APPROACH FOR DIGITAL FINANCIAL TRANSFORMATION IN THE ARAB REGION

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List of Abbreviations

ABA	ASEAN Bankers Association
AFI	Alliance for Financial Inclusion
AFIN	ASEAN Finanical Innovation Network
AMF	Arab Monetary Fund
AML	Anti-money Laundering
APEC	Asia-Pacific Economic Cooperation
API	Application Programming Interface
APIX	API Exchange
ARPS	Arab Regional Payment System
ASEAN	Association of Southeast Asian Nations
B2G	Business-to-Government
BIS	Bank for International Settlement
CCAF	Cambridge Center for Alternative Finance
CFT	Countering the Financing of Terrorism
CGAP	Consultative Group to Assist the Poor
CPMI	Committee on Payments and Market Infrastructures
DFS	Digital Financial Service
DLT	Distributed Ledger Technology
E-KYC	Electronic Know-your-customer
EMI	E-money Institutions
FFO	Fintech Facilitation Office
FIARI	Financial Inclusion for the Arab Region Initiative
FinTech	Financial Technology
FSB	Financial Stability Board
G20	Group of Twenty
G2B	Government-to-Business
G2P	Government-to-Person
GDPR	Global Data Protection Regulations
GFIN	Global Financial Innovation Network
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GPFI	Global Partnership for Financial Inclusion
GSMA	Global System for Mobile Communications
HKMA	Hong Kong Monetary Authority
ICT	Information and Communication Technology

ITAP	International Technology Advisory Panel
KYC	Know-your-customer
M&E	Monitoring and Evaluation
MAS	Monetary Authority Singapore
MSME	Micro, Small and Medium-sized Enterprises
OECD	Organisation for Economic Co-operation and Development
P2G	Person-to-Government
P2P	Person-to-Person
PAFI	Payment Aspects of Financial Inclusion
QR	Quick response
RegTech	Regulatory Technology
SME	Small and Medium-sized Enterprises
SupTech	Supervisory Technology
UNCDF	UN Capital Development Fund
UNSGSA	UN Secretary-General's Special Advocate for Inclusive Finance for Development
WBG	World Bank Group

Approach for Digital Financial Transformation in the Arab Region

1. Introduction

Digital financial services (DFS) and technology-driven innovation in finance (Fintech) has raised expectations to boost the digital transformation of financial systems at pace and scale.[1] Information and communication technology, financial services, and most importantly the convergence of both at the nexus of Fintech, are considerable growth sectors and growth enablers for new jobs and structural diversification in many Arab countries on their path to digital economies.[2]

In 2017, nearly 145 million adults[3] in the Arab region did not own a transaction account, slowing the pace of digital finance and transformation in the Arab region. While the developing country average for account ownership stands at 63 percent, in the Arab region, only 52 percent of men and 35 percent of women have an account.

Box 1: COVID-19 and the role of Digital Financial Services[4]

Fintech and DFS are increasingly being mobilised to mitigate the effects of the COVID-19 pandemic – to benefit both the economy as well as the population at large. Digital payments can play a valuable role as a channel to deliver money to people and enterprises that need it quickly, affordably and transparently, for example as a means to provide emergency cash relief to people in need, to deliver salaries to health and other frontline workers, or to target stimulus support to MSMEs facing liquidity challenges. They provide a means for people to effectively send remittances to loved ones in remote areas or across borders. Digital payments reduce the risk of transmission of COVID-19 through cash, as well as help to avoid physical interactions by allowing contactless payments to be made and reduce the need for physical travel. Digital payments also provide the "virtual rails" which enable financial services providers to continue delivering a range of financial services while minimising the risk of infection. As countries recover from the COVID-19 crisis, supporting the development of a robust and inclusive digital financial system is one important way through which countries can not only protect themselves against further shocks and externalities but also create a critical foundation for development gains across sectors such as health, agriculture and services, on the path to digital economies.

Countries around the world have already single-handedly leveraged individual DFS measures to manage the COVID-19 pandemic. Some examples:

- The central banks in Ghana, Kenya and Rwanda waive fees for digital payments to encourage uptake and support social distancing.
- Bank Negara Malaysia sets up a digital portal to channel a USD 450 million stimulus package to support SMEs experiencing cash flow problems.
- Governments of Bangladesh and Jordan introduce interventions to support digital payments to employees who are no longer able to work, e.g. in the textiles sectors.

Although roughly 85 percent of adults in the region have access to a mobile phone, and 48 percent have access to both a mobile phone and internet connection[5], mobile money account ownership in the region stands at only 7 per cent and only 33 percent of adults made or received digital payments in the last year, compared to 44 percent of adults in other developing countries. Even in markets where e-commerce is gaining traction—such as the in United Arab Emirates, Saudi Arabia, and Egypt—cash remains the preferred payment method; 51 per cent of adults pay "cash-on-delivery" for e-commerce purchases.[6]

[1] AFI, Sochi Accord: Fintech for Financial Inclusion, 2018.
[2] World Bank Group. A New Economy for the Middle East and North Africa, 2018.
[3] World Bank Group Global Findex 2017
[4] GIZ, Response to Covid-19 – The Role of Digital Financial Services, 2020.
[5] Gallup World Poll 2017. Notes: Data show average percent of adults (aged 15+).
[6] World Bank Group, A New Economy for the Middle East and North Africa, 2018.

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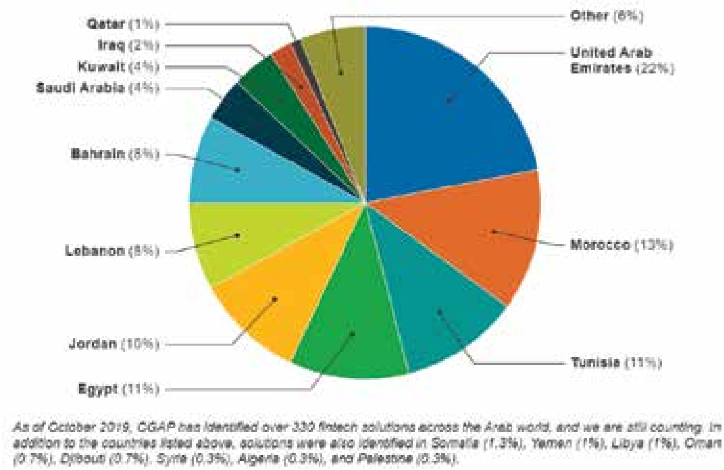
In retrospect, while efforts in bolstering digital financial services like mobile money have been widely proclaimed for years, they are however mostly gradual improvements to an analogue set up of the financial system. Underlying all these efforts is the intention and essential need to transform an *old economy* financial system into a stable, resilient and inclusive *new economy-based digital financial system*, a process to which we refer as digital financial transformation.[7] The latest wave of technology applications opens new pathways to digitalize financial systems from the ground up with an entire new 'ecosystem' taking centre stage.

