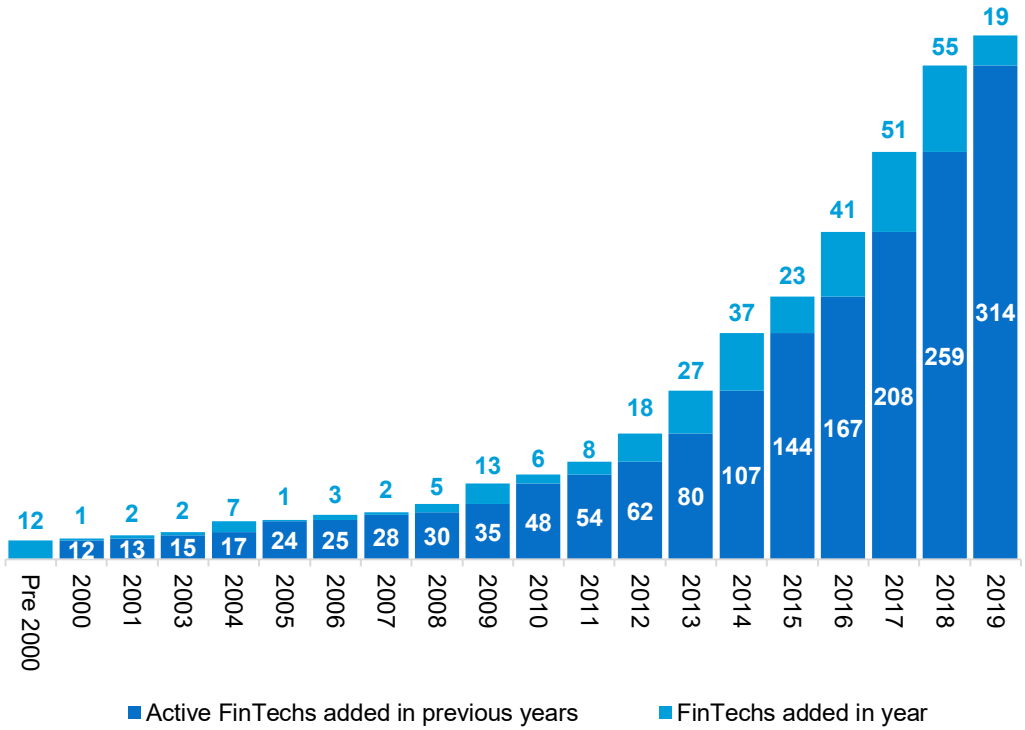
Almost 20 FinTech solutions have been rolled out annually between 2012 and 2019 highlighting a spike in interest in FinTech. A similar trend is evident in financially inclusive FinTechs, albeit at a marginally lower growth rate.

- FinTech creation has witnessed an average growth rate of 23% since 2012. The high growth rate is a product of global interest in FinTech for its role in delivering financial services at a lower operating cost and with higher accessibility and outreach.
- By the same token, creation of financially inclusive FinTechs has been growing at 22% since 2012. Given that Arab World is amongst the least financially inclusive and the potential role of FinTech in addressing issues that lead to that phenomenon, the high growth rate of financially inclusive is to be expected.

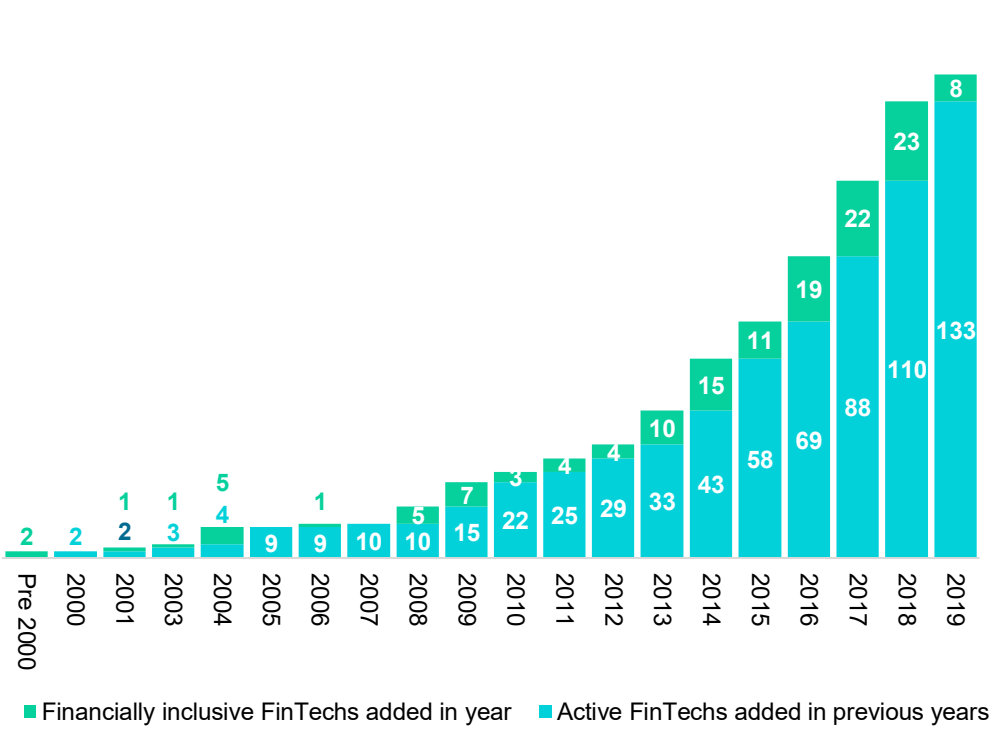
349

Identified active FinTech solutions

Date of creation of all FinTechs*



Date of creation of all financially inclusive FinTechs*

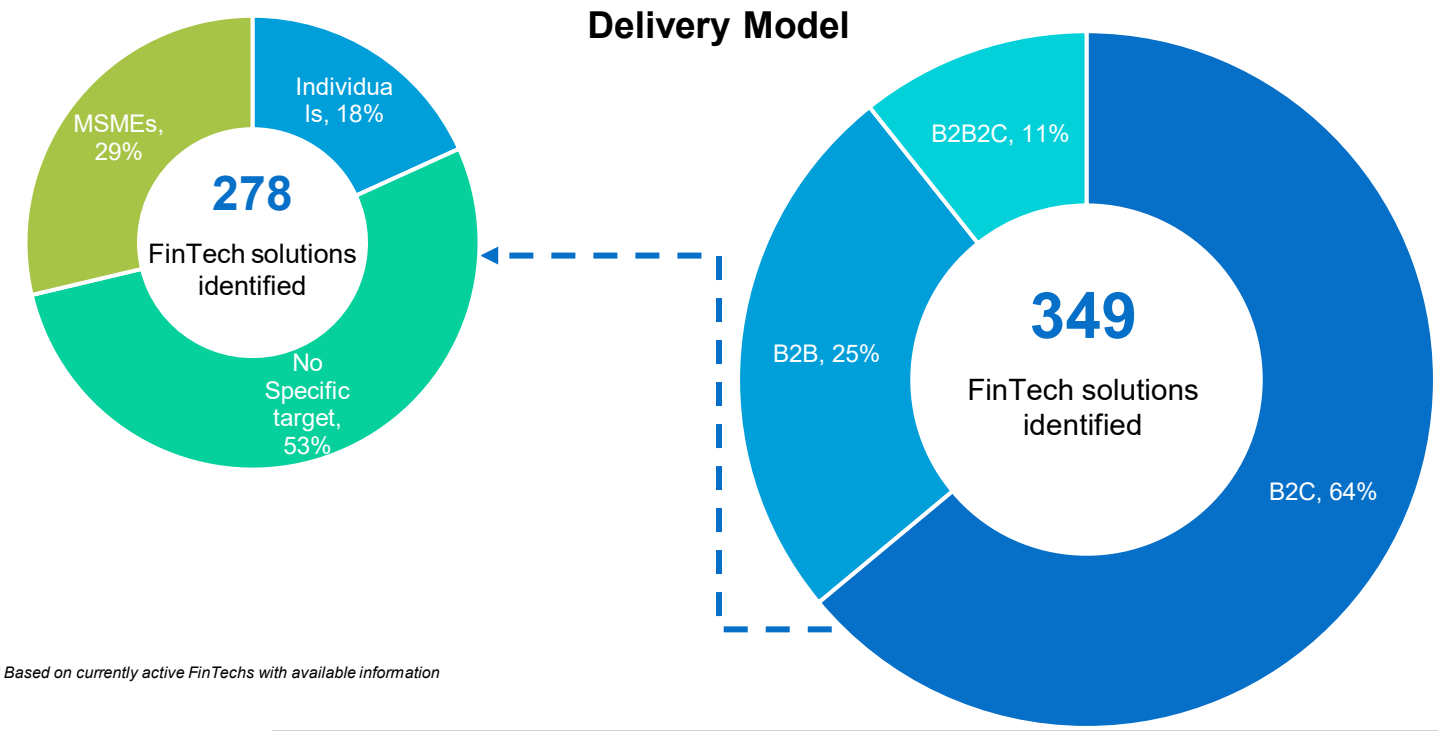


** Based on currently active FinTechs with available information*

FinTech Landscape in the Arab World

The majority of identified active FinTech solutions adopt a business-to-consumer (B2C) delivery model, followed by business-to-business (B2B). Limited business-to-business-to-consumer (B2B2C) solutions are available due to the challenges facing their revenue cycle

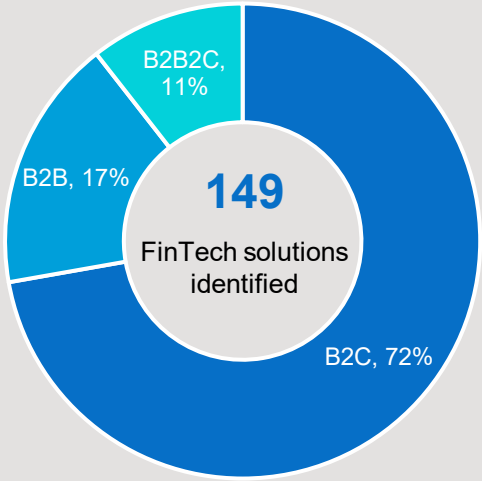
- Identified B2C FinTech solutions aim to deliver financial services directly to consumers, whether individuals or MSMEs, in a bid to increase usage of financial services by consumers. For example, Expensya in Tunisia provides users with a mobile application that automatically tracks and manages their expense reports to better track their finances.
- B2B FinTech solutions provide financial products or services to financial service providers and/or large-sized businesses for its financial transactions or to increase the efficiency of their business processes through digitization. For example, UAE's Amani Technologies provide businesses with an on-boarding tool to acquire new users.
- B2B2C FinTech solutions seek to offer business solutions that are rerouted to serve the end-consumer. For example, Egypt's NowPay offers businesses a tool through which their employees can improve their financial-wellness by claiming a portion of their salary before payday.
- 37 identified FinTech solutions target both business and consumers separately (i.e. B2B and B2C). For example, Egypt's Fawry acquires merchants onto its platform through which consumers can track and pay their bills, essentially a two-sided market.



** Based on currently active FinTechs with available information*

Financial inclusion

- Financially inclusive FinTechs predominantly focus on delivering financial services directly to consumers whom are typically financially excluded. However, some offer tools such as eKYC for businesses to onboard the financially excluded.

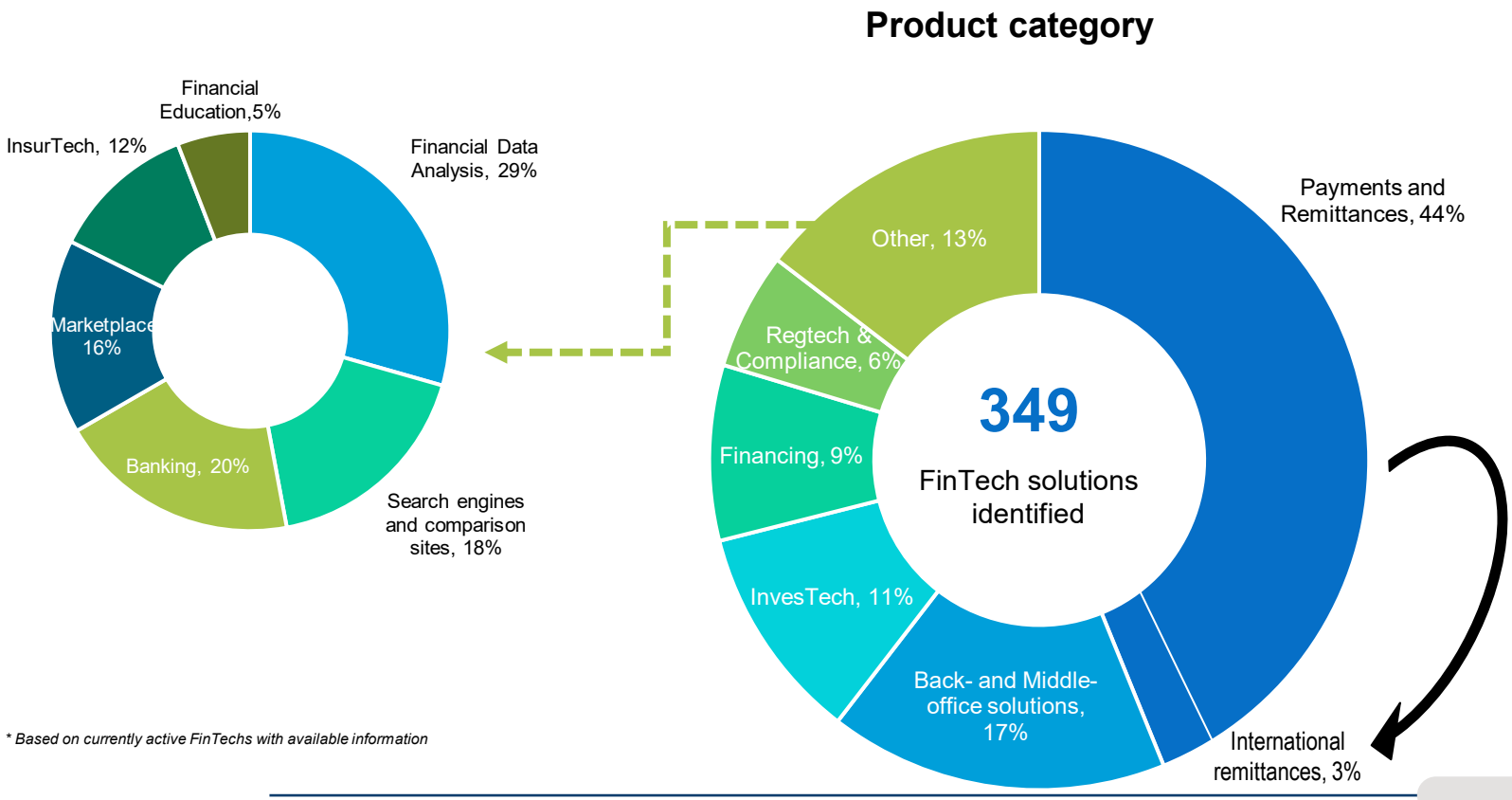


** Based on currently active FinTechs with available information*

FinTech Landscape in the Arab World

The majority of solutions fall under the Payments and Remittances product category which is consistent with global trends. Payments have been a focal point for many economies for their role in increasing traceability and accessibility of financial services

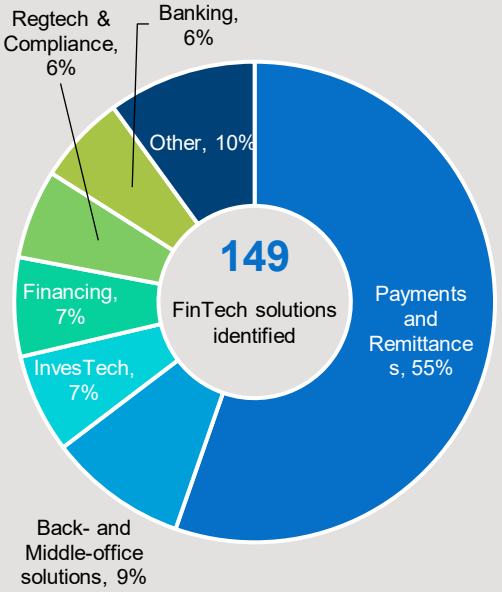
- The large number of FinTechs in the Payments and Remittances space (43%) could be a result of regulators' focus on creating an enabling ecosystem for such solutions.
- Back- and middle-office solutions follow, accounting for 17% of identified solutions.



* Based on currently active FinTechs with available information

Financial inclusion

The majority of the FinTechs with a financial inclusion mandate are in Payments and Remittances of which most are transactional accounts (i.e. mobile wallets).



Other includes: Financial data analysis, Search engines and comparison websites, InsurTech, E-Marketplaces, and Financial education.

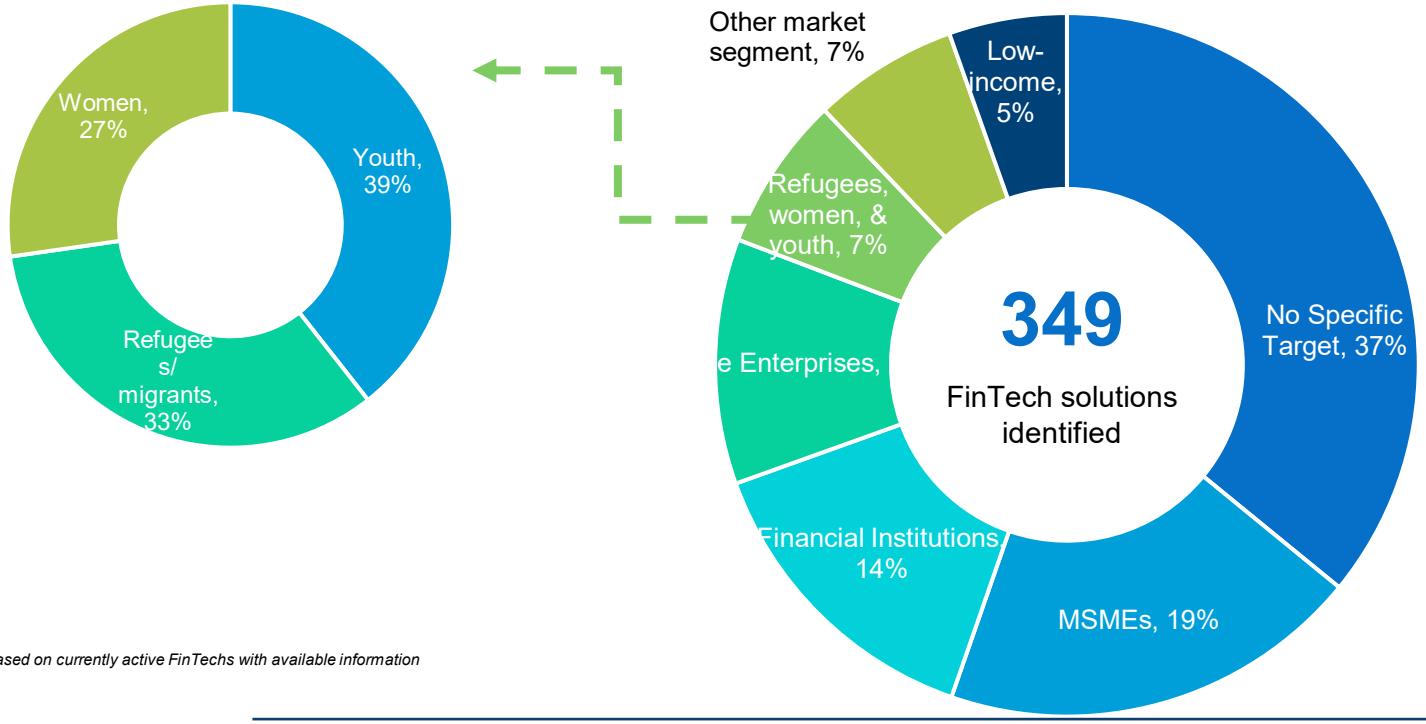
**Based on currently active FinTechs with available information*

FinTech Landscape in the Arab World

Most FinTechs identified do not have specific target markets, which could be considered as an opportunity for emerging FinTechs that can target specific markets in order to increase Financial Inclusion

- Of identified FinTechs, 19% target MSMEs, 7% target youth, women or refugees, and 5% target low-income individuals, all of which are historically financially excluded groups. One example, GoRise, a savings solution (InvesTech) founded in the UAE which targets women and refugees.
- In the GCC, 50% of FinTechs had no specific target. Similarly, 49% of FinTech solutions from non-GCC countries do not specify a target market.
- For some FinTech solutions, lack of a specific target market is line with their goal to achieve scale.

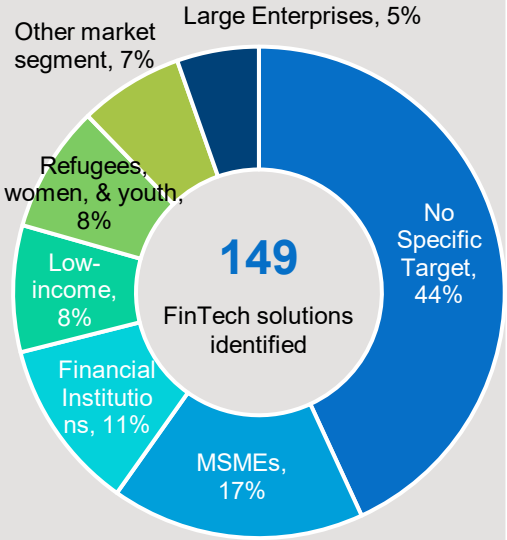
Target market



* Based on currently active FinTechs with available information

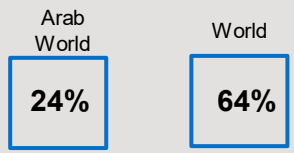
Financial inclusion

- Although financial inclusion may require focused targeting of unbanked or underbanked populations, we identified that the majority of solutions have no specific target markets (i.e. mass market solutions).



* Based on currently active FinTechs with available information

Females having FI account - 2017

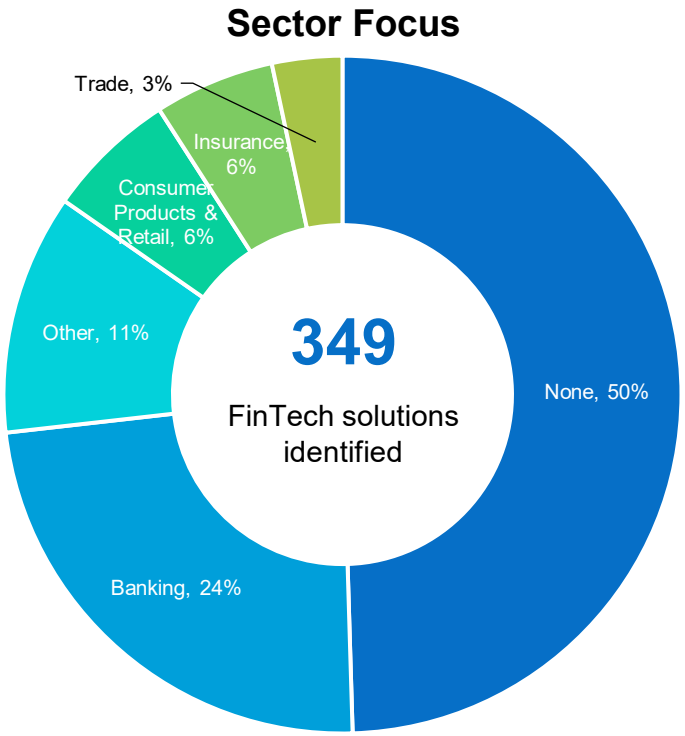


Source: WBG's Findex

FinTech Landscape in the Arab World

Very few FinTechs tackle specific sectors leading to the fact that many sectors are not targeted at all

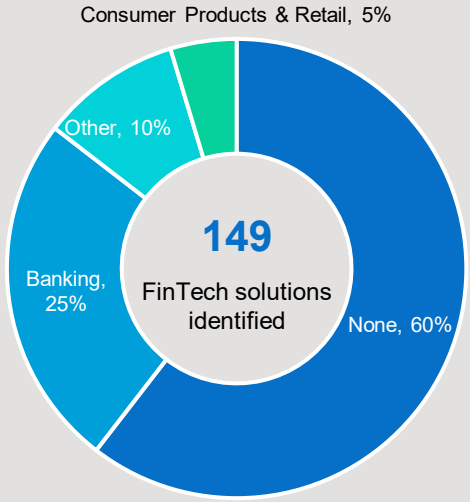
- The majority of FinTechs identified had a B2C business model but with limited focus on any specific segment. However, for B2B FinTechs, focus was primarily on the banking sector. This is a product of the natural fit between traditional financial institutions and financial technology innovation.
- Very few solutions tackle health, energy, water agriculture, real estate and transportation. One example, Smart Medical Services in Egypt that connects insurance companies with businesses interested in enrolling their employees in health insurance plans.
- Generally, most solutions are sector agnostic. There could be an opportunity to develop sector-specific solutions/products, however the market for these solutions may be too niche within a single country and thus limit business model viability.