The use of Fintech in identification and Know-your-customer (KYC) procedures, payments and money transfers, lending, investments and savings, insurance, in public administration as well as in supervisory and regulatory practices drives the convergence of traditionally segregated sectors, the digital transformation of financial markets and institutions, and the digitalization of economies.[8]

Fintech can present unique opportunities to increase digital finance and participation in the formal financial sector, particularly for women and rural populations in the Arab region that have high rates of mobile phone and internet access. While high-income countries in the region have made rapid strides in fintech innovation, many Arab countries present a real opportunity to make advancements in this era.

On the supply side, many countries have made progress. As of October, 2019[9], the Consultative Group to Assist the Poor (CGAP) identified over 330 fintech solutions operating across the 22 countries of the Arab world. 75 percent however are concentrated in a handful of countries.

Figure 1: Location of Fintech solutions in the Arab world



Source: CGAP. Mapping Fintech Innovations in the Arab World. October 2019

The growth of fintech in the Arab region reflects government support and market dynamics. However, a digital transformation framework can help promote usage and scale of innovative models to increase digital finance and the digitization of the sector more broadly, particularly for women and poorer households who

[7] AMF, Financial Inclusion in the technology-led globalization age, 2020.
[8] Arner/Barberis/Buckley/Zetzsche, Regulating a Revolution From Regulatory Sandboxes to Smart Regulation, 2017; Fintech and RegTech: Enabling Innovation While Preserving Stability, 2017; From Fintech to TechFin. The Regulatory Challenge of Data-driven Finance, 2017; Fintech, RegTech and the Reconceptualization of Financial Regulation, 2016.
[9] CGAP. Mapping Fintech Innovations in the Arab World, 2019.

make up the majority of excluded adults. Policy priorities may include improving regulation, improving the technological infrastructure, competition, education programmes, and promoting responsible uptake and usage of digital services. While these areas cannot be covered here in detail, a solid review of financial sector priorities for the Arab region is available[10] - the essence of which is embedded within this wider context, as it relates to digital finance.

Box 2: Payment Aspects of Financial Inclusion in the Fintech Era

The Payment Aspects of Financial Inclusion (PAFI) report, developed in 2016 by the Committee on Payments and Market Infrastructures (CPMI) and the World Bank, provided a core guiding framework for the Financial Inclusion and included actions to advance digital financial inclusion through access to and use of transaction accounts. Since 2016, the pace of innovation has substantially increased and technological innovation has made major inroads into financial services, especially payments, leading to the "era of fintech". Building from the original PAFI framework, in April, 2020, the CPMI and WBG released a new PAFI report entitled "Payment aspects of financial inclusion in the fintech era", which connects fintech innovation with financial inclusion, providing a framework for incorporating and leveraging technological opportunities to promote access and use of transaction accounts, while also addressing potential challenges.

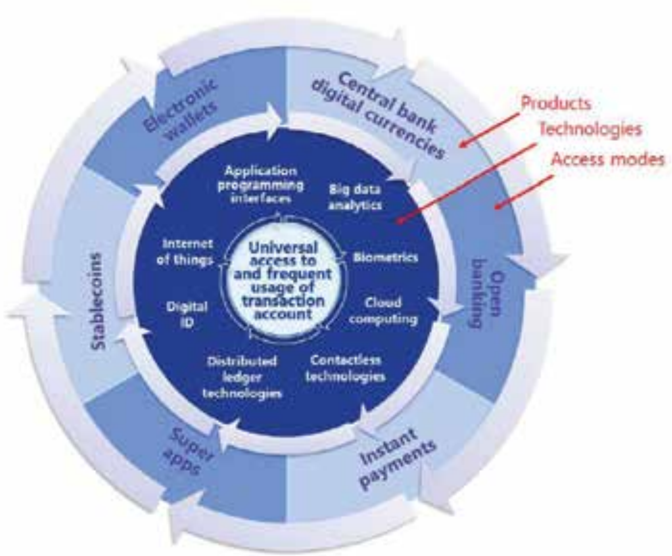
Particular advances in technology have proven to be the relevant to payments and financial inclusion including application programming interfaces (APIs), big data analytics, biometric technologies, cloud computing, contactless technologies (including quick response (QR) codes), digital identification, distributed ledger technologies and the internet of things. They facilitate the delivery of new products and access modes.

New technologies not only offer new modes of accessing these new products by means of electronic wallets, open banking and super apps, but also allow payments to be initiated via traditional transaction accounts and/or payment instruments. In addition, new technologies can also be applied to existing products and/or access channels in a variety of combinations (eg initiation of card payments via electronic wallets leveraging contactless technologies) and new products and access modes can also use existing technologies in an optimised way (e.g. instant payments can be offered based on traditional technologies and initiated via online banking rather than electronic wallets).

The "PAFI fintech wheel" (below) provides a framework to focus onto new technologies that, in many cases, are harnessed to improve the provision of new products and access modes.

[10] World Bank Group, A New Economy for the Middle East and North Africa, 2018.

Figure 2: PAFI fintech wheel

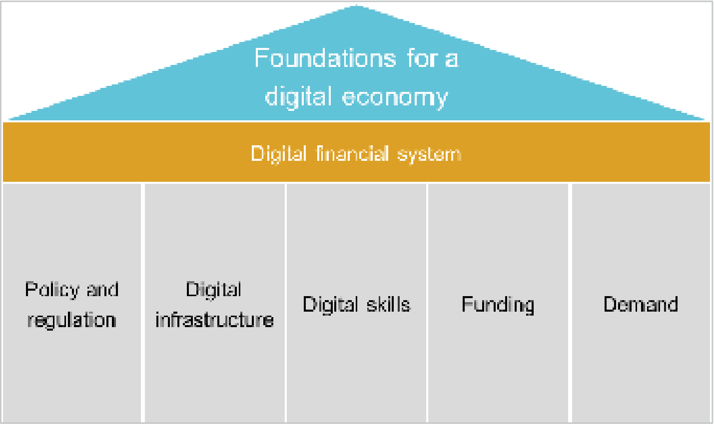


Source: CPMI – World Bank

The digitalization of economies, universally speaking, requires the promotion of several foundations: policy and regulatory frameworks for the development of information and communication technology industries with contestable and competitive markets; digital infrastructure for mobile data and broadband internet connectivity; the promotion of digital skills through education, technical and vocational programmes as well as acceleration and technology clusters; the allocation of growth and long-term capital for venture investments; and the strengthening of the demand capacity by means of public awareness, digital literacy, and customer advocacy including effective financial consumer protection, data protection, and privacy frameworks. All of these will likely contribute to creating the enabling environment and to strengthening demand and supply factors for a digital financial system.

Above all, reforms and investments for inclusive digital financial services are expected to yield both socio-economic and commercial gains, by tapping into hitherto underserved market segments. In the Arab region – as underlined by the 2020's GPFI theme – these are mainly women, youth, and micro, small and medium-sized businesses (MSMEs).

Figure 3: Framework about Foundations for a Digital Economy



Source: own illustration in alignment with Arezki/Ghanem, MENA Economic Monitor, 2018; IMF, Leveraging Digital Technologies to Promote SMEs Resilience, 2020; OECD, Harnessing the digital economy for developing countries, 2016.

In the following, our understanding of the Digital Financial Transformation here predicates on these definitions of some of the basic terminology, used for the purpose of this paper:

- Digital Economy – a holistic economic model in which output from total activity is largely derived from digitally-enabled or digital businesses.
- Digital Financial System – a sub-system of the digital economy.
    - Financial technology – taking on a holistic view, the FSB defines it "as technology-enabled innovation in financial services that could result in new business models, applications, processes or products with an associated material effect on the provision of financial services." [11]
    - Digital finance – in this sense, counter intuitively a sub-set of the above.
- Digital Transformation – the process which leads to either one of the first two states.

[11] Financial Stability Board, Financial Stability Implications from Fintech, 2017.

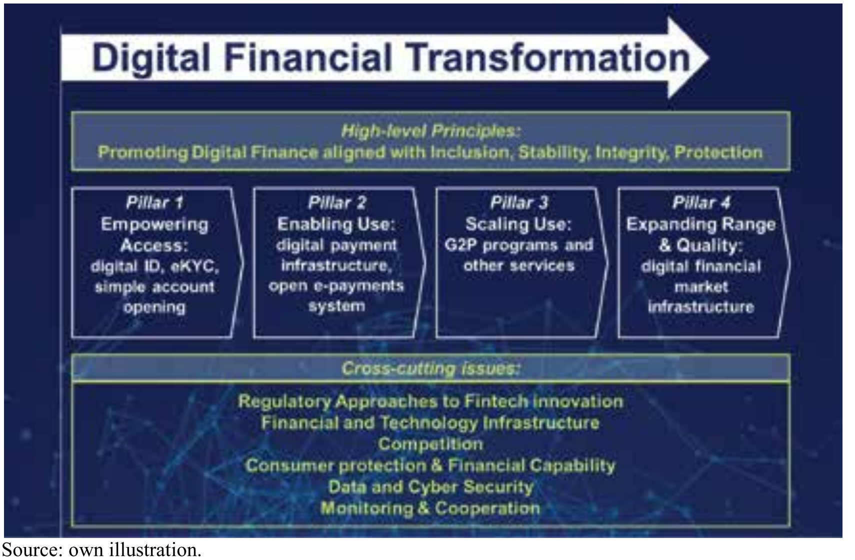
2. Proposed Approach for Digital Financial Transformation in the Arab Region

There are a number of strategic frameworks which have been developed to support the shift to digital finance which provide a strong starting point for these discussions in the Arab region. Most recently, in July 2020, the GPFI led by the Kingdom of Saudi Arabia produced the G20 High-Level Policy Guidelines on Digital Financial Inclusion for Youth, Women and SMEs. The 2020 High-level Policy Guidelines build on a number of previous reports which also provide useful insights for the development of digital financial systems, including the following:

- G20 High-Level Policy Principles for Digital Financial Inclusion (GPFI, 2016)
- The Bali Fintech Agenda supported by the (World Bank and IMF, 2018)
- Fintech for inclusion: a framework for digital financial transformation (AFI, 2018)
- Digital Financial Services: A Reference Guide for Regulators (BMGF, 2019)
- Fintech Toolkit: Smart Regulatory and Market Approaches to Financial Technology Innovation (AMF/GIZ, 2020)
- Fintech Strategy Guidelines in the Arab Region (AMF, 2020)
- Digital Identity and e-KYC Guidelines for the Arab Region (AMF, 2020)
- Cyber Resilience Oversight Guidelines for the Arab Countries, concerning Financial Market Infrastructures (AMF, 2020)
- Digital Customer On-Boarding, e-KYC and Digital Signatures in The Arab Region, (AMF, 2020).
- Policy Responses to Fintech: A Cross-Country Overview (FSI/BIS, 2020)
- Payment Aspects of Financial Inclusion in the Fintech Era (WBG/BIS, 2020)
- Financial Inclusion in the technology-led globalization age (AMF, 2020).

Certain key elements can be identified for an approach for digital financial transformation that is appropriate and relevant for the Arab world.

Figure 4: Approach for Digital Financial Transformation in the Arab Region



Source: own illustration.

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The approach visualized here and elaborated below aims to help allocate resources for an effective policy agenda in bolstering digital financial systems safely across the entire region. In-country activities will vary within this frame and depend on the maturity of markets and the national context hence they are illustrated across the pillars in the graph. Underlying any of the specific, nationally relevant activities are a set of common topics that need to be considered for responsible and sustainable digitalization of any financial systems: (a) Regulatory Approaches to Fintech Innovation; (b) Consumer Protection and Literacy; (c) Financial and Technology Infrastructure (d) Competition; (e) Data and Cybersecurity; (f) Monitoring and Cooperation; (g) gender. See figure above.

The Arab Monetary Fund, through the Regional Financial Inclusion Task Force, the Financial Inclusion for the Arab Region Initiative (FIARI) and other committees and meetings, including the Arab Regional Fintech Working Group as well as Councils of Arab Finance Ministers and Central Banks and Monetary Authorities' Governors, is in a unique position to advance progress on digital financial transformation in the region. The issues list below highlights those aspects of digital finance which can immediately benefit from increased regional engagement and cooperation.

2.1Objectives for Digital Financial Transformation

Drawing from experience in a range of emerging markets and developing economies the best approach to digital financial transformation spans across 4 core objectives, all of which encompass building the proper ecosystem. This is a major journey for any economy, but one that experience increasingly suggests has tremendous potential to digitally transform financial systems and support digital economic development for sustainable growth and poverty alleviation. Within this approach, AMF member countries are encouraged to develop and integrate country action plans that contribute to these overarching goals.

i. **Empowering Access:** At a country level, particular for those countries with lower levels of inclusion, actions may include, for instance, building core financial and ICT infrastructures that enable access to digital financial services. Account opening is also crucial and focusing on robust digital ID and e-KYC, in complement to proportionate AML frameworks, will help simplify access of individuals and businesses for low-risk accounts. Once established, they provide a solid foundation not only for finance, but also for the development of the digital economy more broadly.