Based on currently active FinTechs with available information
Other includes: Health, Energy, Water, and Agriculture, Real Estate, Transportation

Financial inclusion

- Financially inclusive FinTechs have limited sector focus and are instead mass-market solutions. Among those that have a specific a target, banking is the lead sector.



Other includes: Insurance, Health, Education, Trade, and Energy.

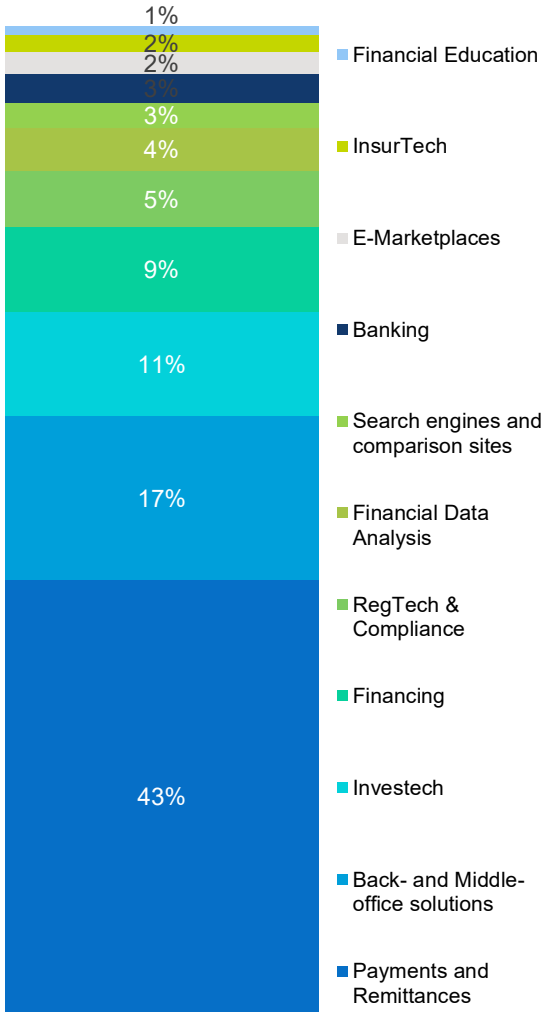
** Based on currently active FinTechs with available information*

FinTech Landscape in the Arab World

Payment and Remittance make up a large portion of all FinTechs and B2C FinTechs. Within that category, Transactional Account make up the majority of solutions.

Product Category

All 349 FinTechs



* Based on currently active FinTechs with available information

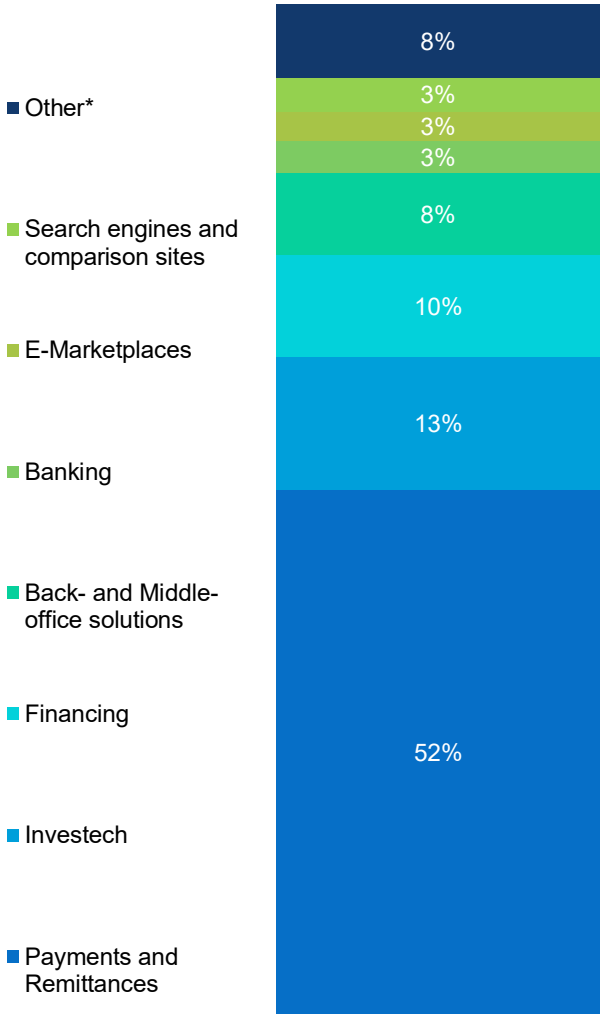
Digital Payments include solutions such as **Bridg** in UAE, **DCB** and **YallaPay** in Egypt. These solutions do not allow storage of value in accounts, but rather facilitate transactions

Transactional accounts allow consumers to *store* value into a mobile account and use them through various payment channels. This mainly includes mobile wallets, which can be offered by financial institutions or standalone companies. Examples include **Dinarak** in Jordan, **E-Dahab** in Somalia, and **STC Pay** in KSA

- Transactional accounts represent 21% of all identified active solutions and 27% of B2C solutions.
- Payment solutions such as payment gateways make up 54% of all B2B FinTech solutions

Product Category

278 B2C FinTechs



*Other includes: Financial Data Analysis, Search engines and comparison sites, RegTech & Compliance, InsurTech and Financial Education

FinTech Landscape in the Arab World

Taking into consideration that solutions deployed by traditional financial institutions that target existing users only have been excluded from this analysis, only 16% of the FinTechs identified are part of a broader organization, mainly large technology companies.

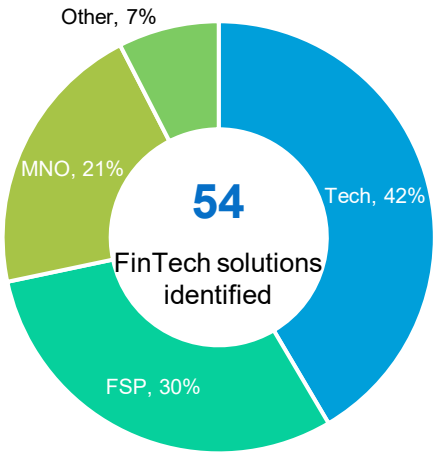
- Of the 349 FinTechs identified, 84% are FinTech solutions provided by an independent FinTech provider, while 16% are offered by broader organizations, such as large technology companies, financial service providers (such as banks) and mobile network operations (MNOs).
- Of the FinTechs that are part of a broader organization, 79% are in the Payments and Remittances space.

FinTech source

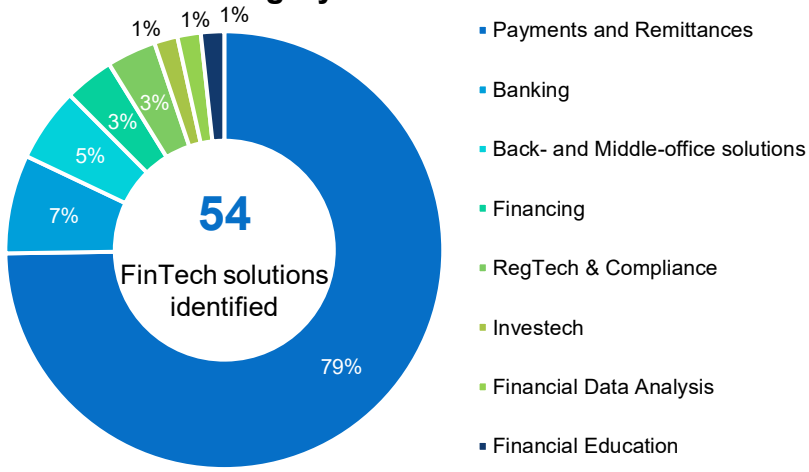
Incumbents have been slow in producing or adopting new FinTech solutions. Among others, relatively limited operational flexibility disallows them from allocating necessary resources for new ventures. By leveraging their lean operational model and low overhead costs, FinTechs have a key role to play.

Incumbents view FinTechs as an alternative point of exposure to certain market segments than developing FinTech in-house. This has led many banks and MNOs in the regional to launch entrepreneurship centers and organize competitions to attract and track the progress of the new solutions in the market, alongside identifying and acquiring foreign FinTech solutions from overseas

Type of organization



Product category



Financial inclusion

- Of the 149 FinTechs identified with a Financial Inclusion aspect, 70% are FinTech solutions provided by an independent FinTech provider.
- 29% of the identified solutions are FinTechs as part of a broader organization, mostly large technology companies, followed by financial service providers (e.g. banks and MFIs and MNOs).
- Of the FinTechs that are part of a broader organization, 74% are in the Payments and Remittances product category.

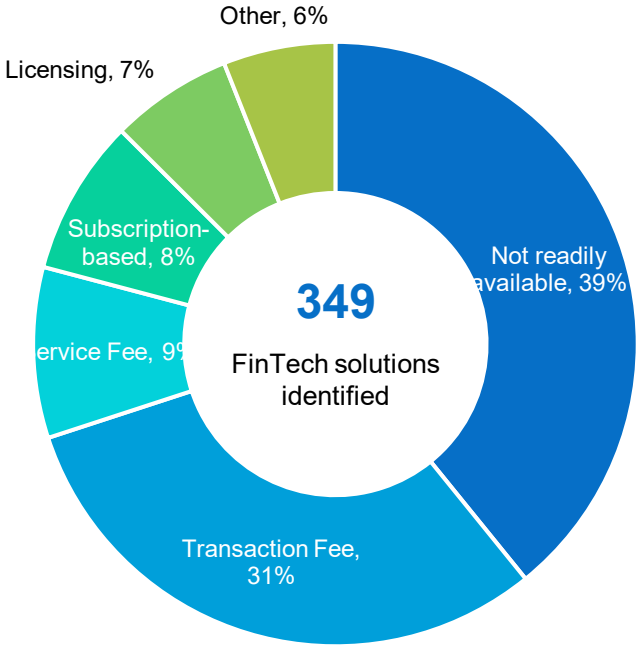
** Based on currently active FinTechs with available information*

FinTech Landscape in the Arab World

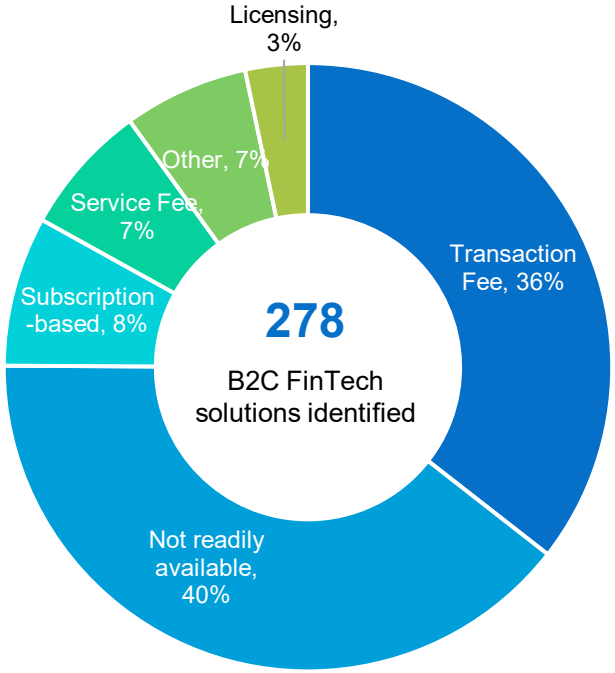
As a result of the dominance of transactional accounts, transaction fees are the most prevalent revenue model

- Given that the majority of B2C solutions are transactional accounts & payments (mobile wallets) and digital payments, transaction fees are naturally the most prevalent revenue model.

Revenue model



Other includes: Value driven, Interest/Murabaha, and Advertising.

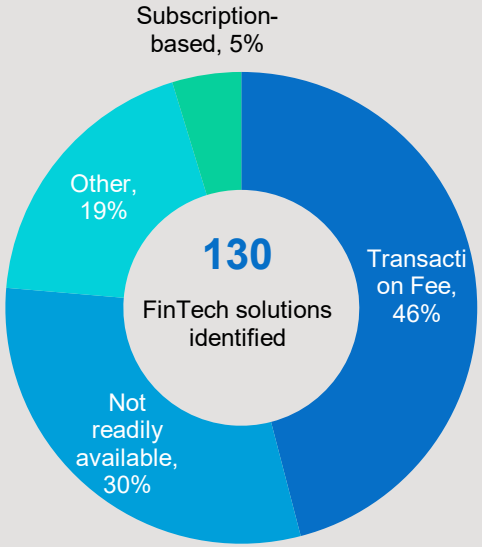


Other includes: Value driven, and Interest/Murabaha

** Based on currently active FinTechs with available information*

B2C & Financially inclusive

Since transactional accounts & payments have been identified as financially inclusive FinTechs, the majority of the identified revenue models for the financially inclusive are transaction fee models.



Other includes: Service fee, Licensing, Value Driven, Interest/Murabaha

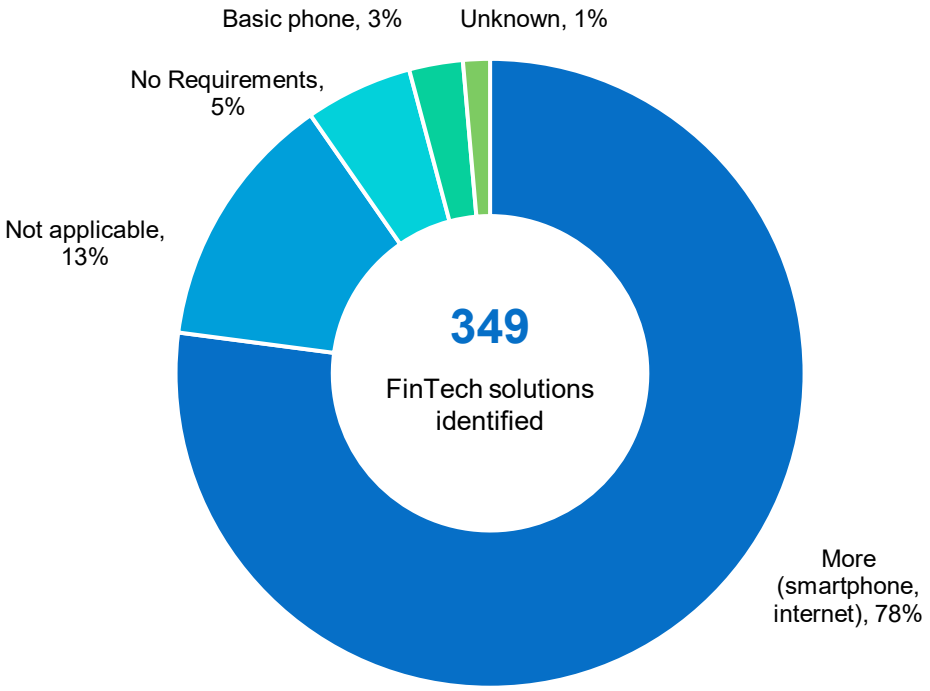
** Based on currently active FinTechs with available information*

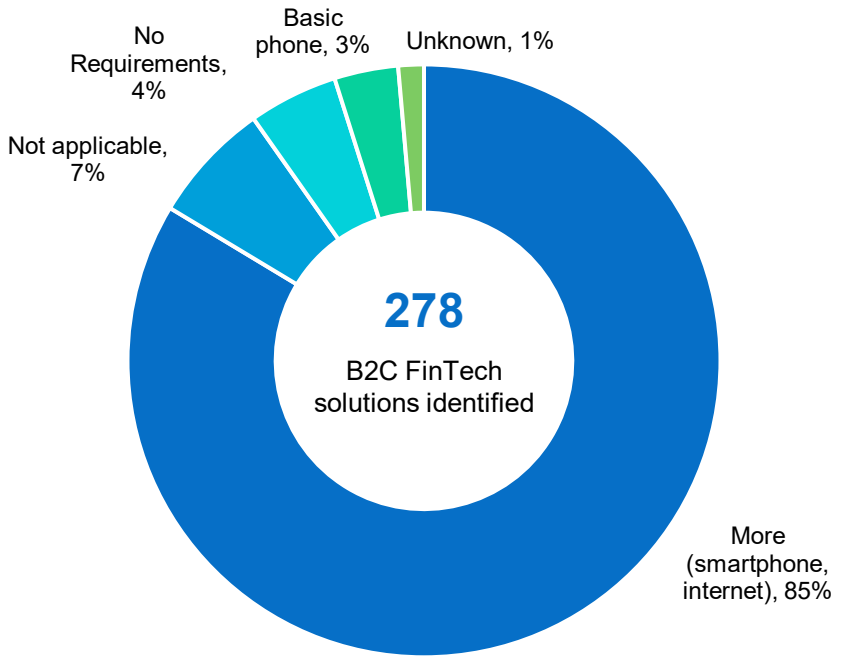
FinTech Landscape in the Arab World

The vast majority of solutions identified require either a smartphone app or internet access, which may be a barrier to low-income segments

- 85% of B2C FinTechs require access to the internet in general or to a smartphone. This requirement may lead to the continued financial exclusion of low-income individuals given the costs of having a smartphone or access to the internet.
- Ahmini, an InsurTech from Tunisia requires solely USSD services as an end user requirement. The majority of those FinTechs, not requiring complicated end user requirements have a financial inclusion mandate. Solutions like Ahmini are well geared towards financial inclusion as USSD is widely available in the Arab World as it boasts 85%+ mobile penetration rate according to GSMA.

End user requirement





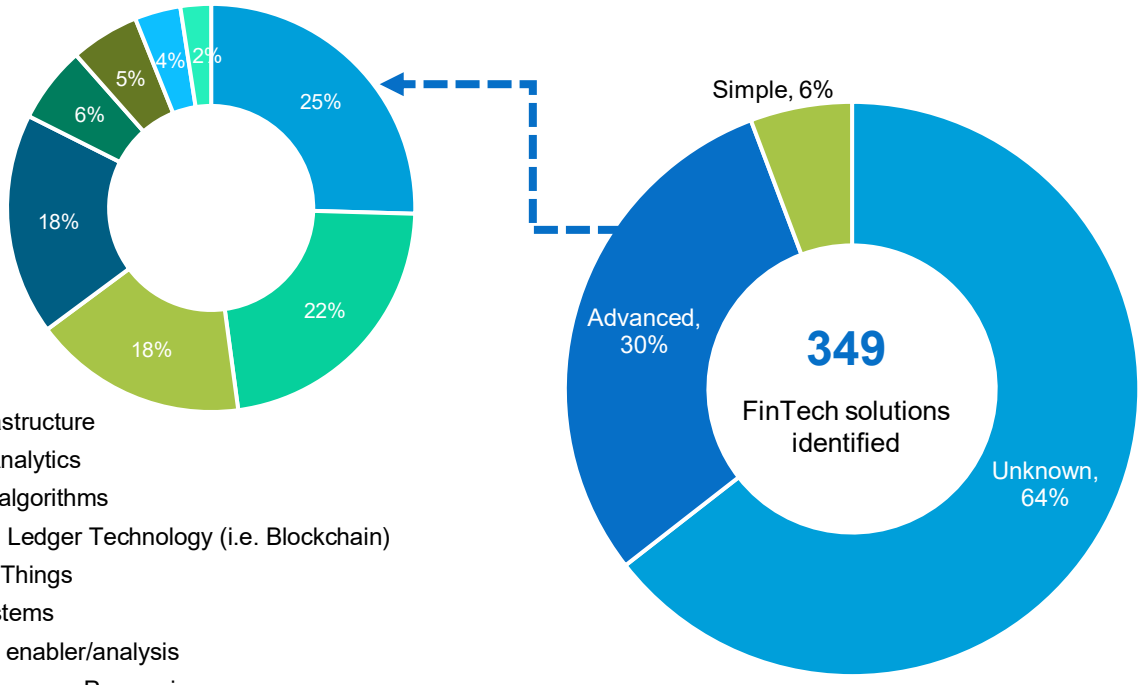
** Based on currently active FinTechs with available information*

FinTech Landscape in the Arab World

104 FinTech solutions use advanced technologies in their product offerings which include Distributed Ledger Technology (DLT), predictive algorithms and big data analytics. However, it is generally challenging to discern the technology used in a given product without the explicit mention by the solution provider.

- Identifying the core technology used by a FinTech is an overall challenging task as technologies such as computer vision, distribute ledger (blockchain), and other advanced technologies are not readily visible to users. As a result, data is heavily skewed towards "unknown" core technologies. Further firsthand research such as interviews and questionnaires are necessary to identify such information.

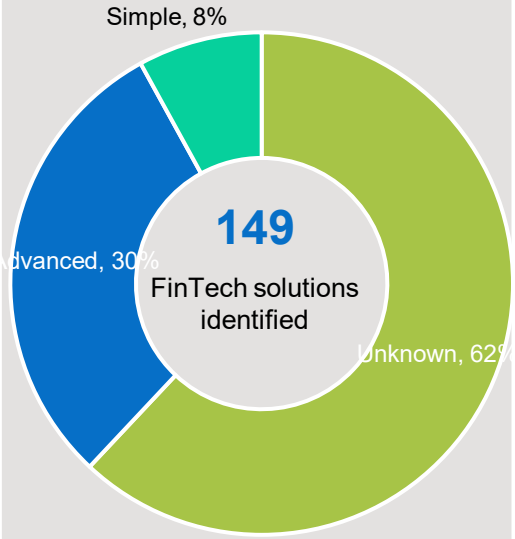
Core technology



** Based on currently active FinTechs with available information*

Financial inclusion

- The same trend persist in financially inclusive FinTechs as most underlying technologies have not been explicitly identified by the solution provider.
- Some financially inclusive solutions such as TxPay by Technorion in Lebanon leverage DLT technologies in their mobile wallet offering and the middle-office payment solution they offer to their merchants.