At the regional level, empowering access may include a focus on enabling cross-border retail payments innovation and interoperability through fintech developments.

ii. **Enabling Use:** At a country level, further developing digital payment acceptance networks including cash-in, cash-out (CICO) agent networks, merchant acceptance networks, interoperable e-payments systems, and conducive legal-regulatory frameworks will help facilitate digital financial flows in the economy and promote competition and market entry. Particular focus on the use-cases and experiences of women should also be in focus.

iii. **Scaling Use:** Activities in this area may include, for instance, electronically providing Government services, especially G2P & P2G (salary, benefits and taxes) and bill payments, to promote and scale up usage of digital financial services, as well as other large-volume government payment streams including Government to Business (G2B) and Business to Government (B2G), among other large-volume streams.

iv. **Expanding Range & Quality:** For instance, policies that enable (while mitigating risks) designing digital financial markets and environment for a wider range of more sophisticated services

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to underpin use cases (including investments, insurance, credit based on connected market solutions through open data regime and APIs).[12]

2.2 Cross-cutting Pillars

The guidance that has traditionally been provided has often been for national-level efforts to support digital finance, not specific for regional coordination and partnership. Taking a regional perspective requires separating those actions which are primarily the responsibility of country authorities from those which can more easily be shared across borders. It also affords policymakers the opportunity to consider which issues would benefit most from greater cross-country coordination and collaboration. Taking a regional approach is indicated where economies of scale apply and where the outputs or guidance are more general rather than narrowly suited to one market. A regional approach is also valuable where the issue is shared across all or most countries and where coordination could increase effectiveness of the solution(s).

i. **Smart Regulatory Approaches to Fintech innovation:** Regulatory frameworks will determine the future of technology-driven innovation in finance. Following principles from global good practice (which are mainly activity or product-based (as opposed to based on institutional type), proportional, and technology-neutral regulation), sequenced regulatory approaches can help Arab Central Banks to create pathways for Fintech growth balanced with financial inclusion, stability, integrity and consumer protection considerations. For example:

- Regulators can identify and modernize regulation based on regulatory impact assessments that determine whether legacy rules remain useful.
- Proportional regulations, reflected in provisions for market stability and integrity relative to the risks of the regulated activity, can create supportive pathways for innovative, inclusive non-bank financial services.
- An Innovation Office staffed with regulators can be a cost-effective approach to guide Fintech firms through the regulatory maze, while yielding valuable insights into market development.
- Testing and piloting allow for some flexibility for innovative firms to grow in wait-and-see or test-and-learn approaches. Authorities may also extend waivers or no-action-letters to innovations by licensed institutions or start-ups.
- A Regulatory sandbox, which formalizes and standardizes the testing and piloting, creates a tightly defined safe space with exemptions from specific requirements for innovative firms that qualify.
- Restricted licences can allow innovative firms for a specific activity to scale their business and develop their client base and financial and operational resources.
- Full licences for new categories of financial activities may also become relevant to allow qualified firms with innovative business models to serve specific market segments and add value for clients.[13]

In the immediate term, the focus is on two main activities to promote digital financial transformation in the AMF member states (a) **developing common policy approaches on key aspects of digital finance; and (b) leveraging and aligning efforts on Fintech regulatory policies and innovation facilitators**.

a. Develop Common Policy Approaches on Key Aspects of Digital Finance

Developing common policy approaches on selected aspects of digital finance for the region (such as the recently issued guidance on Digital Identity and e-KYC, Cyber Resilience Oversight

[12] AFI, Fintech for Financial Inclusion: A Framework for Digital Financial Transformation, 2018.
[13] AMF/GIZ, Fintech Toolkit: Smart Regulatory and Market Approaches to Financial Technology Innovation, 2020.

concerning Financial Market Infrastructures, as well as the Fintech Strategy Guidelines[14]) help provide guidance to member countries, enable exchange of knowledge and expertise and strengthen the capacity of Arab regulators. Policy approach reports and the development of shared guidelines can help align regional efforts to shared goals as well as provide opportunity to engage with a broader network including between Arab and international experts from the public and private sectors to promote Fintech industry and the development of innovation.

Regulators most frequently cite frameworks around e-wallets, payment service providers, e-money institutions and in some cases specialized regulatory frameworks and licenses for E-Money Institutions (EMIs) as critical enablers to facilitating Fintech activities within their jurisdictions. Regional guidelines for new regulatory frameworks to promote such regulations along with, for instance, innovative data sharing arrangements (e.g. open banking and API standards), new business activities (e.g. crypto-asset regulations), circulars to support the entrance of Fintech activities within markets, or the issuance of new requirements, regulations or roadmaps relevant for Fintech activities including around P2P lending, e-money and payments, e-commerce and for data processing, data storage and cloud computing can all be explored.

b. Leverage and align efforts on Fintech regulatory policies and innovation facilitators[15]

At a regional level, developing a cross-border initiative can potentially help reduce risks of regulatory arbitrage, leverage reciprocal license arrangements, support collaboration and harmonization between regulators on key inclusion issues such as AML/CFT compliance or remittances, encourages information sharing, and helps Fintechs enter new markets.

At a country level, it is important to note for all AMF members that there does not exist one ‘blanket approach’ to follow towards regulating Fintech, as it is dependent on the jurisdictional context such as its legal / regulatory frameworks, the complexity of the Fintech market and the availability of resources.

Instead AMF policymakers should understand the benefits and limitations of each approach, while taking into context determinants for their relative appropriateness within jurisdictions and potential opportunities to leverage efforts implemented by regional peers.

In general, many policy responses to regulating Fintech have been seen across jurisdictions (including with the Arab region) and can be broadly grouped into: (i) applying existing regulatory frameworks to new innovations and their business models, often by focusing on the underlying economic function rather than the entity; (ii) adjusting existing regulatory frameworks to accommodate new entrants and the re-engineering of existing processes to allow adoption of new technologies; and (iii) creating new regulatory frameworks or regulations to include (or prohibit) Fintech activities.

To support the development of an appropriate policy response, regulatory approaches are often applied and can be classified into four regulatory approach categories (a) “Wait & See”, (b) “Test & Learn”, (c) Innovation Facilitators (including Hubs, Accelerators and Sandboxes) and lastly (d) Regulatory Laws and Reform. These approaches are often adopted in areas where the regulatory framework is either unclear or where there are gaps, or to specifically support a statutory objective with the aim of implementing an enabling environment for Fintech. It is then

[14] AMF, Digital Identity and e-KYC Guidelines for the Arab Region, 2020. AMF, Cyber Resilience Oversight Guidelines for the Arab Countries, concerning Financial Market Infrastructures, 2020. AMF, Fintech Strategy Guidelines for the Arab Region, 2020.
[15] World Bank Group, How Regulators Respond to Fintech, 2020.

the outcomes and lessons distilled from the use of approaches and the associated regulatory tools that will help define a regulatory response for the country (i.e. regulatory reforms).