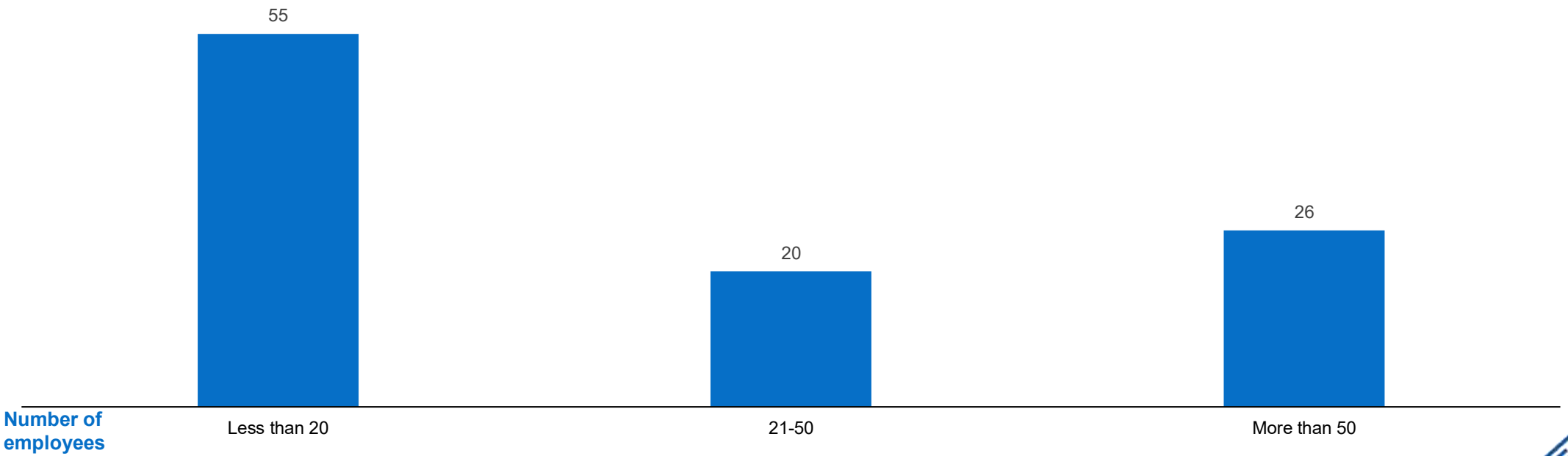


** Based on currently active FinTechs with available information*

FinTech Landscape in the Arab World

46 companies of 101 independent FinTech companies established in 2017 or later have more than 20 employees. This metric can be used to analyze the level of growth and success of these emerging FinTechs as number of employees is intertwined (and potentially a proxy for) the size of the operation.

Independent FinTechs established 2017 and later



As a proxy for the growth of the operations, this analysis focuses on the number of employees which often grows in line with the size of operations and the number of customers. By choosing solutions that were launched in 2017 and later, the analysis gauges the relative success of these solutions over a short period of time and serves as an indicator of the number of solutions that managed to become relatively successful in a short period of time (maximum of 3 years of operation between 2017 and end of 2019).

Stakeholders note that accessibility to other markets is key to achieving accelerated growth and therefore regional collaboration in that regard is essential to catalyze growth of FinTechs and to realize their business potential.

FinTech in the spotlight:

One Global, Kuwait

2 other similar solution

Founded in 2017, provides a host of payment solutions that benefit both individuals and business. Today, One Global's operations extend beyond Kuwait where it is headquartered and is licensed by the Central Bank of Bahrain as a payment service provider.

According to our research, One Global houses more than 200 employees despite only being launched in 2017 and is thus testament to the rapid growth due to the untapped potential in the regional markets.

3 Key Regional Trends

A. State of Demand for FinTech

Introduction to State of Demand for FinTech

This section analyzes trends relating to demand for FinTech. The analysis looks at three main aspects of digital financial services to assess the potential for more usage:

- First, the **propensity of users towards digital services as a whole**. We consider the *digital skills of the active population* and the *proportion of adults utilizing electronic channels to make payments*. Through these two layers, we discern that clear disparity exists between adults in GCC and non-GCC countries in terms of using electronic channels to make payments, but only minute difference in digital skills.

- Second, we consider the **usage of multiple financial products**, both traditional products such as basic banking services and remittances, and alternative products such as savings clubs. Here we see that traditional financial services are often used by adults in GCC countries, whereas adults in non-GCC countries have a higher affinity towards alternative financial products.

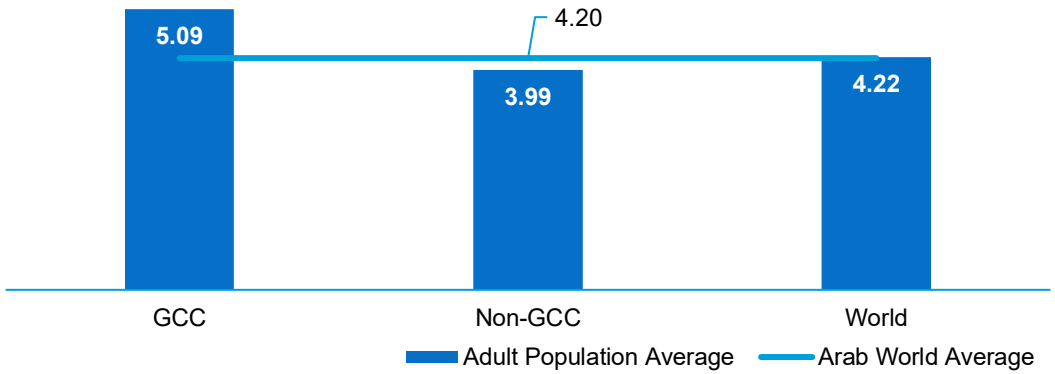
- Third, the analysis considers **barriers facing individuals in accessing financial services**. In this part of the analysis, we look at the most reported issues by unbanked adults in the Arab World, availability of traditional access points such as bank branches and ATMs in the Arab World, and regulations that have been or are in the process of implementation that seek to increase number and outreach of financial service access points.

By combining the three, the analysis uncovers a number of trends that have direct impact on the uptake of digital financial services in the Arab World.

Assessment of Propensity to Digital Financial Services

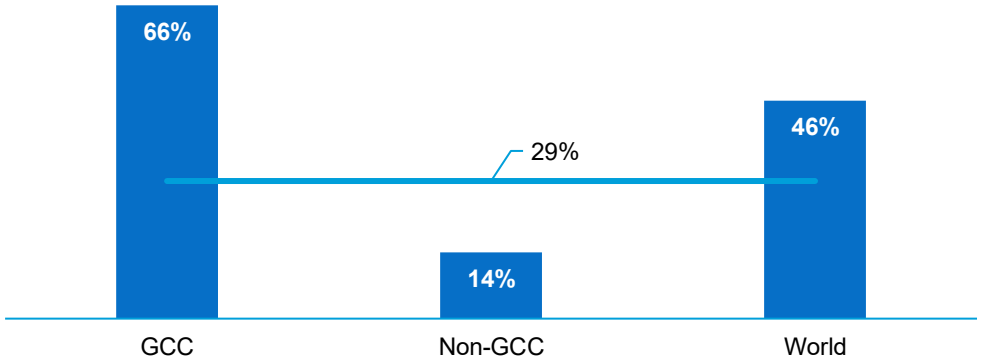
In spite of above average digital skills, the Arab World lags behind the global average in terms of digital payments.

Digital skills among active population (1 = not all; 7 = to a great extent)



Source: WEF's 2018 *Global* Competitiveness Report

Adults using electronic payments to make payments (age 15+)



Source: World Bank's Global Financial Development Report

When comparing the performance of Arab countries across **digital skills** and **adults using electronic payments**, there is a clear divergence in the results. Despite being almost as digitally skilled as the world average, usage of electronic payments is well below.

This is indicative of the level of cash dominance prevalent in the region, where despite having the necessary skills, adults prefer traditional means of transactions.

It is thus important that regulations encourage innovation and digitization of financial products and services. For example, Saudi Arabia and Egypt adopted a **Mandatory Cashless Transaction** vision. By only accepting electronic payments for certain transactions such as customs and bill payment, regulators urged consumers to move to digital.

In the spotlight:

Sadad, KSA*

11 other similar solution

Introduced by the Saudi Arabian Monetary Agency, Sadad is Saudi's national electronic bill presentment and payment (EBPP) service allowing customers to pay through any bank branch, ATM, online and phone banking, and for some banks, users can pay with mobile banking or SMS.

In 2014, Sadad processed more than 150 million bills, and in the next four years achieved an annual growth rate of 11%, processing more than 230 million bills in 2018.

**As a government sponsored solution, Sadad KSA was not included in the FinTech definition for the purposes of this study. For the definition of FinTech and the specific exclusions, please refer to Appendix I.*

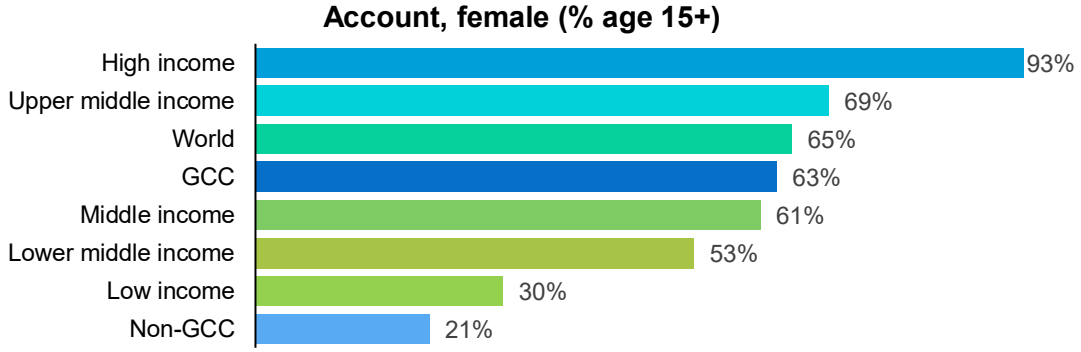
Basic banking services

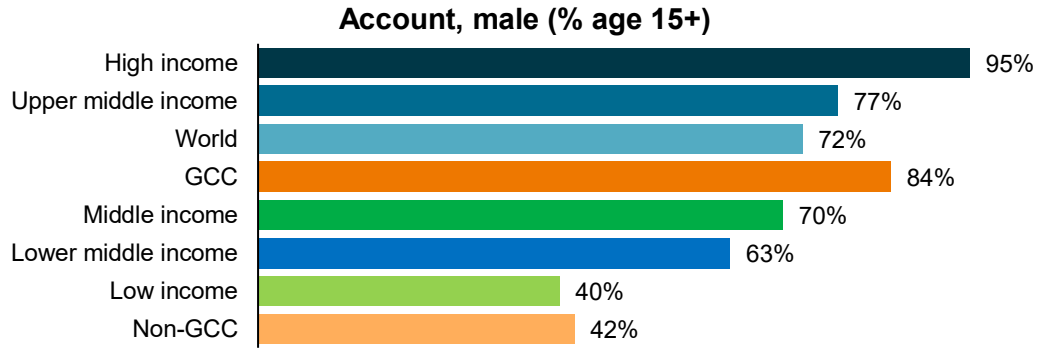
Acute gender gap in access to financial service (i.e. Financial Inclusion) when comparing Arab World performance with other clusters of countries and world average.

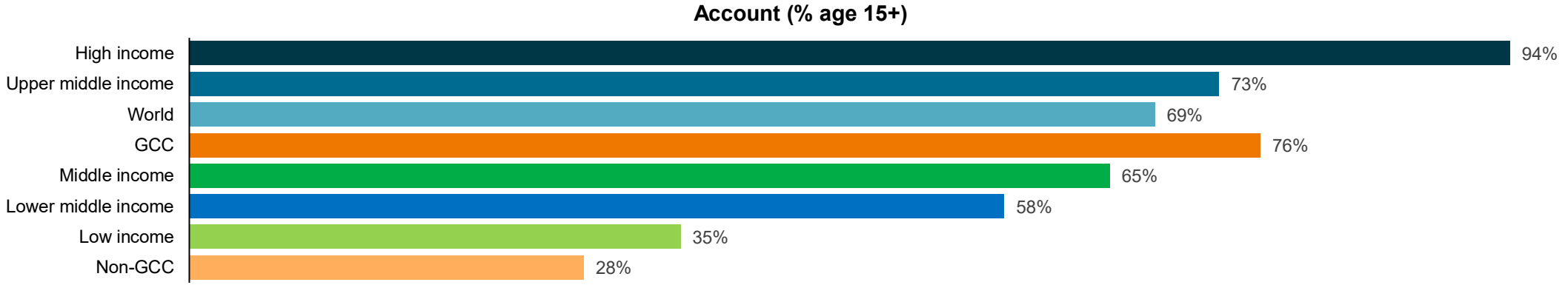
Access to financial services typically starts with having a transactional account, be it a saving, debit, or salary account. In the Arab World, major demographical and geographical disparities exist.

Demographically, Arab women are disproportionately less likely to have an account. Reasons for the contrast of performance between genders differ from country to country. In some countries, reasons are more pronounced such as requiring the woman's male custodian's permission (often her father or husband) to own an account. In other countries frictions are more nuanced such as cultural barriers or typified gender roles that guides female participation outside her household.

Moreover, there are other geographical reasons for financial exclusion in the Arab World. In many countries, branches of traditional financial institutions, such as banks, are concentrated in urban centers as a result of high set-up costs, this leads to underservicing of rural areas. Furthermore, residents of rural areas often belong to lower-income groups, making their borrowing needs too small for banks to profit from.





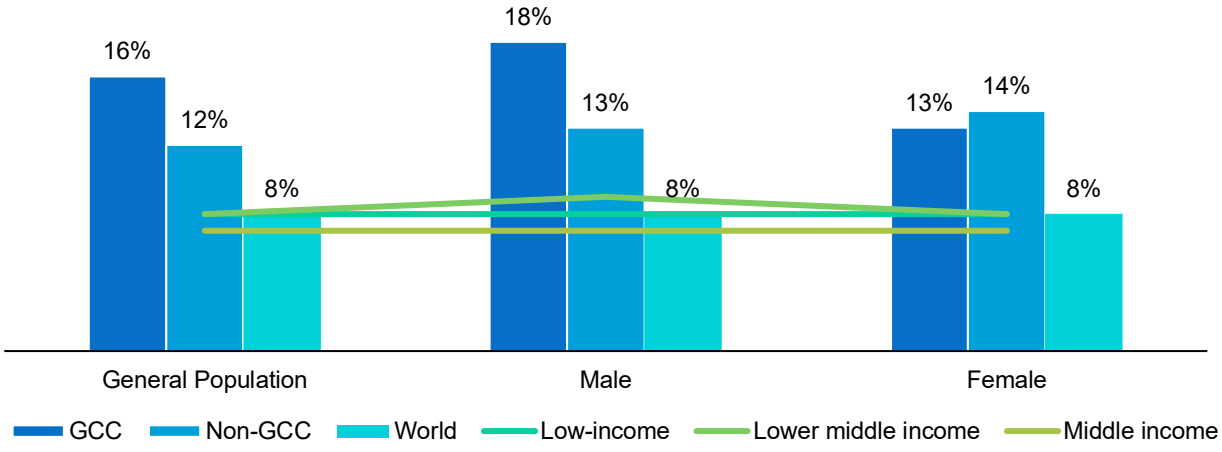


Source: Global Findex 2017

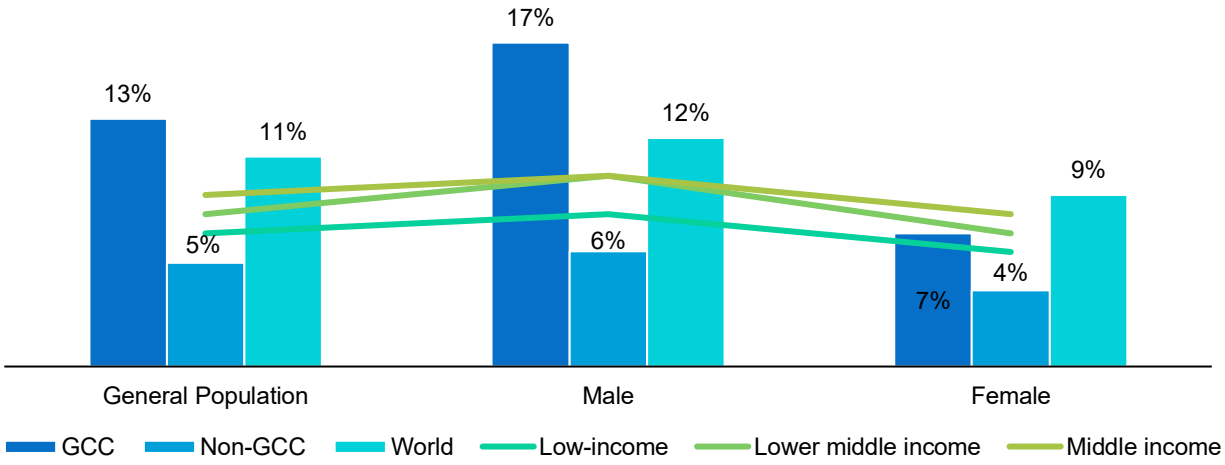
Credit and Saving

Cultural differences impact the adoption of formal financial services, with a general preference for informal solutions, such as buying from stores on credit.

Borrowed from a store by buying on credit (% age 15+)



Borrowed from a financial institution (% age 15+)



Source: Global Findex 2017
Low-income and Lower middle income performance is of the general population.

Financial service consumers in the Arab World have unique consumption habits when compared to the world, indicating the necessity of developing product offerings customized to the Arab World rather than replicating successful products in other parts of the world.

For instance, borrowing from stores by buying on credit is evidently more popular in the Arab World compared global averages. Performance in this regard is harmonized across the different segments; males, females, high-income, low-income, and rural consumers. This suggests potential areas that can be empowered to increase access to financial services while catering to the consumption culture of region.

When comparing store credit (informal credit) as opposed to formal borrowing from traditional financial institutions, the difference, in terms of number of borrowers, is sizeable particularly in Non-GCC countries. This gap suggests a need for tailored products that appeal to the Arab World's mass market.

FinTech in the spotlight:

Tabby, UAE

2 other similar solution

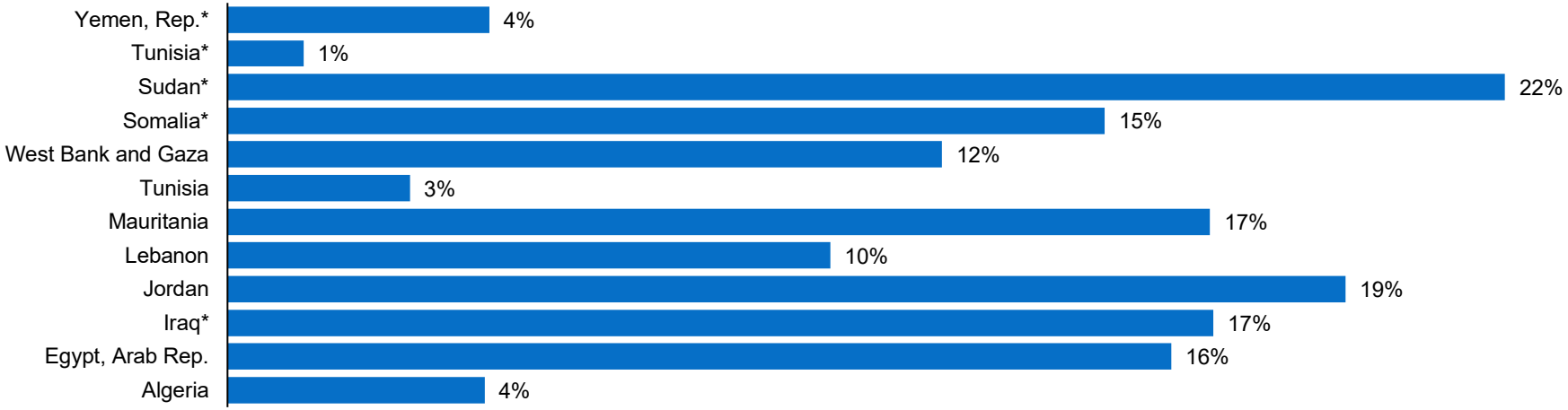
Founded in 2019, Tabby provides consumers in the UAE and Saudi Arabia with the flexibility to pay for their online and offline purchases either in a deferred single payment or in multiple installments. Tabby allows customers to check out without the need to enter their credit or debit card details when making a purchase and thus also intends to become an alternative to cash-on-delivery (COD).

Tabby is one of three digital consumer credit solutions identified in the region.

Credit and Saving

ROSCAs are also very popular in the Arab World with more than 23 million users participating in savings associations, underlining the cultural aspect of Arab World financial service consumption.

Saved using a savings club or a person outside the family (% age 15+)



23+ Million users throughout Arab World

Source: Global Findex 2017 and World Bank Open Data
** 2017 data unavailable, value based on Findex 2014 results*

Savings clubs, also known as rotating savings and credit associations (ROSCAs), are also popular in the Arab World as they are often interest-free and are viewed as savings products within a social context. In 2017, more than 23 million adults in the Arab World had saved using this arrangement, however, because they are usually done offline, good-standing savers cannot benefit from better credit scores that can assist them in accessing formal financial services from traditional financial institutions.

Thus, digitizing ROSCAs can play a major role in spurring financial inclusion, primarily in Non-GCC countries, especially due to their potential to acquaint Arab users with digital financial services. Yet, only three digital ROSCA solutions have emerged in the Arab World and are developed and operated by independent entrepreneurs with little-to-no support from incumbent financial institutions. Garnering support for such solutions is essential in both realizing revenues that were otherwise unserviceable, and also to fuel financial inclusion throughout the Arab World.

FinTech in the spotlight:

Moneyfellows

3 other similar solution

Launched in late 2014, Moneyfellows is one of the earliest attempts in the region to digitize the ROSCA model. So far, Moneyfellows has raised around USD1.8 million from multiple investors, the latest being a Pre-Series A Bridge round in August 2019.

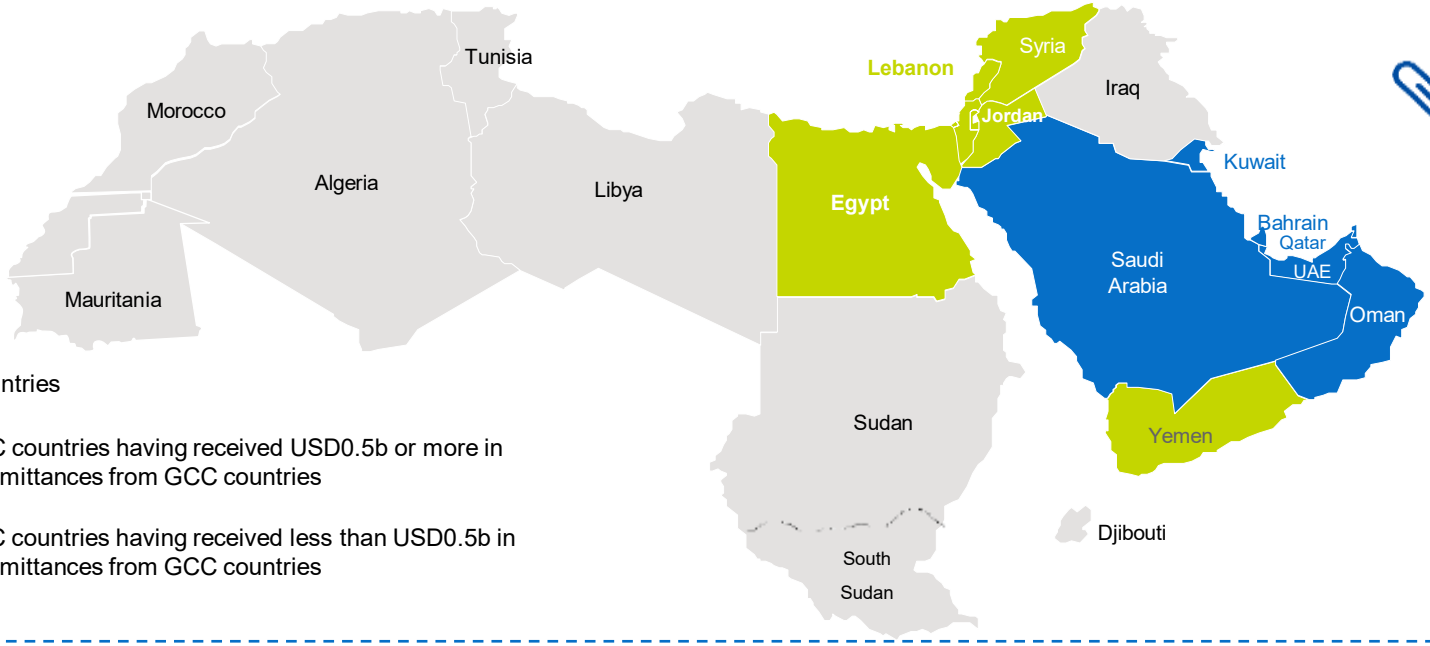
As part of its offering, Moneyfellows develops a credit score for its users by tracking their payment behavior which would later provide them access to third party financial services.

Remittances

Major remitters of funds in the Arab World remain the GCC countries, while main beneficiaries were composed of five countries – Egypt, Jordan, Lebanon, Syria and Palestine.

Remittance Outflows

- GCC countries, composed of Kuwait, Qatar, UAE, KSA, Bahrain and Oman, were top regional remitters in 2017, with a total value of USD24.1b remitted in 2017.
- The top 6 beneficiaries of these funds were Egypt, Jordan, Lebanon, Syria, Yemen, and Palestine, which each received USD0.45b or more annually in remittances from GCC countries. Other non-GCC Arab countries received less than 160mn combined.



FinTech in the spotlight:

NOW Money

4 other similar solutions

With focus on migrants workers, NOW money was launched in 2015. By having an account with NOW, migrant workers are able to remit funds to their home countries.

In extension, migrant workers can receive salaries on this account, issue cards to use their funds, and track their spending behavior.

With foreign citizens accounting for almost 50% of total population in GCC countries, remittances represent a very attractive segment for FinTechs as a majority of expatriates work in the construction sector and remit around 90% of their salaries to their families in their respective countries (either within or outside the Arab World), continuously seeking less expensive and more convenient remittance solutions.

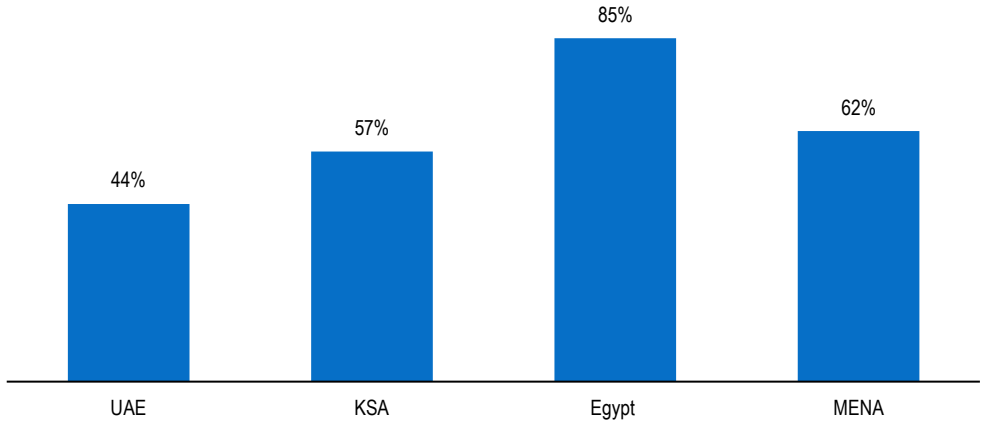
To unlock the opportunity of regional remittances, a multilateral collaborative effort is required to employ the enabling financial infrastructure and standardize regulatory requirements, such as KYC (or e-KYC) and put in place a general AML/CFT framework that all members should abide by. In the Arab World, the political infrastructure for collaboration is already in place as in the shape of the Arab Monetary Fund (AMF).

The research conducted for this study has identified five FinTech solutions in the Arab World that cater for international remittances. This provides an opportunity for the emergence of more solutions that taps into this type of solution.

E-commerce & Cash-on-Delivery

As a result of deep-rooted cash culture and lack of trust in the delivery process, most consumers in MENA opt for Cash-On-Delivery as their payment method.

Percentage of consumers who prefer Cash-On-Delivery



Source: E-commerce in MENA by Bain & Company and Google

Major limitations to MENA e-commerce growth:

Emerging payment platforms: Security is the number one concern for customers; limited trust in success of transaction.

Limited last-mile delivery networks: Reliance on traditional parcel delivery players with limited last-mile capabilities.

Customer service: 52% of customers complain about poor customer service, primarily delayed delivery.

Research suggests that e-commerce in the MENA region is expected to triple between 2017 and 2022 and reach 7% of total retail sales. Even then, there would still be an opportunity for additional growth to reach current global levels, where e-commerce sales account for approximately 10% of global retail sales.

Despite the Arab World's strong performance in WEF's Digital Skills score, COD is still the preferred method of payment in e-commerce. According to a survey by Wamda, the key reason behind this phenomenon is lack of trust, with over 60% of banked consumers in the Non-GCC Arab World (and more than 50% in the GCC) stating confidence in security of digital payment as the key barrier to adoption.

While no formal statistics could be found, non-traditional e-commerce (selling on social media platforms) is also an emerging regional trend, particularly for informal businesses. These businesses typically only offer a COD model.

Payment protection, such as AliPay's escrow service, can help mitigate the barrier of distrust by holding payment until reception of goods. Similar regional solutions have not been identified.

Despite the Arab World's strong performance in WEF's Digital Skills score, Cash-on-Delivery is still the preferred method of payment in e-commerce. Limited research is available to explain this phenomenon, however, anecdotal evidence suggests lack of trust in the outcomes of the fully digital economic transaction.

FinTech in the spotlight:

Jaib, Jordan/UAE

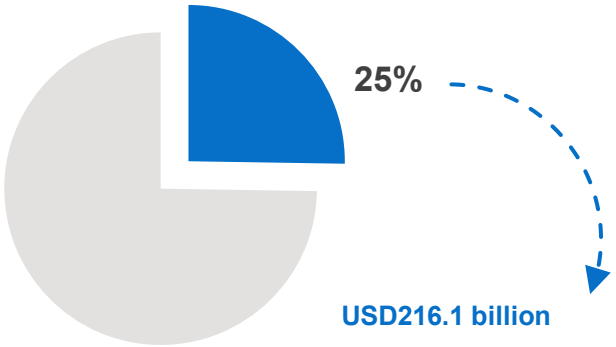
57 other similar solutions

Through its solution Cash Basha, Jaib enables access to customers with no bank accounts/ cards to global merchants like amazon by utilizing machine learning and a-typical data to give them credit scores – essentially capitalizing on the cash on delivery culture in the region and enabling user to purchase from online vendors.

MSME Financing

MSMEs access to financing in the Arab World is considered limited as only 7% of total bank lending goes to MSMEs.

MSME finance gap in the Arab World as a percent of GDP



Source: IFC's MSME Finance Gap report.

** Data reflects numbers from only 10 Arab countries included in the report.*

FinTech in the spotlight:

Liwwa

4 other similar solutions

Founded in Jordan, Liwwa is a digital peer-to-peer lending platform matching individuals willing to invest and local MSMEs searching for loans. Individuals investing on Liwwa have historically seen returns ranging from 9%-16% with a median return-on-investment (ROI) of 13.2%.

Investments are ranked based on risk and users can pick investments based on their risk appetite. Companies listed remain anonymous but a risk profile including the purpose of the loan is listed for investors to assess the MSME's credit worthiness.

Micro, small and medium-sized enterprises (MSMEs) play a major role in supporting economic growth and reduction of unemployment. Despite comprising 96% of all registered companies in the region, MSME access to finance remains limited with only 7% of total bank lending going to MSMEs.

The IFC's MSME Finance Gap report notes that the gross MSME finance gap in the 10 Arab countries included in the report amounts to ~USD216 billion, representing 25% of their GDPs. As a result, MSMEs find difficulty in growing their businesses, which in turn leads to slower economic growth and lower employment opportunities.

As many financial inclusion strategies across the region note, FinTech can be central to the delivery of financial services to MSMEs to bridge the finance gap. Through FinTech solutions, such as software solutions and credit reporting tools, lenders can have access to more information regarding the credit worthiness of the business than currently available for MSMEs, facilitating financing activities and limiting the need for collateral to issue loans.

Research also shows that traditional financial institutions typically steer away from MSME financing. Banks claim that their high overhead costs translate into larger ticket sizes or higher interest rates, both of which MSMEs are uninterested in. To address that, banks would rather invest in companies with an MSME focused mandate instead of issuing loans directly. To encourage MSME lending, some Arab governments, such as Egypt, now require that banks allocate 20% of their loans portfolio to MSME loans, to help rejuvenate the sector.

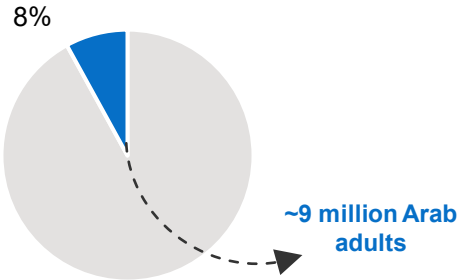
Elsewhere, many FinTech firms, such as POS Rocket in Jordan, have produced Enterprise Resource Planning (ERP) solutions to be sold to MSMEs. Their purpose is to digitize the book keeping, sales, and other business related transactions which in turn may allow MSMEs to retrieve this data and use it as part of their credit facility applications. This provides banks and other creditors more visibility on the financial performance of the MSMEs, decreases asymmetry of information, and overall has the potential to increase credit issuance and uptake by the MSME sector.

Opportunity in Islamic Finance

While religious reasons may not seem as not an overly cited barrier on the aggregate Arab World level, they were particularly pronounced in Jordan, Palestine, Tunisia, Libya, and Iraq, cited by as many as 1-in-5 financially excluded adults.

Barriers to financial inclusion

No account because of religious reasons (% without FI account)



Source: Global Findex 2017

Based on the size of the industry, opportunities for digitizing Islamic finance solutions may prove financially viable considering the role of technology in increasing solution efficiency, and also financially include customer segments avoiding traditional financial service for religious reasons.

Qurood al-Hasan (plural) are interest-free loans targeting needy persons to help alleviate unexpected financial burdens and manage financial pitfalls. Qurood al-Hasan digitalization would reduce overhead costs and service cost and could catalyze adoption of digital financial services. However, such offerings could likely only be afforded by large incumbents rather than new innovative entrants.

Online platforms that aggregate the different Sharia compliant financial services are another product that can increase financial inclusion by matching potential customers with the best offers. Such solutions can be created as a standalone product, evidenced by the size of the industry, or as an extension of an existing financial service comparison website.

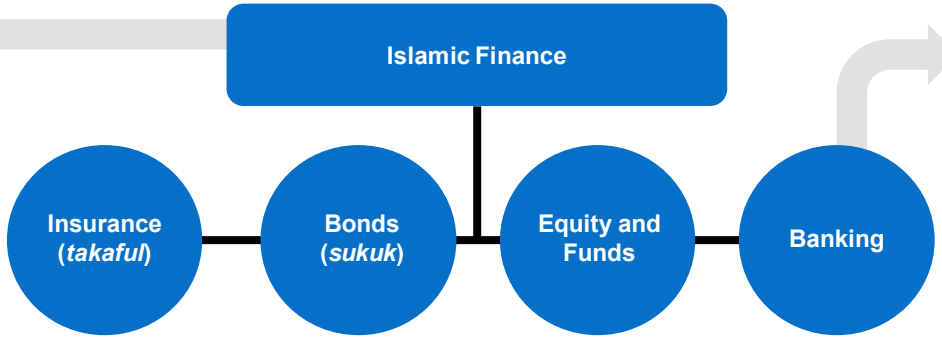
FinTech in the spotlight:

Solfeh

2 other similar solution

Founded in Amman in 2016, Solfeh is an emerging Sharia compliant FinTech giving public sector employees access to quick micro-loans through an online application. Solfeh deduct any charges from the users monthly salary and do not charge interest.

Around 48% of Islamic finance activity occurs in GCC countries, followed by Non-GCC MENA countries at 29%, and the remaining 23% in Southeast Asia. Saudi Arabia holds the largest share within the GCC, followed by UAE, Kuwait and Bahrain, respectively.



Banking makes up most of the industry, comprising more than 70% of the USD2.2 trillion Islamic finance assets under management.

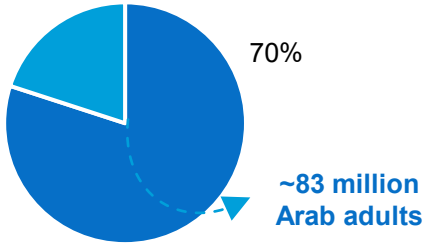
Expected growth of 9.5% until 2022

Accessibility of Financial Services

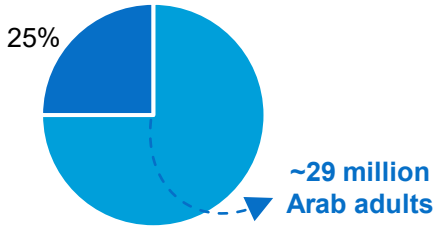
Insufficient funds, expensive services, lack of necessary documentation, and proximity to traditional financial service locations are the most quoted reasons for not having a bank account among the financially excluded population.

Barriers to financial inclusion

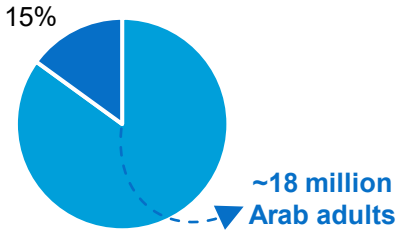
Insufficient funds (% without FI account)



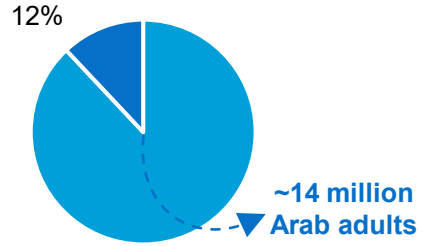
Financial services are too expensive (% without FI account)



Lack necessary documentation (% without FI account)



Financial institutions are too far away (% without FI account)



Source: Global Findex 2017

Figures are computed as simple averages of applicable countries due to limited data.

Reducing onboarding costs to consumers and enhancing accessibility, improvement of the distribution network through investments in Point-of-Sale (PoS) terminals, regulations allowing "mini branches" and agency in banking and mobile money, can play a role in spurring adoption by increasing reach of financial services, while potentially reducing overheads and investment requirements.

Moreover, implementation of digital identification tools and/or simplified/tiered Know-Your-Customer (KYC) procedure with less stringent documentation requirements can help streamline the onboarding of the ~11 million Arab adults who cite lack of necessary documentation as a key barrier to holding an account at a financial institution.

Developments in the spotlight:

Egypt's Mini-Branch Regulation

In late 2014, the Central Bank of Egypt introduced regulations that allow banks to set up **mini-branches** in remote areas with less demanding capital requirements.

Although Findex data in Egypt show an increase in account ownership from 14% to 33%, the degree to which this is attributable to "mini-branches" is unclear.

Developments in the spotlight:

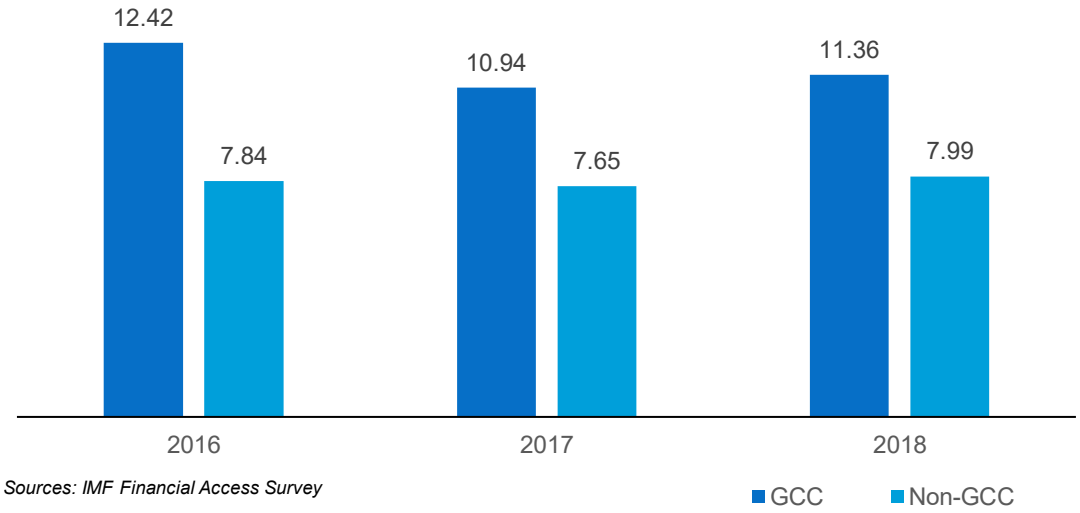
Jordan's Basic Bank Account Regulation

In 2019 and in an effort to enhance financial inclusion, the Central Bank of Jordan introduced regulations that allow banks to set up **basic bank accounts** for unbanked consumers. The features include simplified KYC procedures, no minimum balance requirements, as well as exemptions from commissions and fees. In return, users would be able to pay, transfer, and access electronic services.

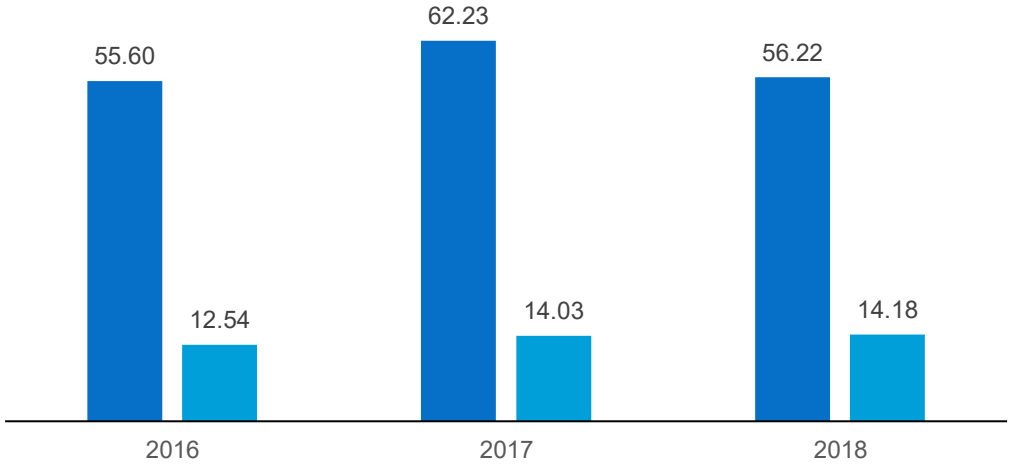
Agents, branches, and other access points in the Arab World

Despite availability of traditional financial service access points, financial service penetration and accessibility remains limited with 14 million Arab adults quoting proximity to financial service provider branches as the reason to not having an account. Innovatively addressing this issue through regulations on agency may address this issue and increase financial inclusion.

Commercial bank branches per 100,000 adults



ATMs per 100,000 adults



Sources: IMF Financial Access Survey

Agent networks

- Despite availability of bank branches and ATMs, banking in the Arab World continues to be a challenge, namely due to insufficient funds, proximity to traditional financial service access points, and expensive services.
- FinTech and its supporting infrastructure can address some of these issues since:
  - FinTechs offer innovative products often at lower costs
  - Financial services from FinTechs can be accessed through remote access points such as smartphones and the internet, and also through agent networks, thus providing better reach and increase in proximity.
- 13 of the 22 countries in the Arab World have regulations that allow the use of agents to carry out procedures on behalf of financial service providers. Generally, there is a variation in the extent to which the regulator prescribes types of institutions that are allowed to operate as agents and the tasks that they can undertake.
- However, many customers, particularly customers with low digital literacy, prefer in-person interaction rather than digital. For example, clients of microfinance institutions place high value on the availability of a branch nearby claiming that accessible in-person services makes them more at ease.
- No aggregated data is available on agent networks. Due to their role in spurring financial inclusion, aggregating relevant data may be key to setting strategic financial accessibility goals.
- Disparity in adoption of agents in financial service delivery is motivated by limiting AML and CFT risks, particularly in relation to customer onboarding.

B. Relevant Regulations & Distribution Networks of Financial Services

Introduction to FinTech Policies & Regulations

This section discusses trends in policies and regulation that are likely impactful on the trajectory of FinTech in the region. The analysis discusses the following three aspects of policies and regulations:

- Progress in regard to developing a **FinTech strategy by regulators** to guide growth in the FinTech sector.
- The **availability of Regulatory Sandboxes** for the testing of innovative FinTech solutions that are not explicitly governed by previous regulations and bylaws such as blockchain technologies.
- **Bank-sponsored API directories** which are potentially the groundwork for later stage adoption of open banking regulations whereby financial sector participants share information automatically.

The three aspects above cover the main themes governing FinTech regulation in the Arab World and throughout the rest of the globe, and thus provide guidance regarding the direction to which policies and regulations are moving.

Availability of FinTech Strategies

Bahrain is the first country in the Arab World to introduce open banking as means to interconnect banks through Application Programming Interfaces (APIs).

Adopted

High implication of governmental bodies and regulatory authorities, with established FinTech Strategy featuring numerous components.

IN-FOCUS

Bahrain

- The Central Bank of Bahrain (CBB) established a dedicated FinTech & Innovation Unit which hosts the Regulatory Sandbox.
- Bahrain FinTech Bay has recently launched the first open banking application programming interface (API) in the region.
- The CBB has issued guidelines on the regulatory framework meant to ease use of technology solutions and support Financial Inclusion.

UAE

- Part of ADGM's FinTech Strategy is the introduction of multiple components, including e-KYC which was successfully tested. A regulatory and Digital Sandbox were also introduced, connecting financial institutions and startups for further testing. Cross-border testing is the latest component, enabling testing across multiple jurisdictions.

Countries also include: Egypt and Saudi Arabia

In Progress

Active implication of governmental bodies with the introduction of numerous measures which would ultimately be part of a FinTech Strategy.

IN-FOCUS

Morocco

- The National Financial Inclusion Strategy's purpose is to define a common vision and national orientation in order to reduce disparities in access and penetration of financial services.
- In 2019, the Moroccan government has introduced fiscal incentives to promote the adoption and usage of mobile payments.

Tunisia

- The Central Bank of Tunisia has recently unveiled its "Decashing Project", aiming to reduce the cash circulating in the market in favor of digital means of payment.
- It has also recently introduced a Strategic Plan 2019-2021 devoted to support innovation, competitiveness and digitalization of financial services.

Countries also include: Jordan, Iraq, Kuwait, and Qatar

Not Adopted

Little or no implication of governmental bodies, with few or no measures introduced. No specific focus towards FinTech or Financial Inclusion.

IN-FOCUS

Mauritania

- Mauritania lacks consolidated digital strategies with the absence of digital IDs, proper KYC or Mobile payment framework.
- Regulatory bodies are trying to encourage the use of FinTech; the Central Bank of Mauritania recently hosted a FinTech Competition meant to gather various stakeholders.

Lebanon

- Although the Ministry of Telecommunications has recently announced the formation of a digital committee that would oversee the mapping and governance of the ICT sector, no consolidated plan has been introduced by the committee. Absence of Digital IDs, E-KYC and relevant regulatory frameworks are also seen.

Countries also include: Algeria, Comoros, Djibouti, Libya, Oman, Palestine, Somalia, Sudan, Syria, and Yemen

Regulatory Sandboxes

With FinTech being a priority for Arab World governments, regulatory sandboxes are being established by regulators to allow live testing of solutions in safe and controlled environments. However, their impact on the ecosystem as a whole is still unclear.