Box 3: Early Successes from the ASEAN Financial Innovation Network Sandbox

The ASEAN Financial Innovation Network (AFIN), an initiative of MAS, IFC (International Finance Corporation - the private sector arm of the WBG) and the ASEAN Bankers Association (ABA), is a regional industry Sandbox intended to promote the growth of innovative products and services that advance financial inclusion in the region. In September, 2018, AFIN launched the API Exchange (APIX) platform, promoting an open architecture that connects fintechs and financial institutions with the aim of supporting financial services innovation and inclusion in less developed markets.[16] AFIN plans to collaborate closely with MAS and other regulators, providing them with an opportunity to better understand challenges faced by Fintechs and initiate policy harmonization within the ASEAN region which, in turn, can further business and investment opportunities.[17]

At a country level, before deciding which approach or sequence of approaches to adopt in order to inform subsequent policy responses, AMF members should undertake a detailed assessment that reviews a number of considerations such as the objectives a country is trying to achieve, how a particular initiative plays into the overarching strategy for the region, considerations of the critical success factors (like size of the market and capacity / resources to implement), and importantly, the country circumstance. Undertaking an assessment[18] of the landscape while taking into consideration the country and regional context, as well as opportunities to coordinate and build off of regional initiatives, is a necessary first step for all regulators prior to selecting an approach to Fintech. There are many opportunities19 to align and coordinate Fintech policy efforts, from regional sandbox initiatives to specialized licensing windows for successful firms that have exited sandboxes in the region to developing a network of innovation hub / sandbox authorities to share learnings. AMF coordination on this front will be critical. That said, developing a deeper understanding of the activities of Fintechs may help policymakers understand their approach to Fintech, adapt existing regulatory reporting frameworks and ensure supervisors are able to have access to meaningful data on a timely basis. A national-level innovation hub, connected by a regional network, may prove successful for regulators to achieve goals without intensive resource and capacity costs.

[16] See: APIX Platform and Monetary Authority Singapore, 2017.
[17] See: The State of Regulatory Sandboxes in Developing Countries.
[18] World Bank Group: How Regulators Respond to Fintech, 2020.
[19] For instance, given that Sandboxes are proven to be very time and resource intensive, smaller countries with fewer Fintechs may want to leverage off the work of other AMF member sandboxes and consider specialized licensing windows or quicker policy approaches for firms that have successfully exited from AMF member's Sandboxes. Other alternatives include coordinating innovation hub efforts with point persons in each central bank, as a starting point. AMF/GIZ, Fintech Toolkit: Smart Regulatory and Market Approaches to Financial Technology Innovation, 2020.

Box 4: Global Financial Innovation Network (GFIN): The Global Sandbox

The Global Financial Innovation Network (GFIN) was formally launched in January 2019 by an international group of financial regulators and related organizations, including the World Bank Group. GFIN has a network of over 50 members and observers committed to supporting financial innovation. It seeks to provide innovative firms with an efficient way to interact with regulators across different national jurisdictions. The response to establishing GFIN as a practical method for collaboration and cross-border testing has been wholly positive across leaders from the industry as well as international regulators. In January 2020, GFIN released a report on the lessons learnt from the cross-border testing pilot.

ii. **Financial & Technology Infrastructure:** Enable advances in Fintech by facilitating foundational infrastructures, with open and affordable access, in a conducive policy environment. Foundational infrastructures include financial, information and telecommunication technologies and should enable efficient data collection, processing, and transmission.

This pillar focuses on two main activities: (i) opportunities to support **investments in infrastructure** across the region; and (ii) Collaboration on **SupTech solutions.**

a. **Identify opportunities to support investments in infrastructure across the region** for instance increasing mobile phone penetration of women and increasing the agent and merchant acceptance networks to build payment access points.

b. **Collaborate on SupTech solutions:** Pro-innovation technologies can also include the use of technology to strengthen compliance and monitoring, including by using regulatory (RegTech) and supervisory technology (SupTech) to support compliance and supervision.[20]

From a regional perspective, international coordination and collaboration could help accelerate SupTech development. For instance, a regional strategy and platform to exchange analytics, algorithms and models may be useful to AMF authorities to address cross-border issues affecting SupTech development (eg. data localisation).

Box 5: Fostering Collaboration for SupTech[21]

The BIS Innovation Hub is designed to foster international collaboration on innovative financial technology within the central banking community. Such platforms can help authorities to benefit from peer learning, including from different types of authority (central banks, prudential regulators, conduct regulators etc), helping to offset the lack of specialist providers. They also reduce the need for individual authorities to independently work on similar solutions, thus increasing efficiency. In addition, given the inherently small market for SupTech solutions, which limits business opportunities for private IT providers, accelerators set up and/or funded by international organisations can play an important role in helping authorities to explore specific SupTech tools.

iii. **Competition:** Reinforce competition and open, free, and contestable markets to ensure a level playing field and to promote innovation, consumer choice, and access to high-quality financial services. The successful and large-scale adoption of technology would be facilitated by an enabling policy framework regardless of the market participant, underlying technology, or method by which the service

[20] World Bank / Cambridge Center for Alternative Finance, Regulating Alternative Finance, Results from a Global Regulator Survey, 2019; IMF/World Bank, Bali Fintech Agenda, 2018.
[21] BIS / Financial Stability Institute, The SupTech generations. FSI Insights on policy implementation No 19, 2019.

is provided. Policymakers should address the risks of market concentration, and should foster standardization, interoperability, and fair-and-transparent access to key infrastructures.

A regional approach to ensure that the same Fintech business models are treated fairly across jurisdictions, either as part of legacy frameworks or dedicated new ones, can be developed and applied. Issues around market dominance can even emerge in markets ancillary to financial services, such as third-party dependency for IT services, and collaboration will be critical to support regulators in counting with the necessary capabilities to supervise/monitor Fintech activities in a timely manner to remain vigilant to market disruptions, e.g. rapid expansion and concentration risks.

Open banking initiatives can also contribute to greater competition in financial services by allowing Fintechs to access customer data, with consent, shared between banks and third party-firms through secure application programming interfaces (APIs) in order to enable access and usage of new financial products and services.

iv. **Financial Consumer Protection:** It is important that regulators have access to the tools needed to deal with new and changed consumer risks from rapid development of digital financial products and fintech offerings. Financial consumer protection regulatory and supervisory frameworks must also be adapted and expanded to address consumer risks that arise from DFS and fintech, including lack of appropriate data privacy frameworks and challenges to disclosure in a digital environment. These reforms also involve complex balancing between multiple policy objectives of stability, integrity, inclusion, and protection

v. **Financial Capability:** Financial capability plays a complementary role to both digital financial inclusion and financial consumer protection. It is especially important in an environment where financial products are increasingly being delivered through digital platforms or distribution channels. Consumers are benefiting from increased access but must also learn to manage digital finance including immediate opportunities for credit to avoid over-indebtedness, understanding how payment behavior impacts credit scores and protecting one’s data and privacy in online transactions. While consumer protection regimes can help to promote responsible financial practices and increase transparency and disclosure, at the moment of taking a financial decision it is the consumer who is his/her own best defence against financial abuse. Effective approaches to financial capability for fintech and digital finance can leverage technology solutions and incorporate insights from behavioural economics.

The role of central banks and financial capability is often debated. It is clear however that financial capability initiatives work best when education efforts are rolled out as part of a broader initiative where financial services are provided to less capable adults. From a regional perspective, efforts can be grounded through foundational enablers: (i) cooperation arrangements; and (ii) stakeholder commitment. Cross-cutting areas may include providing financial education in a way that (i) better reaches scale; (ii) prioritizes women and vulnerable populations / refugees; and (iii) are designed impactfully.

Cooperation Arrangements: Regional efforts to provide policy guidance and coordinate stakeholders, who can act as intermediaries to provide education within the right context, will help share knowledge, lessons learned and good practices.

Stakeholder Commitment: Gaining commitments from relevant stakeholders that provide financial services at scale to less capable adults may help identify solutions to provide financial education impactfully during a financial moment that makes sense. Some stakeholders, depending on their mandate, may be able to leverage existing infrastructures and staff to integrate financial education content, core messages or programs within current activities and during teachable moments. For instance, at a country level, policymakers can assess their social and government cash transfer programs and identify opportunities to provide financial education appropriately at scale, during key transaction or onboarding moments for instance.

vi. **Data and Cybersecurity:** Robust and transparent data governance frameworks that permit the flow of data across borders could help provide clarity regarding the use of customer data, ensure data protection and enhance consumer confidence. In addition, developing a robust financial data infrastructure to sustain Fintech benefits that are resilient to disruptions—including from cyber-attacks––and that support trust and confidence in the financial system by protecting the integrity of (big) data and data-rich financial services. This raises a broad spectrum of issues that are relevant not only to the financial sector but also to the digital economy at large, including data ownership, protection, and privacy, cybersecurity, operational and concentration risks, and consumer protection.

Box 6: Selected cross-border efforts to introduce new laws and regulations on data protection and privacy[22].

In the EU, the 2018 General Data Protection Regulation (GDPR) sets up a framework specifying the rights of individuals who are the subject of data – including rights on erasure, informed consent and portability, among others – and the obligations of the companies that collect, store, process and analyze it.

The Asia-Pacific Economic Cooperation (APEC) is working towards the adoption of a cross-border privacy rules mechanism that provides for harmonization within the APEC economies, while also remaining compatible with EU-binding corporate rules.

The European Union and the United States are working towards the refining of the Privacy Shield for its adequacy to GDPR.

vii. **Monitoring:** Monitor developments closely to deepen understanding of evolving financial systems to support the formulation of policies that foster the benefits of fintech and mitigate potential risks – including by maintaining an ongoing dialogue with the industry, both innovators and incumbents. Increase access to supply-side data which are sex-disaggregated in order to monitor trends on women's access and close the gender gap.

viii. **Cooperation:** Encourage international cooperation and information-sharing across the global regulatory community to share knowledge, experience, and best practices to support an effective regulatory framework. As new technologies increasingly operate across borders, international cooperation is essential to ensure effective policy responses to foster opportunities and to limit risks that could arise from divergence in regulatory frameworks. Sharing experiences and best practices with the private sector and with the public would help catalyze discussion on the most effective regulatory response, considering country circumstances.[23]

ix. **Gender:** While gender has been referenced throughout the pillars above, it also requires specific attention given gender gaps in access to finance. Women have lower levels of financial inclusion than men in the region across virtually all economies and financial products and services. The regional gender gap in 2017 was over 18 percentage points according to Global Findex data - double the average across developing economies of 9 percentage points. That said, many countries in the region have

[22] World Bank Group, Digital Financial Services White Paper, 2020.
[23] IMF/World Bank, Bali Fintech Agenda, 2018.

rapidly increased the number of women with accounts at financial institutions since 2011. Government-led programs, like those in Egypt and Saudi Arabia, had a measurable impact on women's access to transaction accounts. However, with the recent advances in technology there exist more opportunities for rapid expansion of access to financial services for women in the Arab region, driven by reduced costs, increased efficiency, and greater ability to provide services, even where women's mobility is limited or they face other restrictions linked to local conditions or social norms. However, according to the most recent data available from GSMA, there was a 9-percentage point gender gap in mobile phone ownership and a 21-percentage point gap in mobile internet use in 2019. However, according to Gallup World Poll data, in Jordan, Lebanon, and West Bank and Gaza, there is no meaningful gender gap in ownership of mobile phones. This might suggest that mobile solutions have a role to play in reducing gender differences in account ownership. Further, approximately 90% of the region's population is covered by 3G, and nearly two-thirds by 4G. As a result, there is scope to rapidly close the gender gap in access to digital financial services - which are increasingly delivered through apps and smart phones - if women's access to mobile devices can be increased.

From a regional perspective, policymakers can also play a pivotal role. For instance, encouraging commitments across the region to increase women in decision making roles within the financial sector (both in the public and private sectors). Other activities for regional consideration include providing guidance on regulations that may be restrictive to women's opening of accounts (i.e. guardianship clauses for account opening or opening of saving accounts for children), promoting Fintech innovations that focus on designing products targeted towards women, increasing the penetration female agents, among other activities.

3. What can Arab countries do now?[24]

3.1 Develop Ecosystems for Digital Financial Transformation

Finance has been transformed by digitalization and datafication over the past five decades. Fintech, as in the latest wave of technology in finance, is re-shaping the sector at an unprecedented pace. This can stimulate competition and product variety with positive outcomes for societies and economies. The digital financial transformation, however, brings about structural changes, with positive and negative effects, likely even more in the high-potential markets of the Arab region.