Regulatory Sandboxes

- Sandboxes are an emerging trend in MENA, first rolled out in UAE and Bahrain, and more recently in Jordan, KSA, Tunisia, Oman, and Egypt. These sandboxes are usually established and operated by the countries' financial authorities. However, it still unclear whether sandboxes are going to have the sought impact given their potentially high set-up cost. What is seemingly most important, however, is FinTechs' access to dialogue with regulators.
- Sandboxes have generally attracted interest from local and foreign FinTechs, however the number of sandbox graduates is undisclosed yet seemingly limited.
- Sandboxing has been primarily focused on blockchain solutions given its disruptive nature to data recording and recall. Regulators believe that given the relative recency and complexity of the technology, sandboxing would offer insight on the interaction between blockchain solutions and regulatory environment.
- There are currently no co-sandboxing or region-wide sandbox arrangements across the Arab World, however cooperation agreements are emerging between Arab World countries, especially in the GCC; UAE and Saudi Arabia have recently signed an agreement which would allow sharing knowledge and expertise to further enable FinTech expansion across the region. Additionally, the two countries have partnered to develop 'Aber,' a digital currency to facilitate financial settlements through Blockchain and Distributed Ledger Technology (DLT).
- Moreover, the Arab Monetary Fund (AMF) is moving forward with the Arab Regional Payment System (ARPS) which would link payment switches throughout the region to enable cross-border large value transactions. This may allow further integration of sandboxing and licensing between member countries.
- Some global agreements are emerging, with the UAE and ASEAN Financial Innovation Network (AFIN) announcing their sandbox interconnectivity to enable international collaboration and FinTech solutions.

Typical Sandbox operation model:

Application phase

To participate in sandbox

- Submit regular requirement, which may include: innovation assessment, commercial feasibility, team background (funding, competences), as well as legal and regulatory risks and mitigation measures.

Preparation phase

After acceptance into sandbox

- Design testing parameters; define success and failure
- Identify areas requiring further actions (e.g. cybersecurity needs)
- Agree on consumer safeguard measures
- Testing period, and post-success/failure procedures

Experimentation phase

After agreeing on parameters

- Submit agreed regular reports on testing results based on parameters
- Fulfill further actions (e.g. hiring professional firms for audit and cybersecurity)
- Ensure compliance with customer safeguards set between participants and regulator.

Validation phase

After completing testing

- Apply required licenses or special individual licenses (if the current regulation is not up-to-date)
- Provide info to regulators in updating the future guidelines to increase regulatory clarity
- If fails to pass the test; halt services and inform clients

Product launch

Source: "As FinTech evolves, can financial services innovation be complaint?" by EY Global

Bank-sponsored Sandboxes (Open Banking APIs)

Bank-sponsored sandboxes are a connector between banks and emerging FinTech solutions. For banks, it is a pipeline for innovation as opposed to establishing technology teams in-house, and for FinTechs, it provides outreach, enables access to existing financial infrastructure and develops the technical and business skills required for entrepreneurship.

Bank-sponsored Sandboxes (Open API directory)

- Bank-sponsored sandbox (i.e. Open API directory) is a library offered by a bank to financial technology solution providers through which they can access certain procedures – such as payment gateways – or information – for example whether the user has sufficient funds for a given transaction – from the bank without full access to the bank's data.
- While only Bahrain has introduced open banking regulations in the region, many private banks, such as Jordan's Arab Bank and Ahli Bank, UAE's Emirates NBD, and Bahrain's Al Baraka Islamic Bank, have been offering developers access to their API directories. Through that, FinTech providers can test their product's digital cycle, such as paying, disbursing, or retrieving information from the bank's systems.
- Furthermore, through these collaboration, banks benefit from early access to FinTech solutions that are well into their minimum viable product (MVP) phase and potentially invest in the solution if it aligns with the bank's strategic and/or tactical goals. Ideally, these sandboxes would serve as a testing environment, and upon compliance, solutions may roll-out using the same protocols without the need for further programming.
- Although impact is not yet apparent, however bank-sponsored sandboxes can potentially be a catalyst for deals by banks acquiring emerging technologies. As discussed earlier, traditional banks lack the operational flexibility required to develop technologies in-house. Through FinTechs, banks would access a wide array of solutions to license or invest in.
- In addition, these sandboxes provide entrepreneurs and FinTechs the opportunity to develop a product and make it available in the public domain to generate interest. And since linking to the sandbox requires technical integration as well as an agreement between the bank and the FinTech, entrepreneurs would be required to conduct a series of professional relationships to develop their product, making entrepreneurs more experienced with little-to-no cost of failure.
- Eventually, bank-sponsored sandboxes would act as a gateway between the existing financial infrastructure and the emerging technologies; giving entrepreneurs access to the national payments systems, and giving banks an investment pipeline to fuel their digital growth.
- It is important to note that open banking is a policy set out, often by regulators, to allow the free flow of information between members of the financial sector. APIs, however, are the method through which financial sector members share and retrieve data between each other.

C. Compliance & KYC

Introduction to Compliance and KYC for Financial Services

This section elaborates on information mentioned in the previous section, particularly in relation to regulatory compliance, a major component of a sound financial system, and KYC requirements. The section will:

- Highlight the current state, regional challenges, and potential solutions to issues regarding compliance in the financial services sector. This is important as it dictates what FinTechs can and cannot do as of yet.
- A graphic showcasing the availability of multiple regulator-led initiatives such as regulation on agency banking, availability of FinTech strategy, and Regulatory Sandbox.
- An in-depth analysis of particular nuances in the Egyptian and Jordanian markets.

This serves as a more detailed analysis of the policies and regulation analysis and provide insight on particular issues that are of interest to FinTech solution providers in the Arab World.

Compliance and KYC in the Region

Know-Your-Customer (KYC) practices and compliance remain a struggle for Arab World regulators due to cultural differences with Western countries.

Current State

- The Arab region is perceived by its western counterparts as having a strict regulatory environment, often classifying it as difficult to manage.
- Imposing stricter compliance standards has been a priority for Arab regulators, which has resulted in excessive de-risking practices, whereby numerous relations are terminated instead of being effectively managed. Regulators' tendency to traditional KYC is in part motivated by their focus on mitigating cybersecurity risks which would have an impact on the ability to attract foreign direct investment.

Regional Challenges

- The region is subject to unique cultural and economic constraints, which hinder the banking industry's ability to onboard new customers. Among these issues are:
  - **Identification**: naming conventions are complex and differ from one country to another, along with transliteration challenges.
  - **Address verification**: numerous individuals are unable to provide physical proof of address documents.
  - **Tax-free jurisdictions**: a majority of Arab countries do not levy taxes, rendering identification processes much more complex.
  - Arab countries also face challenges in **maintaining updated user information**, thus limiting the usability of big data analytics.

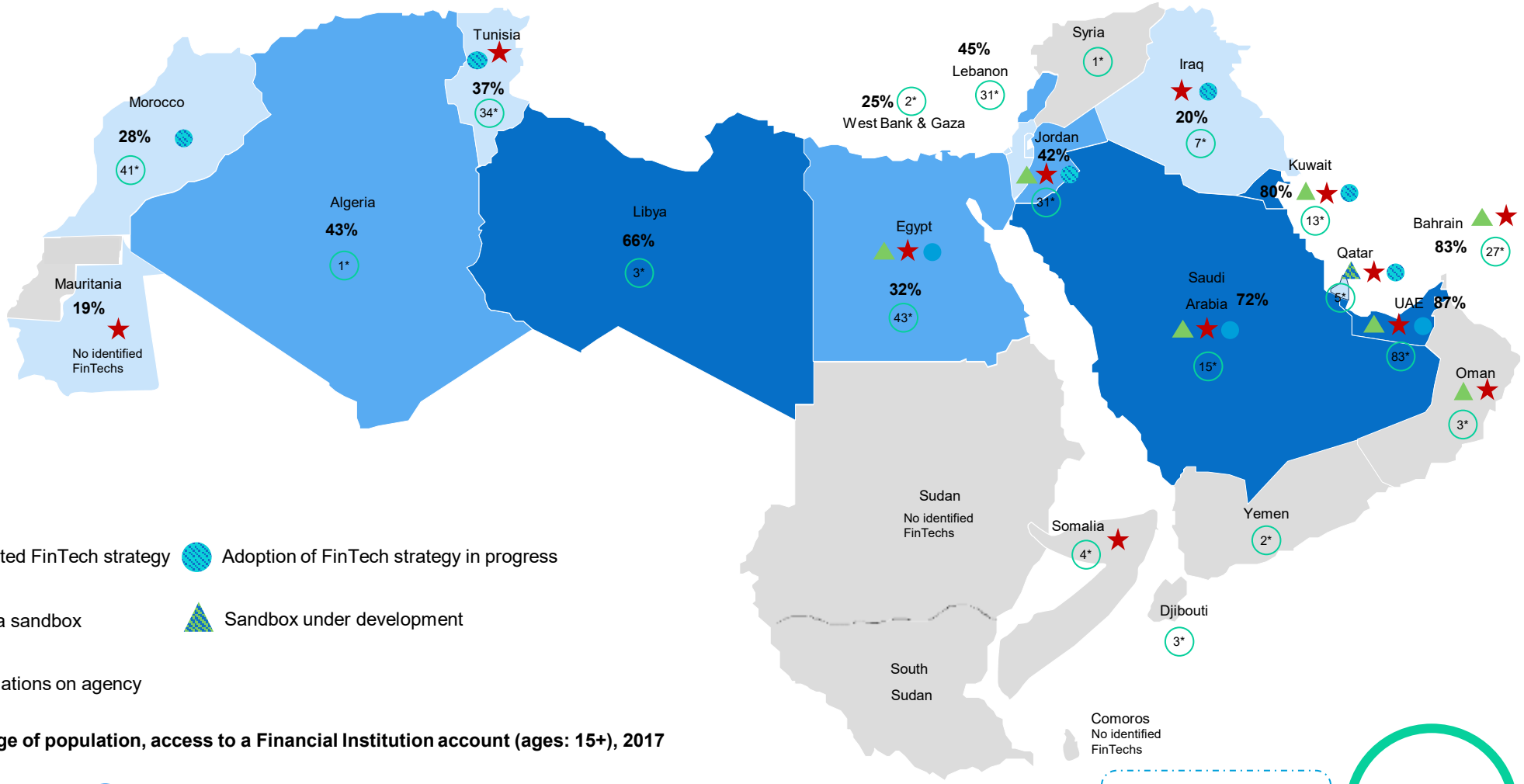
Potential Solutions

- In order to decrease the high operational costs arising from the aforementioned challenges, numerous financial institutions are turning to RegTech, a vast digital transformation program which would ultimately offer faster, more efficient and convenient client experiences.
- Bahrain, Qatar and the UAE are among the countries having more than 100% smartphone penetration: financial institutions have often turned to Artificial Intelligence in chatbots, Computer Vision and Blockchain for identity verification to enhance operational efficiencies.
- Regional shift of focus and investment in cybersecurity may liberate regulators from traditional financial service practices and make way for more innovation in the banking and financial sectors.

Sources: World Bank Group / Findex / Fenergo Reports

Regulations and policies supporting financial inclusion and financial technologies

Policymakers and regulators are adopting decisions that accelerate FinTech development and seek to improve outreach of financial services. Saudi Arabia, Egypt, and the UAE have introduced regulatory sandboxes to reduce cost of failure of innovative financial technology solutions through regulator-controlled testing, adopted a FinTech strategy, and introduced regulations on agency.



Compliance and KYC in the Region

Deep-dive: KYC case studies in Egypt and Jordan.

Egypt

Overview

In 2017, only 33% of the Egyptian population had access to formal financial services, out of which 27% were female.

An entrenched informal economy, high levels of poverty and illiteracy, coupled with social barriers are the key challenges to KYC compliance in Egypt, which further exacerbate gender gaps.

As such, the Egyptian government, in collaboration with the Central Bank, has introduced two main initiatives to enhance financial inclusion across Egypt.

Women Citizenship Initiative (WCI)

Through mobile registration points in marginalized areas and public awareness campaigns promoting the benefits of ID cards, the WCI had already enrolled 400k women, now waiting to obtain national IDs.

Tiered-KYC

Introduced in 2013, a simplified-KYC with a capped amount and minimal identification requirements was rolled out. Mainly targeted at a tech-savvy youth, this tiered-KYC applies to all mobile-money accounts and is enabled by large agent networks.

Jordan

Overview

With account ownership standing at 33.1% in 2017, the Jordanian government has released a National Financial Inclusion Strategy aiming to address multiple issues, including simplified KYC procedures and basic bank account for excluded segments of the population, such as the low-income, women or refugees.

Although only 9% of the excluded population reported lack of official documentation as the main reason for being excluded, this figure likely does not take into account refugees, who are heavily present in Jordan and face serious challenges in accessing formal financial services.

In partnership with the UNHCR, the Jordanian government has launched multiple initiatives aiming to close these gaps.

National E-Identity Cards & Ministry of Interior biometric ID card

Launched in 2016, these cards are offered to all refugees living in Jordan, recognizing them as legal residents and extending them access to formal services.

Regulatory Sandbox

The expected outcomes from this sandbox includes the verification of documents using Blockchain, QR Codes and e-checks.

Mobile Payments Instructions

These instructions streamline KYC requirements for e-wallets by requiring only an ID or a Ministry of Interior card.

Source: Alliance for Financial Inclusion, KYC Innovations, Financial Inclusion and Integrity (March 2019)

D. State of FinTech Investment

Introduction to State of Fintech Investment

This section of regional trends focuses on the state of FinTech investments in the region. The analysis considers two main aspects:

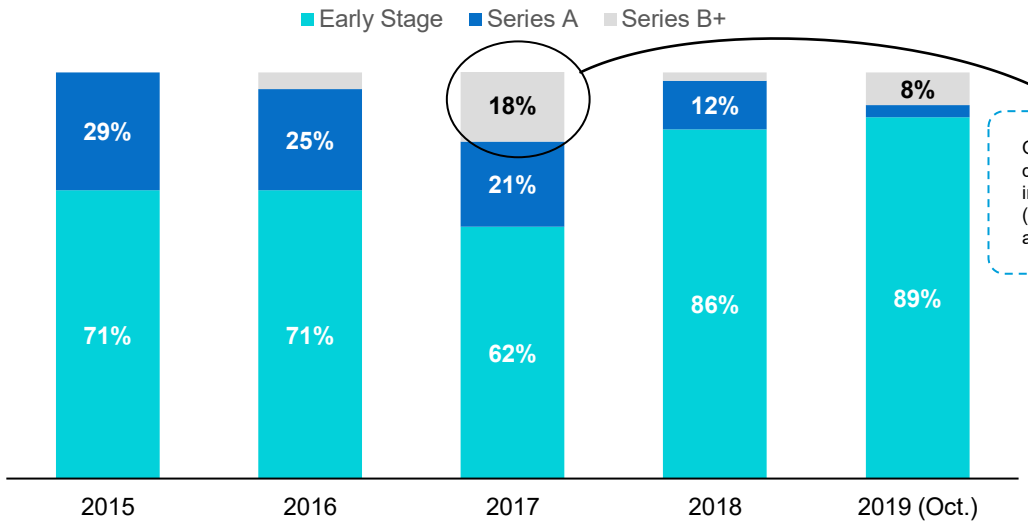
- The **state of investments** between 2015 and October 2019 including overall size of investments, average ticket size, and number of investment ticket
- The **product maturity and investment stage of identified active FinTech solutions**

This analysis sheds light on the historic investor interest in emerging FinTech solutions, historical availability of capital, which would thus allow measured expectation of future trends of FinTech investments in the Arab World

State of FinTech Investment

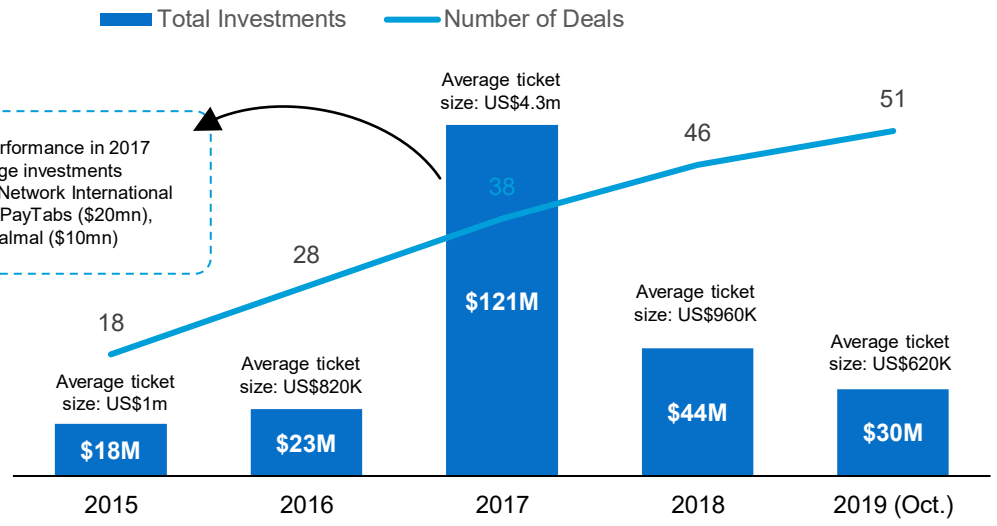
Early stage investments (i.e. Seed and Pre-Seed) make up most investment allocations in the region. Post Series A investments remain largely rare.

MENA FinTech investments by stage, 2015 – October 2019



Source: MAGNiTT ADGM 2019 MENA FinTech Venture Report

Global average ticket size: US$600K



Sources: MAGNiTT ADGM 2019 MENA FinTech Venture Report, MIX IF50

Investor interest in MENA FinTech sector has been growing in recent years. Apart from the relative slow growth in investment size, number of deals have been steadily increasing. This indicates an increasing number of investors interested in gaining exposure to the FinTech sector that is picking up in the region and worldwide.

Data also suggests that interest in Series A and Series B+ is slowing down, and interest in early stage investments has been growing, pointing to the need for more expert money in these stages to help FinTechs reach organic growth and business sustainability. Alternatively, increasing early stage investments is testament to the types of solutions being presented by entrepreneurs in the region and the investors' belief in their ability to reach their intended target markets.

FinTech in the spotlight:

Fawry, Egypt

10 other similar solutions

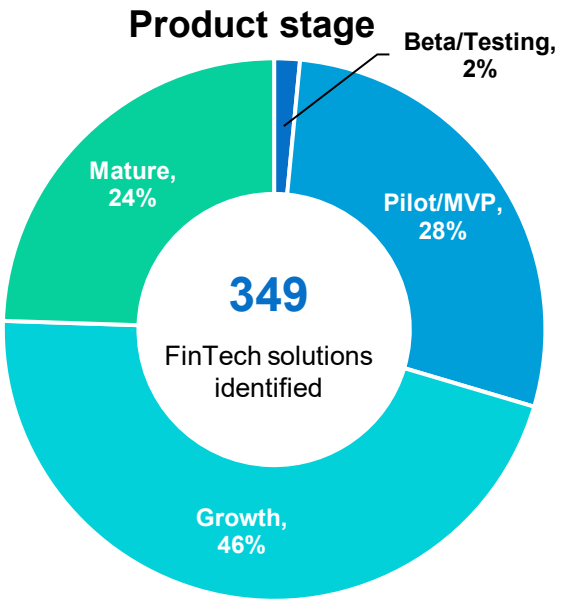
Fawry is an Egyptian online bill presentment and payment platform. Largely based on Saudi's successful Sadad model, Fawry customers pay their bills, top up their prepaid plans, and donate through the platform via online access or by visiting one of its 105,000+ service locations.

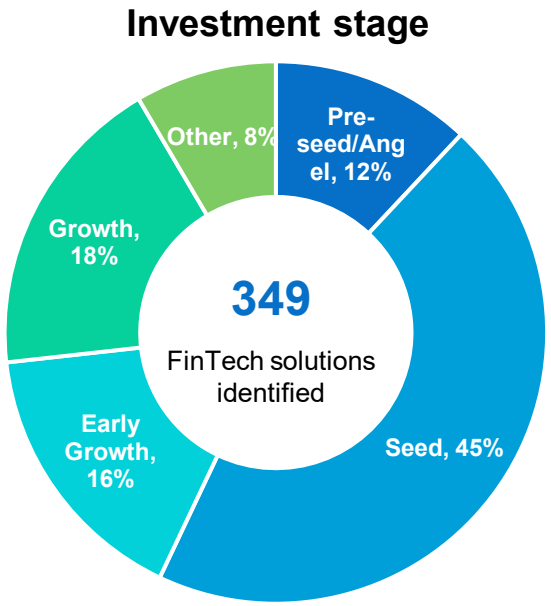
Today, Fawry processes more than 2 million transaction per day, and had collected payments of more than EGP2 billion in 2018. In 2019, Fawry went public, listing 36% of its share capital on the Egyptian stock exchange. According to Reuters, the stock was oversubscribed 30 times, indicative of the region's interest in the developing FinTech scene.

Business and Product Maturity of FinTechs

Most solutions are offered by young independent FinTech providers in Seed and Early Growth stages. This indicates the immediate need for funding to help FinTechs grow into sustainable business.

- Product stage refers to FinTech solutions product cycle whether it is still in testing (Beta/Testing), just launched (Pilot/MVP), expanding its userbase (Growth), or has an established userbase (Mature).
- Investment stage refers to the funding round the FinTech company is going through. Typically, Pre-Seed is raised when product is being produced and therefore is in the Beta/Testing phase. Once the first version of product is on the market (i.e. Pilot/MVP), investments are typically called Seed investments. Latter stages are less defined in connection to product stages but rather related to the FinTech company's funding requirements and strategic goals such as expanding into other countries.
- Most identified FinTech solutions are in the Seed stage followed by Early Growth. As a result, most impact is yet to be felt as these FinTechs are relatively nascent with limited traction.
- Investments are required to fuel the growth of these FinTechs and increase their penetration and outreach.
- According to MAGNiTT's H1 2019 MENA Venture Investment report, most investments are in early stage (pre-series A), however, the share of companies raising Series A+ has been slowly increasing in the region, indicating a maturing ecosystem.
- In contrast, financially inclusive solutions are generally younger, and are predominantly in the pre-seed and seed stages. To foster and accelerate their growth, impact investment funds may be poised to provide capital and other in-kind support. This will especially be beneficial to such FinTechs as opposed to traditional institutional investors as impact investors would likely employ social and economic return KPIs alongside financial returns.





**EY Analysis, Based on currently active FinTechs with available information*

4 Countries of Focus

Countries of Focus

Executive Summary – FinTech solution production has been the highest in the Countries of Focus with 77% of identified FinTechs operating in any of the six countries.

CGAP has chosen Egypt, Jordan, Morocco, Tunisia, Lebanon and UAE as the six countries of focus, with UAE as the "aspirational" country of focus.

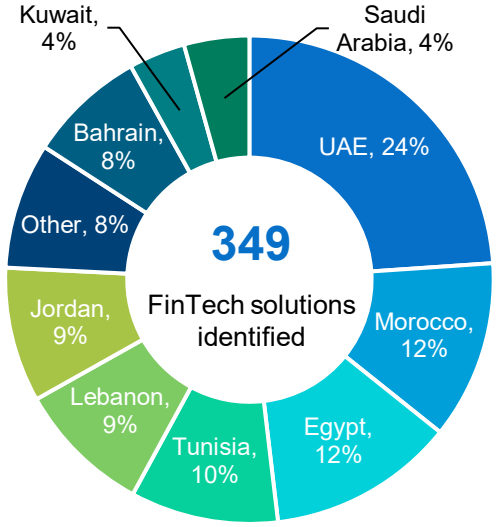
Those countries where analyzed against the five pillars (demand, infrastructure, policy, talent, and capital).

The analysis of the countries of focus based on the above five pillar was conducted through desktop research, interviews with different stakeholder groups, attending relevant professional events (workshops, conferences, networking events, as well as EY and CGAP expertise in this domain. Appendices B & C of this report provides information regarding the interviews and conferences.