Digital finance and Fintech developments in the Arab world are driven by the increasingly well-educated and tech-savvy young populations. Next to this are record-level remittance flows to, as well as across, the region on legacy rails, a vast market potential of unbanked people, especially women, and a massive funding gap for millions of businesses in the region. All of this incentivizes a range of providers to harness the possibilities brought about by the latest wave of technology in finance: Fintech start-ups, big technology (BigTech) companies, specialized technology service providers in finance (Techfins), innovative incumbents, and authorities.[25]

Reforms and investments for an inclusive, safe digital financial system are expected to yield both socio-economic and commercial gains, by tapping into hitherto underserved market segments. In the Arab region – as underlined by the 2020's GPFI theme – these are mainly women, youth, and micro, small and medium-sized businesses (MSMEs). Especially in remote areas or in low-income brackets, they continue to make up a disproportionately large share of the unbanked or financial underserved since 2011. MSMEs continue

[24] The recommended arrangement related to developing an ecosystem for the digital financial transformation and the recommended formulation of an associated strategy are built on the "Fintech Strategy Guidelines for the Arab Region", issued by the AMF, within the framework of the Arab Regional Fintech Working Group, 2020.
[25] AMF/GIZ, Fintech Toolkit: Smart Regulatory and Market Approaches to Financial Technology Innovation, 2020.

to present a significant market potential in access to finance and are yet to unlock their full potential for productive investments and job growth.

Additional financial inclusion in some Arab countries, reaching at least half the untapped market for individuals and MSMEs by 2024, is estimated to bring about an additional revenue potential of USD 7 billion for financial services providers, notwithstanding the spill-over effects into labour markets.[26] Only if enabled by the proper ecosystem, will the private sector make the millions of dollars in investments into Fintech solutions required to reap that potential.

The fundamental changes taking place in the financial system however call for ecosystems that enable financial technology in a safe manner. The range of business model, channel, and product innovations raises many questions for regulators, given their mandate for financial stability, protection, integrity, or inclusion, as well as by providers, given legacy frameworks.[27]

Fintech drives digital financial transformation. But it poses challenges and risks for clients (e.g. data privacy and security concerns, fraud, theft and loss of funds), providers (e.g. operational, reputational, investment risks), regulators (e.g. interinstitutional coordination, data abundance, regulatory arbitrage, scope creep, and regulatory capture), and the financial system (e.g. integrity, cybercrime, and exclusion concerns, prospective market contestability and stability issues).[28]

Informed by global practice and experience in policymaking, the following recommended approach to formulate a strategy aligned with the "Fintech Strategy Guidelines for the Arab Region" provided by the AMF in 2020, which were conducted by the Arab Regional Fintech Working Group members.[29]

The below setup is a starting point to guide countries in devising policies and action plans for the digital financial transformation by strengthening the entire ecosystems – the demand, the laws and regulations, the governance and cooperation, the talent, and the funding sides – to enable safe Fintech innovation.[30]

3.2 Setting the Foundations

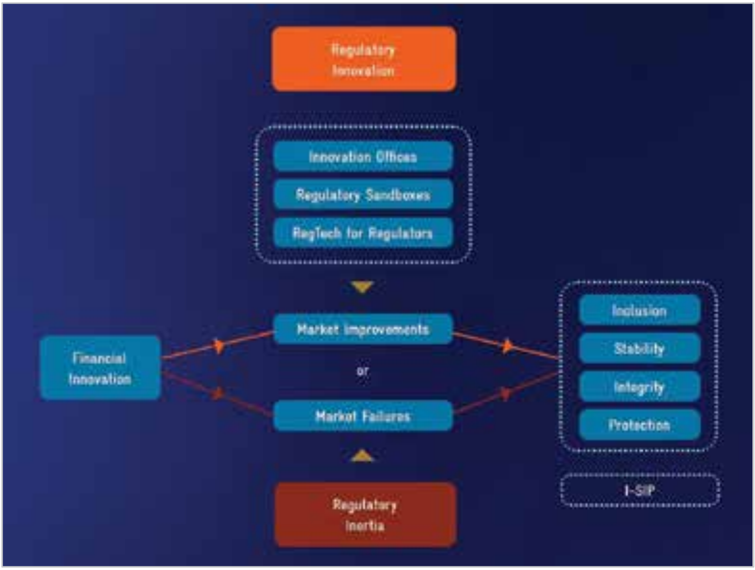
i. ***Overarching Policy Objectives:*** Fintech is a means to an end. The end itself relates to a specific policy objective. Countries harness Fintech mostly for enhanced competition and financial inclusion (or deepening). Dedicated policies, such as strategies and action plans, can promote competition and inclusion in a digital financial system, while putting in place the necessary safeguards to ensure financial stability, integrity, and consumer protection, i.e. to balance the range of policy objectives. Countries may furthermore prefer to aim at (non-financial) policy objectives on an impact level, such as job creation or economic equality, thereby establishing a link with economic development.

The specified policy objectives have far reaching implications on policies, reforms, and investments and hence guides the entire development and implementation of policies for digital financial transformation. The deliberate choice of the guiding policy objectives requires a critical debate at the highest possible level within the lead institution and among relevant stakeholders. How to best balance

[26] CGAP, Landscaping of Fintech in the Arab World, 2020.
[27] AMF/GIZ, Fintech Toolkit: Smart Regulatory and Market Approaches to Financial Technology Innovation, 2020; AFI, Fintech for Financial Inclusion: A Framework for Digital Financial Transformation, 2018.
[28] BIS, Big tech in finance: opportunities and risks, 2019; FSB, Fintech and Market Structure in Financial Services. Market developments and potential financial stability implications, 2019; FSB, Financial Stability Implications from Fintech, 2017;IMF, Fintech : The Experience So Far, 2019; IMF/World Bank group, The Bali Fintech Agenda, 2018.
[29] AMF, Fintech Strategy Guidelines for the Arab Region, 2020.
[30]Ibid., pp. 21-27.

the range of financial policy objectives is a distinct issue with implications on individual policies and regulatory reforms and is guided by the relevant literature.[31]

Figure 5: Financial Innovation and Financial Policy Objectives



Source: own illustration, adapted from UNSGSA Fintech Working Group and CCAF, 2019.

ii. ***Rationale for a Strategy or Action Plan:*** Enabling Fintech innovation for digital financial transformation in a safe and secure manner for defined policy objectives requires a deliberate and coordinated approach to identifying key opportunities and challenges across financial and non-financial domains as well as aligning the efforts of a wide range of public, private, and civil society stakeholders.