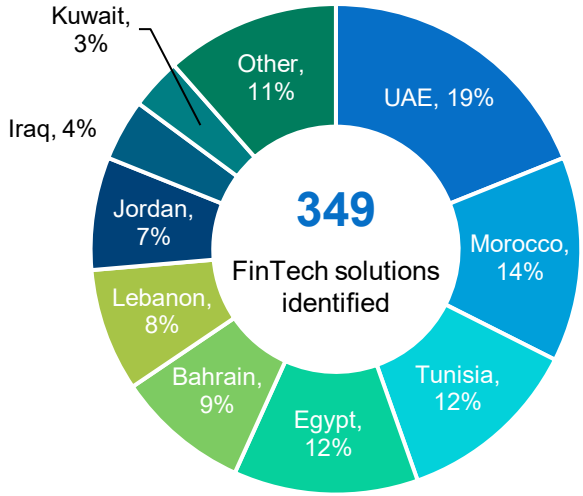
The 6 Countries of Focus have been generating the highest number of FinTechs in the most recent years. Egypt, Jordan, Lebanon, Morocco, and Tunisia are clustered together (collectively the "five") due to large similarities in their overall five-pillar performances. Compared to the five, UAE is evidently more developed and therefore more comparable with global FinTech hubs such as Singapore, Hong Kong, and the United Kingdom.

As a percentage of total, UAE produced 24% of identified FinTechs followed by Morocco, Egypt, Tunisia, Lebanon and Jordan with 14%, 12%, 12%, 9%, 9%, respectively.

Location – Country of operation*



Country of operation of financially inclusive FinTechs (131 providers)*



** Based on currently active FinTechs with available information*

Countries of Focus

Cash continues to be dominant in the Countries of Focus despite numerous efforts by regulators and other stakeholders to move to digital transactions. Infrastructure is generally strong, talent is lacking, and funding gaps for post-series A investments persists.

The Five Pillars:

Demand

Infrastructure

Regulation/Policy

Capital

Talent

Cash is dominant in the Countries of Focus, however governments are attempting to challenge that through the introduction of Electronic Bill Presentment and Payment (EBPP) systems such as Egypt's Fawry and by nurturing mobile wallets through proactive regulations to give citizens a worthy, cost- and time-efficient substitute to traditional banking.

In terms of infrastructure, the building blocks of infrastructure that allow for financial technology innovation is available. However interoperability between mobile payment switches and traditional banking switches is generally constrained which ultimately limits the pool of prospective users and adoption.

It has been observed that Arab regulators prefer a highly hands-on approach to regulation and policy. As such, and unlike advanced economies, lack of regulation is considered restrictive by stakeholders rather than inviting. Therefore, new regulations have been guiding the development of certain forms of FinTech solutions (such as mobile wallets) but not others such as crowdfunding. Interviewed stakeholders suggest that regulatory licensing is often lengthy with limited transparency, often acting as a bottleneck to FinTechs attempting proof-of-concept in their early launch.

The five countries are experiencing shortage of capital in early growth investments and larger ticket sizes (USD3+ million) potentially challenging FinTech growth and scalability. Feedback on potential reasons vary according to stakeholder groups, FinTechs and seed investors suggest that lack of patient and expert capital has been a major issue facing FinTech fundraising stages, whereas some later stage investors claim that the FinTech business models and teams are often unready for large investments.

Finally, in terms of talent, those six countries have a number of reputable universities with ICT specialization. The main problem however is the that graduates lack the combination of business knowledge and technical skills. Furthermore, it is often the case that skilled talent often prefer job security and higher pay over venturing in entrepreneurship.

Revenue Potential

Revenue potential of USD7.0 billion for financial inclusion of individuals and MSMEs in the six countries by 2024 that is yet to be tapped.

- Financial inclusion is a USD7bn revenue opportunity in the 6 Countries of Focus and FinTechs are in pole position to do so due to their lean operating models and innovative technologies.
- Analysis suggests that, through investments, the region is primed to financially include **~40 million people** and **reduce the MSME finance gap by 50%** (~100bn US$).
- These figures are notwithstanding the spillover effect of financial inclusion such as jobs created within both the FinTech and the MSME sectors.
- To realize potential, the following challenges should be addressed:
  - Funding gaps in growth capital, particularly post-Series A investments.
  - Investments in human capital to create capable labor force to developing and support emerging FinTech solutions.
- Given the ready infrastructure, proactively evolving regulation, and the sizeable revenue potential, foreign firms may enter the market and establish a stronghold thus crowding out local solutions and investors.

By servicing an additional **38.8 million** customers in the six countries, market participants would be tapping into **USD2.25 billion** of revenue potential by 2024.

MSME financing opportunity stands at **USD4.77 billion** in revenue through bridging >USD100bn in MSME financing gap in the six countries.

Revenue Potential

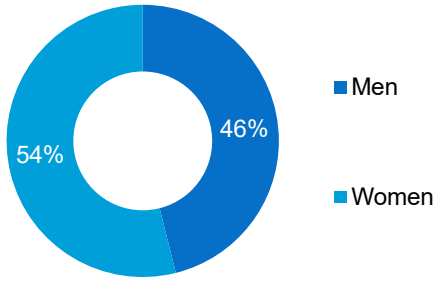
In the six countries of focus, there is potential to generate an additional annual revenue of US$7 billion by extending services to the un- and under-banked and MSMEs.

Revenue potential (2024)	Egypt	Lebanon	Jordan	Morocco	Tunisia	UAE
Individuals	US$0.33b	US$0.05b	US$0.07b	US$1.11b	US$0.58b	US$0.11b
MSMEs	US$2.16b	US$0.26b	US$0.24b	US$1.40b	US$0.18b	US$0.54b
Total revenue potential (2024)	US$2.49b	US$0.31b	US$0.31b	US$2.51b	US$0.76b	US$0.65b

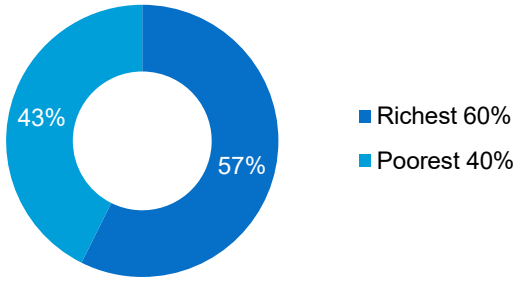
Key snapshot

Individuals

Revenue split by gender

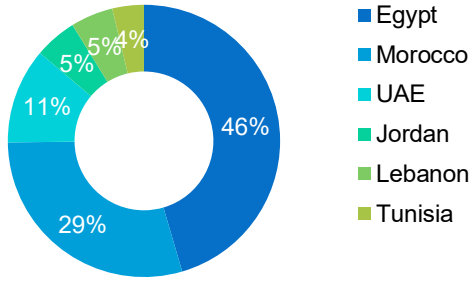


Revenue split by income



MSMEs

Revenue split by country



Sources: World Bank Consumption database 2010, Global Findex database 2017, IMF World Economic Outlook database 2019, United Nations Population database 2017, IFC MSME finance gap 2011 and 2019, EY analysis

Revenue Potential for individuals

UAE has the highest level of banking penetration compared to the other five Countries of Focus, underlining the gap in their performance in financial service delivery.

	Egypt	Lebanon	Jordan	Morocco	Tunisia	UAE
Current market size (2017)	US$0.15b	US$0.09b	US$0.08b	US$0.83b	US$0.46b	US$0.74b
Revenue potential before inflation adjustment (2024)	US$0.16b	US$0.04b	US$0.06b	US$0.98b	US$0.40b	US$0.09b
Revenue potential after inflation adjustment (2024)	US$0.33b	US$0.05b	US$0.07b	US$1.11b	US$0.58b	US$0.11b
2017 banking penetration	32.8%	44.8%	42.5%	28.6%	36.9%	88.2%
2024 target banking penetration	60.3%	67.3%	64.0%	56.4%	64.4%	90.4%
Countries currently with the above assumed target penetration levels[1]	Gabon, Uganda, Kazakhstan, Georgia, Ukraine	Libya, Costa Rica, Montenegro, Turkey, South Africa	Ukraine, Uruguay, Libya	Bolivia, Zimbabwe, Ghana, Dominican Republic, Romania	Ukraine, Uruguay, Libya	Cyprus, Mauritius, Portugal, USA

Countries of Focus
Egypt

Talent	Demand	Regulation/policy	Capital	Infrastructure
▪ Abundant number of graduates from universities in Egypt (tech majors in particular). ▪ Many universities as well as centers are focusing on offering entrepreneurship workshops, classes, and mentorship programs in Egypt. ▪ The main challenge pertaining to talent in Egypt is brain drain by countries like Dubai, China and the US; this can be solved by providing better working conditions to Egyptians to retain them within the country and allow them to foster their knowledge for startup ideas.	▪ Cash is dominant in Egypt, however there are around 10.5 million mobile accounts with an annual growth rate (YoY) of 30%. ▪ Lending activities are concentrated on the seed stage however some initiatives having been assisting the increased lending for SMEs. ▪ Financial institutions in Egypt lack the infrastructure needed to enable a fully digital value proposition. ▪ Fawry partnered with the Egyptian government in 2013 boosting the government involvement in FinTechs. ▪ Women in Egypt being targeted by FinTechs and financial institutions as they continue to be un-/underbanked.	▪ Signing of **Mandatory Cashless Transactions Law** mandating cashless transactions on several entities including microfinance companies, and Egyptian customs, among others. ▪ Establishment of National Council of Payments to reduce use of banknotes, simplification of customer due diligence, and removal of minimum balance requirements and fees. ▪ Comprehensive revision and amendment of Capital Market Law including Egypt's Bankruptcy Law. ▪ Introduced a one stop shop for foreign investors by Ministries of Immigration and Expatriate Affairs and Investment and Cooperation. ▪ In June 2019, the CBE announced the soft launch of Egypt's Regulatory Sandbox. Since its establishment, the sandbox has been focused on advancing eKYC.	▪ Quick emergence of VCs, PEs, and accelerators are focusing on funding pre-seed and series A stage investments. ▪ The angel investor community is growing in Egypt. ▪ The Egyptian government is active in its initiatives that either fund or encourage VCs to fund in Egyptian startups. ▪ A funding gap is present in the Series B onwards investment stages (US$5mn+).	▪ Egypt launched Cardless ATM to provide cash-in/cash-out for mobile wallets through ATMs serving nine million opened mobile wallets. ▪ Egypt has most payment infrastructure systems and switches besides Electronic Cheque Clearing (ECC) system. ▪ Integration between existing financial infrastructure systems lacking. ▪ Mobile penetration fell from 110% to 100%, subscriptions fell from 100.24 million to 93.13 million. ▪ Smartphone penetration at 57%; Internet penetration at 47.9%.

Countries of Focus
Tunisia (1/2)

Talent	Demand	Regulation/policy	Capital	Infrastructure
▪ ~10,000 ICT graduates join the labor force each year, however a gap between ICT skills among recent graduates and FinTech talent profile is present. ▪ Multiple **incubators, accelerators and entrepreneurial programs** are supporting startup talent throughout the different stages of their business.	▪ Cash-based financial culture with limited use of formal financial services. ▪ Demand for FinTechs in payments is evolving with increase use of mobile and internet connectivity. ▪ Significant gap between demand and supply in micro-insurance products, despite the existence of a regulatory framework that allows both insurers and MFIs (through partnerships with insurance companies) to sell micro insurance products. ▪ Significant SME financing gap persists representing high potential for FinTechs in the SME financing space. ▪ Crowdfunding could be a better alternative for financing SMEs as it is more adapted to SME needs compared to traditional financing but regulatory constraints remain for FinTechs to get involved in crowdfunding.	▪ Recent regulation evolution is allowing new non-banking institutions (Payment Institutions) to enter the payments market. ▪ Open-banking API is not yet considered by CBT nor by Tunisian banks. ▪ Tunisian FinTechs consider the local regulatory framework tailored in favor of traditional financial institutions (mainly banks). ▪ Restrictive regulations limit the potential for Tunisian FinTechs in the lending space for individuals and businesses. ▪ Slow evolution of the regulatory framework needed for FinTech development: The crowdfunding law, Credit Bureau Law and “code du numérique” have been drafted four years ago but are yet to be approved.	▪ The Tunisian financial system is evolving and there are multiple sources of capital for the different stages of development (early stage, seed, growth, mature). ▪ However, so far, the FinTech sector is still considered nascent, attracting few investors compared to the number of potential investors existing in Tunisia. ▪ Tunisian FinTechs are funded by a mix of local investors (77%) and international investors (23%).	▪ Despite rapid expansion of mobile infrastructure (high 3G/4G networks coverage), internet usage remains limited (50% internet penetration), a major consideration for FinTechs. ▪ **Automated Clearing House** (SIBTEL) and card switch (SMT) ensure interoperability on existing financial infrastructure systems, but the process is not in real-time or near real-time. ▪ There are plans for a future mobile switch project to ensure **interoperability for mobile payments.** Since it is led by banks and SMT, it may weaken the position of non-bank players in the market (FinTechs, MNOs and future payment institutions).

Countries of Focus
Tunisia (2/2)

Talent	Demand	Regulation/policy	Capital	Infrastructure
▪ Retaining talent: Tunisian FinTechs are struggling to recruit talent especially in the ICT sector. IT engineers are highly sought after in European countries which offer better opportunities in terms of renumeration and job security.	▪ FinTechs are still being considered by financial institutions as technology providers, and not as partners that could develop innovative products and services for customers. Nevertheless, there are a number of initiatives beginning to emerge from specific financial institutions, including MFIs, to foster technology innovation. ▪ The government adoption of FinTech solutions is limited, yet, demand is growing. Recently, the government adopted FinTech solutions for the payment of public services such as education, transfer of social aids, and access to social coverage for rural women. Despite these initiatives, opportunities for FinTech with public sector demand is still abundant (particularly in G2P, B2G and P2G payments).	▪ Regulator is aware of the importance of FinTech and innovation to enhance the financial ecosystem, and is launching some initiatives to better support them (FinTech Lab). ▪ The Startup Act law provides reforms and incentives to encourage entrepreneurship, innovation and technological ecosystems. Several Tunisian FinTechs have obtained the startup label. ▪ Recent reforms in investment law aims to promote investment and encourage the creation and development of local and foreign enterprises in ICT sector, which represents an opportunity for FinTechs (mainly enabling FinTechs).	▪ Lack of investment for FinTechs at growth stage as ticket size is considered large and business models not clearly sustainable. Investors perceive them as high risk. ▪ Some FinTechs turn to international investors to access large tickets and expand internationally.	▪ Data sharing infrastructure is restricted to credit registries managed by regulators. Therefore the introduction of a consumer financial data sourcing FinTech (i.e. credit bureau) requires multi-stakeholder engagement.

Countries of Focus
Morocco (1/2)

Talent	Demand	Regulation/policy	Capital	Infrastructure
▪ Abundant supply; universities had a total of 11,200 undergraduate students in 2017, 82% of which were enrolled in public universities. ▪ The number of STEM graduates is increasing; public universities STEM graduates increased form 6,661 in 2011 to 9,191 in 2017. However, there is a gap between the required market skills and the qualifications offered by universities. ▪ FinTechs believe that universities and training programs must be better aligned with the requirements of emerging trends and technologies. ▪ Many FinTech are facing problems in identifying technical and business-oriented talent due to the somewhat limited existing education system and the brain drain of highly skilled talent.	▪ 28.6%% is the total banking penetration in Morocco. According to a BAM 2017 report, there is a clear gender gap in financial inclusion where only 37% of females adults having access to a bank account as opposed to 77% amongst males. ▪ Cash-based economy where around 80% of transactions are made using cash. E-commerce is increasing as a results of new players in e-payment and e-merchants that target the E-commerce market. ▪ Despite the increasing demand microfinance consumption (925k active number of borrowers, half of which are women, growing by 3% from 2016 to 2017), Moroccan MFIs are yet to develop FinTechs solutions to remotely serve their customers.	▪ Numerous government initiatives encouraging uptake of digital financial services. ▪ The Moroccan regulatory context is shifting: key new regulations have been introduced including the Banking Law of 2014, the elimination of the CMI monopoly in 2016 and the new regulation for mobile wallet transaction pricing. ▪ Regulators introduced incentive schemes to foster mobile payment adoption including free services for the end customer and tax exemption for payment agents.	▪ Access to capital remains a major problem for startups in Morocco. ▪ Limited number of private equity companies investing in startups including FinTechs. ▪ Limited availability of seed and early stage investors.	▪ An ECC, ACH, RTGS, and a recent mobile payment switch make up Moroccan's national payment systems. ▪ High mobile coverage, 3G coverage (95%), and household access to the internet (68.5%) and also rate of smartphone penetration rate is high (67%). ▪ Biometric templates of Moroccan's ID cards (CNIE) still not fully tapped to reinforce the infrastructure required for digital identity, which could hinder FinTechs to offer more efficient services and extend their reach, using eKYC procedures. However, they can rely on digital signatures in some cases (e-contracts using electronic certificates).

Countries of Focus
Morocco (2/2)

Talent	Demand	Regulation/policy	Capital	Infrastructure
▪ An entrepreneurial culture is becoming more integrated within universities as a result of new entrepreneurship and innovation centers. ▪ Incubators and accelerators have been organizing hackathons and talent development programs that target university students from across Morocco.	▪ eWallet / M-wallet are still in early stages of adoption with the acceptance network and interoperability still in need for major improvements. ▪ Access to finance remains a complex issue for SMEs due to the lack of transparent accounting and business planning that makes them unable to obtain formal financial services. ▪ The underperformance of the current public credit registry (PCR) makes bank assessment of SME creditworthiness increasingly difficult. ▪ Financial institutions are producing online channels that provide customers the option to complete some banking transactions from their phones/computers. ▪ The Moroccan government is adopting FinTechs for P2G and B2G payments, Moroccan regulators are keen to adopt regulatory and supervisory technologies.	▪ Other regulations that support FinTech development are being drafted (such as crowdfunding and credit bureau). However, Open Banking regulation is not yet considered by BAM. ▪ The investment framework has also been reformed to attract foreign investment	▪ Ecosystem stakeholders are working on attracting additional early-stage funds form local and international investors. One example, Innov Invest Fund managed by CGC, is supporting and financing startups in seed and growth stages.	▪ Creditinfo and Quantik are the only licensed credits bureaus managing BAM's public credit registry. This arrangement is to evolve to a direct management mode and will allow credit bureau institutions to extend their scope to other non-financial data providers. ▪ Systemwide interoperability and integration of switches is in progress.

Countries of Focus
Lebanon

Talent	Demand	Regulation/policy	Capital	Infrastructure
▪ Lebanese talent pool faces steep brain drain challenges as a result of political and financial instabilities. ▪ International firms are preferred by highly skilled talent due to higher job security and compensation. ▪ A number of university and government initiatives are being undertaken to improve overall quality of ICT talent.	▪ High smartphone penetration, and improved mobile internet coverage. ▪ Comparably high financial literacy; Union of Arab banks study indicates 44% financial knowledge for Lebanon. ▪ High digital literacy – fluency in use of advanced technological devices such as smartphones. ▪ Emerging interest in digital solutions including payment, insurance and lending.	▪ Stakeholders perceive regulatory framework as skewed in favor of traditional banking sector. ▪ Licensing is complex and time-consuming. ▪ No regulatory sandboxes offered to startups limiting degree of innovation and increasing cost of failure. ▪ Formation of Digital Committee in 2019 to map the structure and develop the governance of ICT, an affirmation of the strategic role of ICT in transforming the Lebanese economy.	▪ Limited and uneven funding opportunities. ▪ Seed capital available, post-seed investments are lacking. ▪ Risk-averse approach to investment by VCs; pooling of investments into few opportunities.	▪ Strong financial infrastructure supported by well-developed banking sector. ▪ Startups view the ICT infrastructure favorably. ▪ Digital strategies including e-KYC and Digital ID yet to be announced. ▪ Very limited data infrastructure and sharing.

Countries of Focus
Jordan

Talent	Demand	Regulation/policy	Capital	Infrastructure
▪ In 2016, 30% of enrolled students graduated with a STEM undergraduate degrees, however a disconnect between classroom material and workplace expectation is prevalent. ▪ According to interviewees, PSUT, GJU and Hashemite University talent are highly skilled and workplace ready. ▪ Entrepreneurial culture getting integrated in universities through entrepreneurship and innovation centers. ▪ Incubators and accelerators (such as Ahli FinTech) have organized hackathons & talent development programs that target university students from across the Kingdom.	▪ Lending activities are concentrated in urban and suburban areas. ▪ Low financial literacy; GIZ/CBJ study notes that, on average, respondents score 2.55/6 in financial knowledge. ▪ eWallet adoption lower than anticipated, due to financial illiteracy and underdeveloped acceptance network (i.e. limited digital money usability). ▪ 35% of people who do not have a bank account deem it as expensive, while 75% of people with no bank account report insufficient funds. Others report religious reasons.	▪ Regulation, particularly in terms of taxes, are complex and constantly changing, deterring investors. ▪ In FinTech, regulators are mainly focusing on payments and mobile money. ▪ Investment laws are a challenge for VCs and PEs particularly in relation to the capital gains tax. ▪ Lengthy process for regulatory approvals – a bottleneck for operations. ▪ The FinTech strategy that is currently under development is expected to include open banking and other incentives for digital financial service adoption. ▪ A Regulatory Sandbox recently launched by the CBJ (first cohort inducted in January 2019).	▪ Limited funding sources, particularly in post-see investment stages. ▪ Early growth investment and large ticket sizes (USD3+ million) are lacking, thus; limiting growth. ▪ Low risk appetite by banks and investors. A number of investors provide funds only on a matching basis. ▪ Ecosystem stakeholders are working on attracting additional early-stage funds.	▪ As of 2018, 88.8% of Jordanian families have internet at home. Mobile phone penetration at 98.4% of Jordanian households where around 90% of households have at least one smartphone available. ▪ Strong ICT and financial infrastructure. ▪ There is room for further integration between existing financial infrastructure systems, namely in interoperability between mobile wallets and bank accounts. ▪ FinTech Strategy and framework currently being drafted within the CBJ (with MOF, TRC, MODEE participation), and is expected to be published in 2020. ▪ The unavailability of digital identity or tiered eKYC hinders remote onboarding. This is expected to be addressed in the upcoming FinTech Strategy. ▪ Jordan's mobile payments switch JoMoPay and ATM switch JO-Net are connected however transactions only flow from banks into mobile wallets, limiting usability of digital money and deterring adoption.

Countries of Focus
UAE

Talent	Demand	Regulation/policy	Capital	Infrastructure
▪ 52 universities present in the UAE (3 public, 49 private); local university programs are not meeting market requirements. ▪ Multiple incubators, accelerators and entrepreneurial programs present. ▪ International firms are the preferred option of employment among capable talent due to higher job security and compensation. ▪ Booming entrepreneurial spirit across universities. ▪ Shortage in willing and capable talent.	▪ Demand for financial services from all groups (customers, corporates, and the government) is present and has been increasing. ▪ High demand for lending from SME firms. ▪ Banks tend to see financial inclusion solutions as a CSR initiative and not commercially viable. ▪ FinTech startups are perceived as a threat to bank activities. ▪ Enhancing the degree of financial literacy is necessary to increase the demand for FinTechs and financial inclusion.	▪ Lack of appropriate regulations is hindering growth of FinTech startups. ▪ Regulatory sandbox allows FinTech innovation testing in enclosed environment to test compliance and reduce cost of failure. ▪ Taking deposits in AED is not possible under current regulations, imposing a substantial burden on FinTech startups. ▪ Many initiatives being undertaken by the regulators such as crypto framework, E-KYC, crowdfunding laws, cross border testing to enable and foster FinTech innovation.	▪ Early growth investment and large ticket sizes (USD3+ million) are lacking and thus could be challenging to scalability. ▪ Investors in the region are risk averse and tend to invest in traditional industries, the sentiment around tech is gradually changing after success stories like Careem and Souq.com. ▪ Startups focused on financial inclusion find a harder time raising funds locally and regionally, because investors look out for commercial viability. ▪ DIFC FinTech fund USD10 million is potentially a major step in bridging the funding gaps.	▪ Strong financial and ICT infrastructure. ▪ Emirates Digital wallet initiative is expected to increase integration between existing financial infrastructure systems. ▪ National Digital identity “UAEPASS” initiative launched will centralize and accelerate e-KYC procedures. ▪ Dubai Paperless 2021 strategy will accelerate digital transformation in the country. ▪ 5G is expected to be commercially rolled out by 2020.

5 International Benchmarking

Regulators are typically tasked with the challenge of keeping pace with the rapidly evolving FinTech industry, and they need to ensure that competition and innovation are not stifled while maintaining the safety and soundness of the financial system.

FinTechs have been gaining significant attention from regulators, incumbents, investors, and innovators in light of the multiple success stories in large scale customer adoption and investment attraction. The sector is growing globally in terms of investment, employment and the number of FinTech solutions.

Many of the leading and developing financial hubs of the world have been quick to begin forming a response to the 'FinTech revolution', realizing that in order to maintain their positions in global financial standing, they must keep pace, particularly as the sector approaches critical mass and begins to deliver a meaningful payback in financial inclusion, economic growth, innovation, and job creation.

Strong competition from different areas in the world is emerging, and what is evident is that there is no 'one-size-fits-all' in terms of best practices adopted from different regions. Some are actively competing to create best-in-class FinTech ecosystems and are increasingly progressive in their use of government and regulatory policy to support FinTechs, examples include Singapore, Estonia, and Hong Kong. Other countries, such as Kenya, are taking an unorthodox approach by allowing FinTech innovation to proceed with minimal pre-existing regulations, whilst adapting as solutions grow.

In spite of the different approaches being taken by different FinTech ecosystems and hubs, and the level of involvement of regulators from a simple supervisory role or as ecosystem orchestrators, one observation is evident: for FinTech to successfully evolve and fulfill its potential, ecosystems must allow and support healthy competition. Regulators are typically tasked with the challenge of evolving with the industry, and they need to ensure that competition and innovation are not stifled while maintaining the safety and soundness of the financial system.

Regionally, and as highlighted throughout this report, a number of Arab World nations have adopted/are adopting world-class initiatives to help boost FinTech innovation. These include regulatory sandboxes, agency regulations, open API banking regulations, and dedicated FinTech units within relevant regulatory bodies.

To further improve the regional FinTech ecosystem, nations may consider building strong bilateral agreements and cross-border collaboration initiatives with leading global hubs to benefit from knowledge, experience, and skills sharing. Equally as important, combined Arab World nations, perhaps create a more attractive and opportune market and ecosystem. Region-wide collaboration initiatives can be beneficial for all stakeholders across the region, with the whole being greater than the sum of its parts.

As discussed earlier in this report, a FinTech ecosystem is made up of consumers, incumbent financial institutions, FinTech solution providers, investors and support institutions, regulators, and education institutions. The healthy development of such an ecosystem will result in mutually beneficial cooperation among stakeholders, and eventually, help financial services be delivered at lower cost, higher speed and at better quality to more consumers. The development is particularly distinct in emerging markets, like the Arab World, where financial services present unique opportunities and challenges.

This section focused on highlighting some global practices across four of the FinTech ecosystem framework pillars: Infrastructure, Regulation, Capital, and Talent.

International benchmarking – Key learnings on Infrastructure and Regulation

	Key learnings	Global example	
Infrastructure	▪ In ASEAN, agile financial infrastructure including interoperability between switches and schemes has proven conducive to financial innovation, and has minimized cost on operators and end-users ▪ Collaboration between the public and private sectors in the development of ICT and financial infrastructure is key to creating a better ecosystem for FinTech solutions.	▪ In ASEAN, governments proactively working to promote region-wide ecosystem. Central banks recently signed letters of intent to discuss establishing a currency settlment framework, in order to enhance trade and direct investment flows. ▪ In an effort to push innovation across the ASEAN block, the International Finance Corporation together with MAS (public sector) and the ASEAN Bankers Association (private sector) have established the ASEAN Financial Innovation Network (AFIN) to enable real-time collaboration and cross-border policy harmonisation for better interoperability. ▪ The AFIN operates the APIX Platform - The API Exchange (APIX) platform is the world's first cross-border, open-architecture API marketplace and sandbox platform for collaboration between fintechs and financial institutions (Fis).	 **ASEAN**
Regulation	▪ Progressive regulators with purposeful risk-bearing decisions (such as establishment of Digital ID, adopting e-KYC, among others) have had a major impact in garnering momentum for FinTech ecosystem. development. ▪ Public-private partnerships and multi-stakeholder engagement in the areas of policy and infrastructure development have played a key role in the development of the FinTech ecosystem.	▪ In Singapore, a proactive regulatory regime engaged in multiple infrastructure efforts such as local and regional regulatory sandbox, a national KYC utility pilot and blockchain for interbank payments.	 **Singapore**

International benchmarking – Key learnings on Capital and Talent

	Key learnings	Global example
Capital	▪ Co-investment and investments in fund of funds by the public sector to catalyse private investment and increase public sector stake in emerging technologies ▪ FDIs to improve the caliber of FinTechs, provide access to foreign networks, and enhance image of national FinTech ecosystems	▪ In the UK, public funding is provided by the government-established British Business Bank, in the form of equity (British Patient Capital Fund) and loans (Startup Loans)
Talent	▪ Discussion and collaboration between academic institutions and the private sector has proven essential to developing market-prepared talent. Dedicated entrepreneurship, programming, and essentials of business programs must be set in line with market evolution and continuously updated.	▪ In India, universities offer FinTech-focused courses and build centers of excellence in emerging technologies. Moreover, collaboration is evident across academic institutions and incubators for resource/knowledge exchange.

United Kingdom

India

Leading practices from around the world

1. Infrastructure

Philippines

- In December 2015, the Central Bank of Philippines launched the National Retail Payment System (NRPS) which enables users of bank or electronic money account to do electronic fund transfers between accounts that are involved in any participating financial institution

Estonia

- In 2015, the Estonia government established 'Start-up Estonia' to strengthen the Estonia start-up ecosystem, by providing training programs for start-ups, educating local investors whilst attracting foreign investors, and also eliminating regulative issues and barriers.

India

- In August 2016, the Indian government launched Bharat BillPay an interoperable payment platform, which allows users to make payments across several channels and payment modes.
- In 2017, the government and private funds started nurturing start-ups in the FinTech industry.
- The government through its Digital India initiative, has taken a number of steps to drive digital penetration in the country. Aadhar the largest biometric program in the world had generated over 1.2 billion digital identities in India, and as of 2018, 23 billion authentications and 6.2 billion e-KYC have been done using Aadhar.

Leading practices from around the world

2. Regulation

Estonia

- In 2014, the Estonian government launched the E-Estonia State Portal. Through that entrepreneurs can set up and run a location independent business (in 15 minutes) as part of a country without borders initiative.
- The e-government initiative also provides start-ups access to payment service providers and to manage their company remotely.
- Estonia also introduced 0% corporate tax on companies that do not pay dividends.
- Also introduced start-up VISA program.

Kenya

- In 2007, the Central Bank of Kenya opted to allow Vodafone and Safaricom to launch M-Pesa, a mobile wallet with mobile banking features, without regulations put in place.
- Today, M-Pesa is a case study of digital banking and has played a major role in reducing financial exclusion in in Kenya.
- According to World Bank's Findex, 73% of adults (age 15+) in Kenya had mobile money accounts in 2017.

Hong Kong

- In March 2016, Hong Kong's Monetary Authority established the FinTech Facilitation Office (FFO) to support the development of the FinTech ecosystem.
- HKMA released an Open API Framework for the banking sector to facilitate the adoption of open-banking.
- HKMA also granted 8 virtual banking licenses.
- In July 2018, HKMA announced its Enhanced FinTech Supervisory Sandbox in July 2018.

Leading practices from around the world

3. Capital

UK

- The Seed Enterprise Investment Scheme (SEIS) provides tax relief to investor, allowing up to 50% of the investment mount to be claimed back in income tax relief and offering significant capital gains tax reductions, among other benefits.
- To encourage private investment, Angel CoFund offers a matching scheme, investing $130k-1.3mn alongside business angel investors.
- The government-backed British Business Bank, which provides equity investment and business loans, has injected $520mn in VCs.

USA

- A leading global capital and funding environment with an established network of angel investors and experience of investing in emerging sectors.
- FinTechs benefit from an experiences private investor sector, with an established investor culture of providing both seed and growth capital, and engaged angel networks.

Singapore

- An active and FinTech-focused regulator (MAS) supporting startups with a $130mn dedicated fund and initiatives, including incubators and funding schemes, such as Startup SG
- Enterprise Singapore, a government agency championing enterprise development, will match $3 for every 1$ of seed investment raised by entrepreneurs as part of the Startup SG Founder scheme.
- In June 2015, MAS committed around $165mn over a five year period for the Financial Sector and Innovation scheme. In December 2017, it announced the launch of a $20mn Artificial Intelligence and Data Analytics Grant under this scheme.

Leading practices from around the world

4. Talent

Czech Republic

- Government agency Czech ICT Alliance set up the Prague Start-up Centre in 2015 for start-up assistance.
- Through the Prague Start-up Centre, start-ups receive trainings, workshops, networking events, incubation for university students and early-stage students, and office space in downtown Prague.

Hong Kong

- In 2018, Hong Kong's Monetary Agency (HKMA) launched FinTech Career Accelerator Scheme 2.0 in collaboration with HK Applied Science and Technology Research Institute (ASTRI), Cyberport Management Company and HKSTP, offering four FinTech talent building programs, including placement and graduate programs.
- HKMA also collaborates with Science Park and Cyberport alongside ASTRI in a number of research and education initiatives to develop local human capital.

Lithuania

- Lithuania launched efforts of special support and advice systems for FinTechs in their first year of operation. Regulators also gave non-banking institutions access to CENTROlink, the Central Bank's payment system, thus allowing payment execution if EU's Single Euro Payment Area.

Singapore

- To support Singapore's ambition to becoming a Smart Financial Centre and The National Trades Union Congress's Associate in collaboration with Singapore Polytechnic launched the FinTech Talent Programme to create a solid FinTech talent pool.

6 Appendices

Appendix A
Abbreviations

Abbreviation	Meaning
%	Percentage
('000)	Thousands
~	Approximately
ATM	Automated Teller Machine
B2B	Business to Business
B2B2C	Business to Business to Consumer
B2C	Business to Consumer
bn	Billion
CBE	Central Bank of Egypt
CGAP	Consultative Group to Assist the Poor
CoD	Cash on Delivery
DLT	Distributed ledger technology
eKYC	Electronic Know your Client
EY	Ernst & Young
FDI	Foreign Direct Investment
FI	Financial Institution
FIGI	Financial Inclusion Global Initiative
FinTech	Financial Technology
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
ICT	Information and Communication Technologies
ID	Identification
IFC	International Finance Corporation
IoT	Internet of Things
KSA	Kingdom of Saudi Arabia
KYC	Know Your Client

Abbreviation	Meaning
MENA	Middle East North Africa
mn	Million
MNO	Mobile Network Operator
MSMEs	Micro Small and Medium Enterprises
N/A	Not available - Not applicable
NGO	Non Governmental Organization
NIM	Net Interest Margin
Non-GCC	Not part of the Gulf Cooperation Council
ROSCAs	Rotating Savings and Credit Association
SMEs	Small and Medium Enterprises
Tech	Technology
UAE	United Arab Emirates
UK	United Kingdom
USD	United States Dollars
WEO	World Economic Outlook

Appendix B

Countries of Focus - Interviews conducted

Jordan

Company Name
Citron
Hyperpay
MFW
Madfooatcom
POSRocket
Arab Bank
Dinarak
CBJ
AB Ventures
Oasis 500
Ahli FinTech
Solfeh
JoPACC/Intaj
CBJ Sandbox
Beyond Capital
Crif
Gate to pay
Dareebatech
Progress Soft
HTU

Tunisia

Company Name
Cha6a6a
CallPay/ PayCall
IT Grapes
GPGateway
Alliance Technologies
Chifco/Cellcom
CybEx
Digitus
ViaMobile
Kaoun
PayMee
PayPoS
Sobflouss
RunPay
MS Solutions
MicroCred Baobab
ENDA
La Poste
Ooredoo
WeBank (Attijari Bank)
Ministry of communication tech.
Intilaq
Yunus / Ibda
ESPRIT

Morocco

Company Name
S2M Group
LBaraka
Wafa Cash
NAPS /M2M
CIWA
Cotizi
HmizatePay
Université Internationale de Casablanca
La Factory
Bank Al Maghrib
Happy Smala
Al Amana Micro-finance
Al Barid Bank
FinTech&Co
ALM Solution
Maroc Numeric Cluster
Impact Lab

Appendix B

Countries of Focus - Interviews conducted

Lebanon

Company Name
Byblos Bank
CMS
MEVP
Lebanese League for Women in Business
MIC Ventures
Flat6Labs
Areeba
Rumman
One Global
Anachron Technologies
Touch
BLC Bank
Ubanquity
NymCard
Juno

Egypt

Company Name
Aman (Raya)
EFG EV
EG Bank
Egyptian FinTech Association
Flat6labs
iScore
Masary
PAYNAS
Vodafone Cash

UAE

Company Name
Dtec
Mastercard
Sarwa
BEAM
Beehive
IFC
Wamda Capital
Democrance
FinTech Hive
Womena
StartupBootcamp
Fincluziv
Dubai Now
VISA
NOW Money
GoRise
ADGM
Sheraa

Appendix B

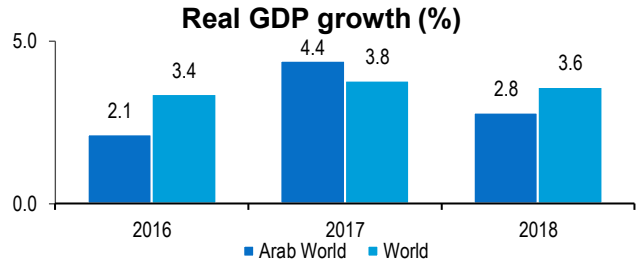
Countries of Focus - Conferences attended

Conference/Event	Location
Arab Financial Inclusion Day 2019 Forum	Lebanon
Digital Mashreq Forum	Jordan – attended the online streaming
Workshop for mobile & electronic payments in Egypt's Microfinance Industry	Egypt
Endeavor Jordan Deal Makers	Jordan
Panel: Financial Technology: Disruption, Investments, Platforms and beyond!	Panel participation
Seamless Middle East 2019	Dubai
AI Everything summit for Govt & Businesses 2019	Dubai
FinTalks: Blockchain- Beyond ICOs and Cryptos	Dubai
MENA FinTech association Launch	Abu Dhabi
Arab Monetary Fund: FinTech and Financial Inclusion workshops (+AMF Regional FinTech working group meetings)	Abu Dhabi
GSMA CxO roundtable	Tunisia
E-commerce seminar	Tunisia
FinTech et besoins des nouveaux consommateurs	Tunisia
Digital Payments and the New Economy	Tunisia
Regional Forum on Emerging Technologies	Tunisia
Changeons le change	Tunisia
Blue Ocean Council Summit (Experience & Best Practices)	Jordan
Arabnet conference - Arabnet Beirut X	Lebanon
Arab Monetary Fund (AMF) Regional FinTech Working Group meetings	Lebanon
Lebanese Microfinance Association (LMFA) Microinsurance Study Workshop	Lebanon

Appendix C
Arab World overview

Broad macroeconomic overview

- According to data from the IMF, Arab World real GDP grew at an average of around 3.0% over the past three years, slightly below the global average of 3.6% in 2018.
- The regional growth was led by the six GCC countries. As per IMF forecasts, regional economic growth is expected to continue to lag behind global average in the short future.
- Consequently, there is an opportunity for the Arab World countries to match or exceed the global GDP average especially in the emerging context of knowledge economies which could work in favor of resource-poor.



Broad macroeconomic indicators, 2018

	Country	Population ('000)	Gender Split % of females	Urban Population %	GDP per Capita	Financial literacy	Unemployment rate	FDI inward , share of GDP	Inflation
GCC - Countries									
1	Bahrain	1,391.9	36.62%	89%	28,362.5	40%	7%	3%	1%
2	Kuwait	4,096.6	42.58%	100%	34,589.4	44%	2%	0%	2%
3	Oman	4,769.7	51.56%	84%	15,883.2	NA	3%	4%	2%
4	Saudi Arabia	33,448.6	42.74%	84%	23,393.6	31%	6%	0%	-1%
5	Qatar	2,754.9	25.09%	100%	69,697.0	NA	1%	1%	0%
6	UAE	9,549.6	27.94%	86%	44,423.9	38%	2%	3%	2%
GCC countries		**56,011.3**	**37.75%**	**90%**		**38%**	**3%**	**2%**	**1%**
Non - GCC Countries									
7	Algeria	41,948.6	49.50%	73%	4,137.8	33%	12%	1%	6%
8	Comoros	832.7	49.56%	29%	1,414.9	NA	NA	NA	1%
9	Djibouti	970.9	49.82%	NA	2,237.4	NA	NA	NA	1%
10	Egypt	99,276.2	49.44%	43%	2,786.5	27%	12%	3%	30%
11	Iraq	39,339.8	49.37%	70%	4,720.5	27%	20%	NA	0%
12	Jordan	9,788.9	49.36%	90%	4,314.2	24%	17%	5%	3%
13	Lebanon	5,952.5	49.83%	89%	9,435.7	44%	6%	5%	4%
14	Libya	6,491.3	49.60%	80%	9,527.9	NA	19%	1%	28%
15	Mauritania	4,543.2	49.58%	NA	1,176.0	33%	31%	NA	2%
16	Morocco	36,163.8	50.46%	62%	3,260.7	NA	NA	2%	1%
17	West Bank & Gaza	5,058.7	49.29%	NA	2,889.2	25%	27%	NA	21%
18	Somalia	15,226.4	50.19%	Na	102.5	15%	NA	NA	5%
19	Sudan	41,583.8	50.02%	36%	1,200.5	21%	10%	1%	32%
20	Syria	18,848.7	49.53%	59%	908.3	NA	11%	1%	48%
21	Tunisia	11,651.3	50.59%	69%	3,448.3	45%	16%	2%	5%
22	Yemen	28,913.7	49.49%	36%	956.5	13%	38%	NA	27%
		366,590.5	**49.73%**	**61%**		**28%**	**18%**	**2%**	**13%**
Total Arab World		**422,601.9**	**46%**	**71%**	**268,866.4**	**31%**	**13%**	**2%**	**10%**

Sources: IMF, Oxford Economics, BMI

Appendix C

Getting to Know the Arab World

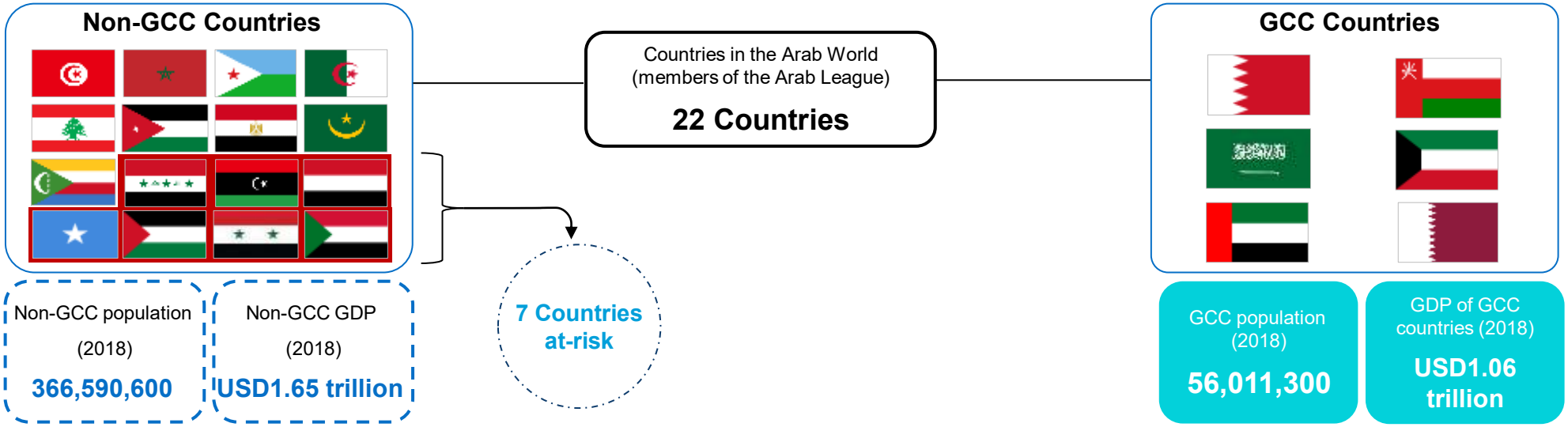
Hosting more than 420 million individuals and contributing USD2.71 trillion to the world's GDP in 2018, the Arab World is an economic engine for global growth. For the past decades, most oil-producing economies within the Arab World were largely dependent on energy markets to grow their economies, while many of the non-oil producing economies depended on foreign aid. Given recent developments, many Arab countries now march towards diversifying their economies or reinventing it altogether.

Countries in the Arab World are typically clustered by member countries of the Gulf Cooperation Council (GCC) and other (Non-GCC) countries, and given that GCC countries are resource rich, particularly, in oil and gas, differences in economic indicators, such as GDP per capita, are starkly different.

Alternatively and more in line with the purposes of this report, which is built on 5 pillars (Demand, Infrastructure, Regulatory environment, Capital, and Talent), the Arab World can be clustered as:

- Dominant performers – made up by GCC countries including UAE.
- Good performers – includes non-GCC countries such as Jordan, Lebanon, Morocco, Tunisia, and Egypt.
- Countries with limited or no data points that deem this analysis difficult. This group includes countries in or at-risk of conflict such as Syria, Palestine, and Yemen, but also includes Comoros, Djibouti, and Mauritania.

Throughout this report, analysis and conclusions are mainly reflective of countries with available data, however, upon availability, the analysis can then be extended depending on the country's performance across the pillars.

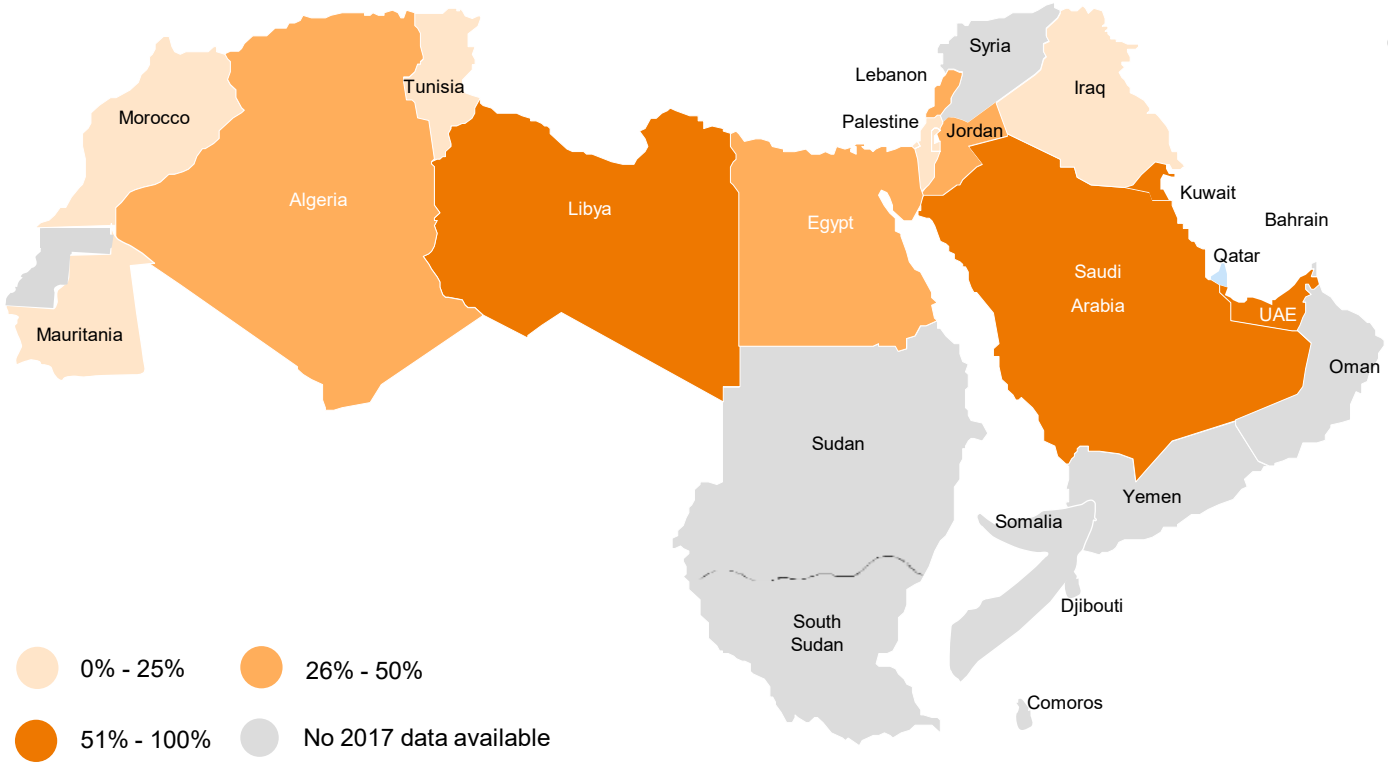


Sources: IMF, Oxford Economics, BMI, World Bank Data Bank, IRC ACAPS Emergency List

Appendix C

Getting to Know the Arab World

Percentage of population, has an account (ages: 15+), 2017



Global average-females

2017

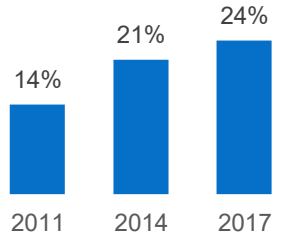
Global average

2017

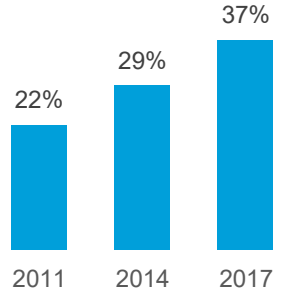
Arab World total 15+ population (2018):

286mn (47% females)

Arab World population account ownership (ages: 15+) [Females]



Arab World population account ownership (ages: 15+)



Sources: Global Findex 2017, IFC MSME Finance Gap 2019

Appendix C

Financially excluded groups and relevant statistics

Low income

- **27%** of poorest 40% have an FI account (2017) compared to 22% in 2014.
- Insufficient funds and expensive financial services are two of the most quoted reasons for not having a financial institution account.

Women

- **24%** of females had a FI account in 2017 compared to **21%** in 2014.
- Only **3%** of females in the Arab World used the internet to pay bills during 2017.

SMEs

- **SMEs** make up **90%** of registered companies in MENA (**~15% to 30%** of MENA's GDP).
- **>40%** of MSMEs in developing countries face financing gaps.
- Women MSMEs make up **23%** of all MSMEs and account for **32%** of MSME financing gaps.

Youth

- **20%** of young adults (aged 15-24) have a FI account (2017) compared to 54% in the world.
- **5%** of young adults in Arab countries used the internet to pay bills during 2017 compared to 18% in the world.

Refugees

- **3mn** refugees in Arab World (mainly in Jordan, Egypt, Lebanon and Yemen.)

Sources: Global Findex database and UNHCR reports

Appendix C

Agents, branches, and other access points in the Arab World

Banking indicators – Arab World

Total Arab World population (2018)	Total number of banks	Branches of banks	Number of ATMs
422,602,000	**~500**	**>17K**	**>62K**

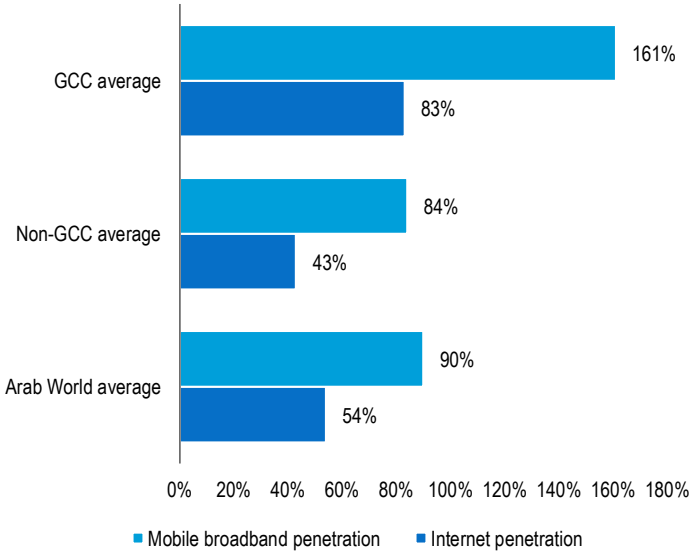
Country	Number of Commercial Banks	Branches of commercial banks	Number of ATMs	FI account ownership
Bahrain	NA	NA	NA	65%
Kuwait	23	455	2,378	87%
Oman	18	530	1,319	74%
Saudi Arabia	24	2,083	18,685	46%
Qatar	17	156	1,336	66%
United Arab Emirates	60	823	5,303	60%
GCC Total	**142**	**4,047**	**29,021**	
Algeria	20	1,521	2,715	33%
Comoros	4	12	25	22%
Djibouti	12	36	80	12%
Egypt	38	3,212	12,200	10%
Iraq	71	967	906	11%
Jordan	25	927	1,927	25%
Lebanon	49	1,080	1,998	37%
Libya	18	526	172	NA
Mauritania	18	270	276	17%
Morocco	24	6,503	7,289	NA
Palestine	14	351	960	NA
Somalia	NA	NA	1,596	7%
Sudan	37	800	NA	23%
Syria	NA	NA	NA	NA
Tunisia	23	1,913	2,694	19%
Yemen	NA	NA	1,004	4%
Non GCC	**353**	**12,993**	**33,842**	

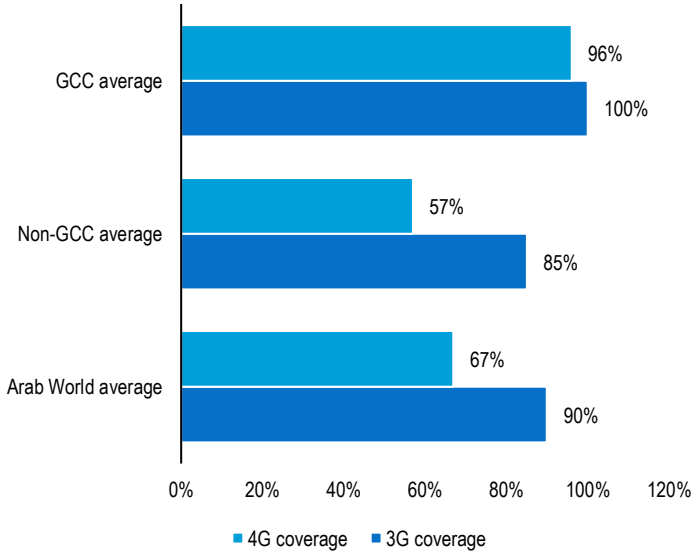
Source: IMF FAS Data (latest available), Global Findex 2017

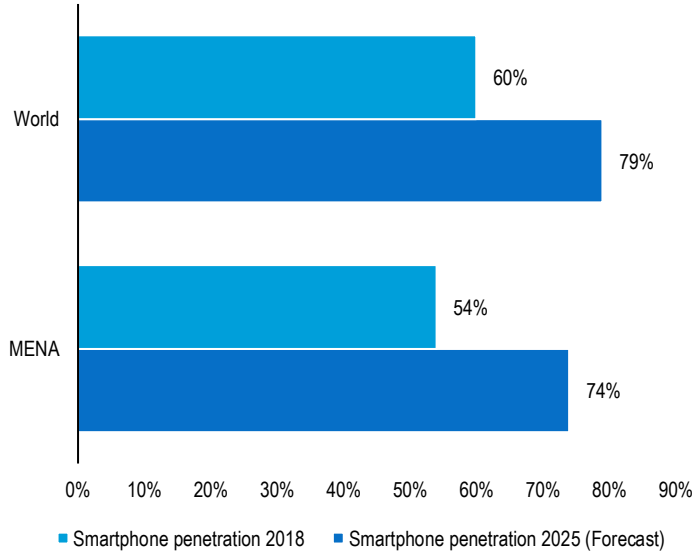
Appendix C

ICT infrastructure key indicators

Key ICT indicators, 2018







Sources: GSMA

With the importance of the internet and digital networks increasing throughout the world, Arab countries have allocated considerable investments to improve their ICT infrastructure and increase internet dispersion throughout their geography. As a result, mobile internet coverage (3G/4G) has performed well over the past 5 years, with 90% of the Arab having 3G coverage.

Judging by the development in economies and their migration to a digital forum, internet coverage, is a paramount enabler and facilitator to entering the digital market. Through it, solutions such as e-commerce, money transfers, and access to other services such as insurance becomes a few taps away from any user, and thus would spur demand and help create new economic opportunities. In response to that, Arab lawmakers worked on developing laws relating to ICTs, with 7 of the 13 countries included in WEF's Global Information Technology Report, scoring more than 3.50 out of 7.00 in the Impact of ICTs on laws relating to ICTs, indicating the lawmaker proactiveness in this regard.

Finally, according to GSMA, smartphone penetration in the MENA region is somewhat on par with the global average, and expected to quickly grow from 54% in 2018 to 74% in 2025. With the majority of emerging FinTech solutions offering a smartphone application interface and requiring a smartphone as an access point, the Arab World seemingly is prone for adoption. Moreover, smartphone allow FinTech solution providers to offer more advanced and cost-efficient technologies (such as QR codes and NFC payments), compared with the limitations posed on feature phones (such as USSD and SMS, which are more costly).

Appendix C
Arab World

Country Group	Country	Account ownership (% age 15+)	Account ownership, female (% age 15+)
GCC	Bahrain	83%	75%
GCC	Kuwait	80%	73%
GCC	Oman	74%	64%
GCC	Qatar	66%	64%
GCC	Saudi Arabia	72%	58%
GCC	United Arab Emirates	88%	76%
Non-GCC	Algeria	43%	29%
Non-GCC	Comoros	22%	18%
Non-GCC	Djibouti	12%	9%
Non-GCC	Egypt, Arab Rep.	33%	27%
Non-GCC	Iraq	23%	20%
Non-GCC	Jordan	42%	27%
Non-GCC	Lebanon	45%	33%
Non-GCC	Libya	66%	60%
Non-GCC	Mauritania	21%	15%
Non-GCC	Morocco	29%	17%
Non-GCC	Somalia	39%	34%
Non-GCC	Sudan	15%	10%
Non-GCC	Syrian Arab Republic	23%	20%
Non-GCC	Tunisia	37%	28%
Non-GCC	West Bank and Gaza	25%	16%
Non-GCC	Yemen, Rep.	6%	2%
	World	**69%**	**65%**

Source: Global Findex 2017

Appendix E

Revenue potential methodology

Personal Banking

1. FS household consumption (2010) was captured from the World Bank database for all countries. For countries where the data is not available, relevant numbers were sourced from comparable countries, post adjusting for the population and banking penetration levels.
2. Consumption numbers are extrapolated to 2017 using the appropriate inflation adjustors and based on population aged 15+.
3. The 15+ population breakup by gender and income levels (richest 60% and poorest 40%) are retrieved from United Nations' Population division and World Bank respectively, while the current banking penetration numbers are retrieved from the Global Findex database. Aggregate per capita consumption as well as the gender-wise breakup are then computed.
4. The target banking penetration levels for the men and richest 60% categories were set based on various considerations and slabs. However, the target levels for women and the poorest 40% categories included an additional 5% increase given the current low levels of penetration and high potential going forward.
5. The incremental banked population numbers are calculated based on the target banking penetration levels for each country.
6. Finally, incremental revenues are calculated after incorporating both the volume increase in banked customers as well as the impact of pricing based on the annual inflation levels.

MSME Banking

1. The total MSME credit value gap (finance gap) and its breakup by gender (2015) are directly sourced from International Finance Corporation's (IFC) MSME Finance Gap Database.
2. Nominal GDP numbers are retrieved out from IMF's World Economic Outlook database (WEO) to calculate credit value gap as a %age of GDP.
3. The target credit value gap as a %age of GDP in 2024 is set based on the current finance gap and various slabs in consideration.
4. Projected GDP for 2024 is retrieved from the WEO database and is used to calculate the target credit value gap by 2024, on an aggregate level.
5. The difference in credit value gaps of 2015 and 2024 is to be bridged by the finances provided by the country's banking sector.
6. Given the low female participation in the MSME sector currently, a certain increase is afforded in the bridged credit for the female population based on a set of assumptions.
7. The Net Interest Margins (NIM) and fee spreads (fee income as a %age of gross loans) for each country are sourced from the aggregate country level profiles from SNL, an S&P product.
8. The bridged credit gaps from steps 5 and 6 were then multiplied with the total interest margins and fee spreads to arrive at the additional revenue potential for the country's financial services sector.

Appendix E

Revenue potential methodology

Individuals

Includes service fees and administrative charges for insurance and other financial services

- Insurance: Service charges for life assurance, death benefit assurance, education assurance, etc.; service charges paid by owner-occupiers and by tenants for the kinds of insurance typically taken out by tenants against fire, theft, water damage, etc.; service charges for private sickness and accident insurance; service charges for insurance in respect of personal transport equipment; service charges for travel insurance and luggage insurance; service charges for other insurance such as civil liability for injury or damage to third parties or their property not arising from the operation of personal transport equipment; excludes service charges paid by owner-occupiers for the kinds of insurance typically taken out by landlords (intermediate consumption).
- Other financial services: Actual charges for the financial services of banks, post offices, saving banks, money changers and similar financial institutions; fees and service charges for brokers, investment counsellors, tax consultants and the like; administrative charges of private pension funds and the like.

Excludes insurance premiums paid, interest/murabaha spreads, and revenues from **payments**

MSMEs

Only includes revenues from bridging the financing gap. These include interest spreads and administrative fees.

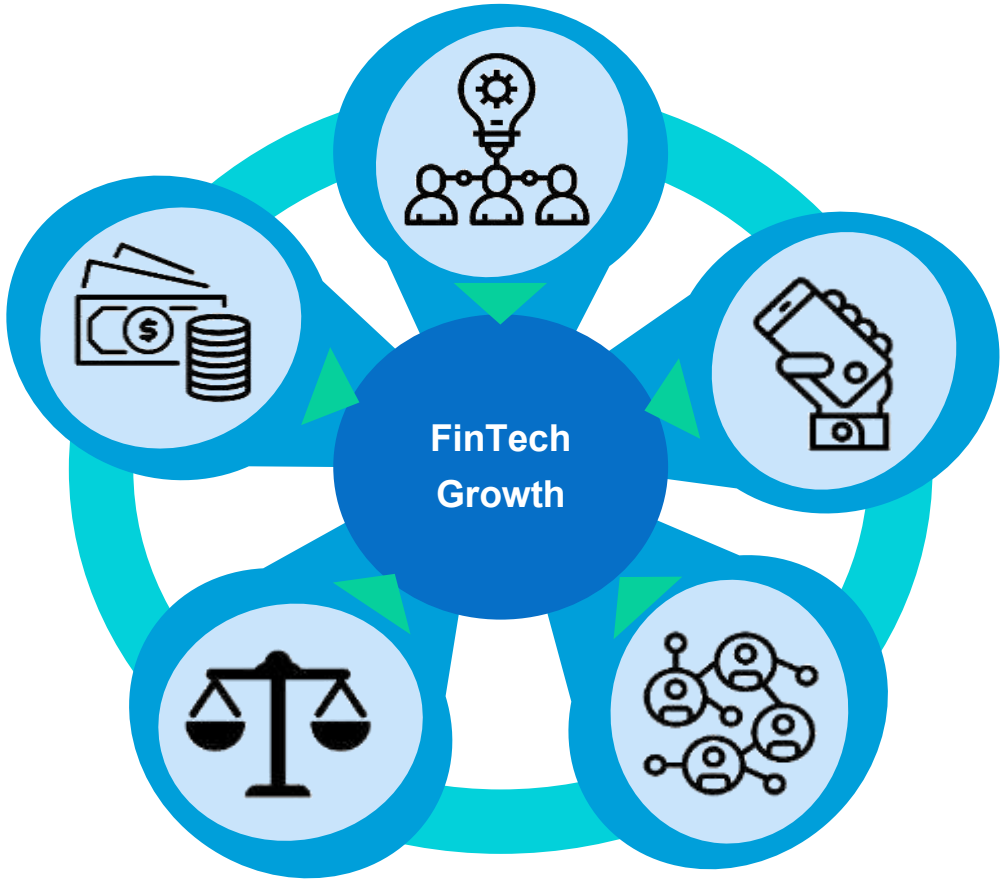
Appendix F

FinTech assessment and benchmarking methodology

Countries of Focus

In-depth analysis is based on a 5 pillar assessment covering **demand**, **infrastructure**, **regulation**, **capital**, and **talent**. Analysis is both quantitative – based on identified performance indicators along the 5 pillars – and qualitative – based on CGAP and EY knowledge, interviews with stakeholder, conferences and workshops, and supporting desk research. Below is a breakdown of the five pillars:

1. **Demand**: demand for financial services from individuals (B2C), corporations including banks (B2B), and government (B2G).
2. **Infrastructure**: ICT Infrastructure, financial system Infrastructure, identification infrastructure and data sharing systems.
3. **Regulation/policy**: government policy across regulation, tax and sector growth initiatives.
4. **Capital**: the availability of financial resources for startups and scale-ups in addition to funding gaps within investment stages.
5. **Talent**: the availability of entrepreneurs and technically skilled talent to support financial technology production.



Appendix G

Categorization standards and definitions (1/2)

Product Category	Product Subcategory	Description of Product Subcategory
Back- and Middle-office solutions	Chatbots	Computer program that conducts a conversation in natural language via auditory or textual method, understands the intent of the user, and responses based on business rules and data of the organization.
	Other Back- & Middle-office solutions	Other
	Agent Management Systems	Systems that identifies and manages agent operations digitally which contributes to branchless business strategy
	Software solution	Software solutions offered to businesses. Ex: CRM
	Roboadvisory	Algorithms that help users build and maintain a financial plan.
	Enterprise Resource Planning	Solutions that track enterprise resources including inventory, invoicing, and purchases. They also provide data (raw or visual) of the performance of the different account for better managerial decisions. Such solutions make grounds for better financial reporting among MSMEs thus improving their ability to acquire funding.
	API	Application programming interface - typically to manage 3rd party applications or data share/transfer with business profiles
	Smart Card Technology	Minting smart cards to be used either as payment cards or for identification. In this analysis, focus is strictly on cards issued for payment purposes.
Banking	Digital banking	Complete digital access to bank account and services. (B2C: solutions provided by FSPs. B2B2C: software provided by a Tech company given to an FSP).
E-marketplace	E-marketplace	Platforms matching buyers and sellers of financial products/services and enforcing contracts
Financial Data Analysis	Credit scoring	Using a proprietary algorithm to develop and provide a credit score to consumers, which other FSPs can use to make credit decisions
	Financial Data Analysis	Analyzing financial data to be shared with relevant stakeholders when required. Solutions in this category do not provide credit scores, only data analysis.
Financial Education	Financial Education	Solutions that aim to improve users' financial literacy and teach about issues such as money management and saving, such as finllect
Search engines and comparison sites	Search Engines & Comparison Sites	Digital platforms that allow users to compare specification/prices of various product in one place

Appendix G

Categorization standards and definitions (2/2)

Product Category	Product Subcategory	Definition of Product Subcategory
Financing	Peer-to-peer Lending	Small amount lending between consumers via e money
	Crowdfunding	A type of peer-to-peer lending where individuals and organizations pay small amounts for a project through online web-based platforms (eg Zoomal)
	SME lending	Extending credit to small and medium size enterprises
	Microcredit	Short-term small amount credit
	Asset Finance	Asset purchase on loan
	Receivable finance/ factoring	Purchase of invoice receivables from another company
	Digital consumer credit	Borrowing of small amounts through mobile phones, disbursed and recovered rapidly, often in 30d or less, and generally with loan amounts smaller than conventional credit or micro-lending.
Insurtech	Insurance -Life & Non Life	Product of insurance for both life and non-life
InvesTech	Savings	A regulated deposit-taking entity and whose main business is to offer deposit products to customers, fund storage only not included
	Crowd investing	An extension of crowdfunding whereby payers receive equity in exchange for their contributions (Eg Eureeca)
	Rotating savings and credit associations	Informal mechanism of saving where 15-25 self-selected individuals save in rotating pots
	Investments	Portfolio management & trading
Payments and Remittances	Transactional accounts & payments	Digital applications for storage & payment and/or remittance of E-money (including Mobile Wallets)
	Aggregators	Digital connector between payment instrument providers (e.g. MNOs) and entities that want to send or receive money from end-customers
	Payment solutions	Payment solutions offered B2B
	International Remittances	P2P transfers that cross borders
	Digital currency	Issuance of e-money
RegTech & Compliance	eKYC	Digital procedures to conduct Know Your Customer procedures that identify the actual user of company products and services
	Fraud Detection	Software that monitors activities and detects fraudulent activities through using enterprise analytics

Appendix H
Glossary (1/2)

Glossary	Definition
Application Program Interface (API)	Functions and procedures that allow the creation of applications that access the features or data of an operating system, application, or other service.
Automated Clearing House (ACH)	An electronic clearing system in which payment orders are exchanged among financial institutions, primarily via magnetic media or telecommunications networks, and then cleared among the participants. A data processing center handles all operations.
Digital Payment	A form of digital financial service where the financial service is a payment. For this report, this definition includes payments where either the payer or the payee uses a digital instrument, but does not include payments that are initiated and collected in cash (e.g., cash to cash services), even where the agent transacts electronically.
E-money	A type of monetary value electronically recorded. It is generally understood that e-money: (i) is issued upon receipt of funds in an amount no less in value than the value of the e-money issued; (ii) is stored on an electronic device (e.g., a chip, prepaid card, mobile phone, or computer system); (iii) accepted as a means of payment by parties other than the issuer; and (iv) convertible into cash.
E-wallet	An e-money product, where the record of funds is stored on a device, typically in an integrated circuit chip on a card or mobile phone. See also mobile wallet.
Customer KYC	A set of due diligence measures undertaken by a financial institution to identify a customer and the motivations behind his or her financial activities. KYC is a key component of anti-money laundering and combating the financing of terrorism regime.
Mobile Network Operator (MNO)	Company that has a government issued license to provide telecommunications services through mobile devices.
Payment Services Provider (PSP)	An entity providing services that enable funds to be deposited into an account and withdrawn from an account; payment transactions (transfer of funds between, into, or from accounts); issuance and/or acquisition of payment instruments that enable the user to transfer funds (e.g., checks, e-money, credit cards, and debit cards); and money remittances and other services central to the transfer of money.
Real Time Gross Settlement (RTGS)	The continuous settlement of interbank payments on a real-time (instant) basis. Usually through accounts held in central banks and used for large-value interbank funds transfers.
International remittances	A person-to-person international payment of relatively low value.
Switch	A computer-based software system where transactions are routed. Generally, this occurs for the transaction to be rerouted to a different PSP and/or product, enabling interoperability. In Jordan, transactions by the same mobile services providers are also routed through the JoMoPay switch.

Appendix H
Glossary (2/2)

Glossary	Definition
Unstructured Supplementary Service Data (USSD)	A global system for mobile communication technology that is used to send text between a mobile phone and an application program in the network. Applications may include prepaid roaming or mobile chatting.
FinTech	Solutions combining innovative business models and technology to enable and/or enhance financial services provision, distribution, and/or infrastructure.
Regulatory sandbox:	A regulatory sandbox is a framework set up by a financial sector regulator to allow small-scale, live testing of innovations by private firms in a controlled environment.