A strategy or action plan can provide a roadmap for strengthening the digital financial ecosystem. They can be useful tools to effectively coordinate actions and allocate resources in priority areas to help achieve the set policy objectives.[32]

A strategy or action plan, informed by evidence and prepared in consultation with stakeholders, can provide an effective instrument to chart a clear vision for the digital financial ecosystem and to identify the Fintech drivers, opportunities and challenges across various ecosystem pillars.[33] The rational for a strategy or action plan can be multi-fold:

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[31] Arner/Barberis/Buckley/Zetzsche, Fintech and RegTech: Enabling Innovation While Preserving Stability, 2017; BFA, Getting Financial Inclusion Policies Right in the Digital Era: Focus on Competition and Innovation as Policy Objectives, 2018; CGAP, Financial Inclusion + Stability, Integrity, and Protection (I-SIP). Policy Making for an Inclusive Financial System. A toolkit for financial sector policy makers, 2018; UNSGSA Fintech Working Group and CCAF, UNSGSA Fintech Working Group and CCAF (2019). Early Lessons on Regulatory Innovations to Enable Inclusive Fintech: Innovation Offices, Regulatory Sandboxes, and RegTech, 2019.
[32] World Bank Group, Template for the Design of a National Financial Inclusion Strategy, 2015.
[33] EY, UK Fintech On the cutting edge. An evaluation of the international Fintech sector, 2016; World Bank, Developing and Operationalizing a National Financial Inclusion Strategy, 2018; AFI, National Financial Inclusion Strategies. Current State of Practise, 2018.

- They help to define the relevant spectrum of digital financial infrastructure and services in the national context, the core problem, the goal of the strategy and vision for the Fintech ecosystem, hence to set the scope for policies and reforms
- Informed by a diagnostic, they can help to identify the specific drivers for digital finance in the country and the challenges the ecosystem faces as well as to provide valuable data for the private sector, which helps to speed up the development of the Fintech ecosystem
- They can help to align policies and reforms for digital finance and financial technology innovation with other financial (and non-financial) policy objectives concerning integrity, stability, inclusion, protection, competition
- They can help to phase policies, reforms, and investments across different time horizons to focus resources on the building blocks in the digital financial transformation at any point in time
- They can provide the sector with clarity about the initiatives (including regulatory innovations for SupTech, Sandboxes, and Innovation Hubs) and for investments across the pillar of an ecosystem (demand, laws/regulations, governance and cooperation, demand, capital, talent)
- They can help to coordinate relevant stakeholders across jurisdictions and public-private domains, align efforts, and focus resources on primary challenges for the Fintech ecosystem
- They provide the foundation for monitoring progress, and evaluating the impact of policies, reforms, and investments

iii. ***Vision:*** A strategy or action plan provides an overarching vision for the digital financial system in reference to a timeframe or different time horizons, thereby corroborating what its successful execution leads to.[34] "It is typically a concise, inspirational and aspirational statement that defines medium- to long-term goal(s) of the strategy [not to be confused with the overarching policy objective]. Given the importance of a vision statement, most national strategies include one. […] A well-crafted vision statement is power-packed because it can convey a strong and clear message to all stakeholders".[35]

The vision can be considered as the foundation of a strategy. It justifies the strategy and the resources and coordinated efforts required for its implementation by elaborating for which policy objectives digital finance or fintech innovation in the country is crucial.[36] It provides a high-level roadmap – for the multi-stakeholder implementation – of phased policies, reforms, and investments in priority areas of the digital financial ecosystem sequenced across multiple time horizons (i.e. two, five, and seven years). The vision is ideally part of consultations with the relevant public, private, and civil society stakeholders.[37]

iv. ***Definition:*** A strategy or action plan includes a specific definition of digital finance or Fintech to provide stakeholders with a common understanding of the scope of sectors, business models, or products and services under consideration. In general, Fintech covers a broad subject matter and the term is flexibly used. It can be defined by:[38]

- ***the underlying technology*** (such as Artificial Intelligence, Big Data, Cloud Services, and Distributed Ledger or Blockchain Technology),
- ***the provider type*** (startups, BigTech or Techfins, incumbent financial institutions),
- ***the economic or financial function*** (payments and money transfers, lending, capital raising, investments and savings, insurance, market provisioning, etc.)
- ***the area of innovation or use case*** (equity crowdfunding, platform lending, digital currencies, regulatory or supervisory technology etc.),

[34] World Bank Group, Template for the Design of a National Financial Inclusion Strategy, 2015.
[35] AFI, National Financial Inclusion Strategies. Current State of Practise, 2018.
[36] World Bank, Developing and Operationalizing a National Financial Inclusion Strategy, 2018.
[37] AMF/GIZ, Fintech Toolkit: Smart Regulatory and Market Approaches to Financial Technology Innovation, 2020.
[38] AMF/GIZ, Fintech Toolkit: Smart Regulatory and Market Approaches to Financial Technology Innovation, 2020.

- ***the target market*** (business-to-business, business-to-consumers, business-to-government)

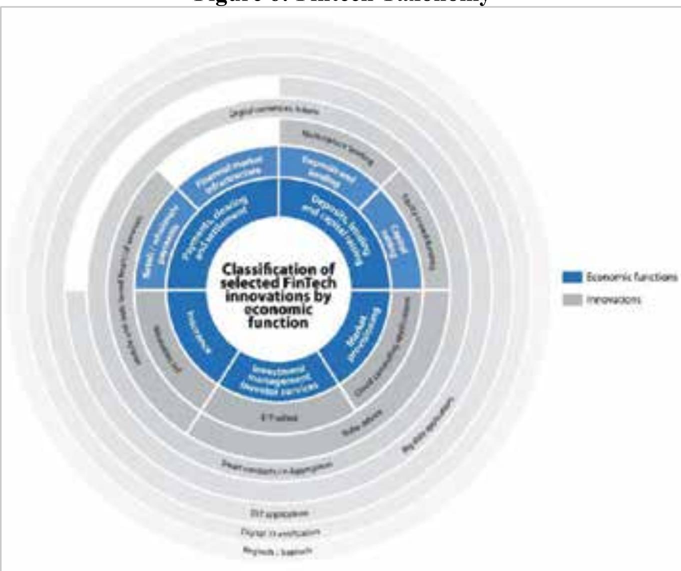
Furthermore, regulatory innovations, including Innovation Hubs, Sandboxes, and SupTech (or RegTech) help regulators to strengthen the environment and infrastructure for Fintech innovation balanced with inclusion, stability, integrity, and consumer protection considerations.

Specifying digital finance or Fintech in the national context helps to set the relevant scope for prospective policies, reforms, and investments across the range of pillars in the Fintech ecosystem. A definition does not need to be codified in law. A soft definition such as in a strategy might be rather helpful as it grants the necessary flexibility for adjustments over time. The Financial Stability Board (FSB) provides a definition for Fintech which can serve as example:

> *"Fintech is defined as technology-enabled innovation in financial services that could result in new business models, applications, processes or products with an associated material effect on the provision of financial services."*[39]

The FSB and the World Economic Forum, among others, provide holistic Fintech taxonomies which can provide a starting point for countries to narrow down the relevant scope of Fintech in the national context and to articulate the definition in the strategy.

Figure 6: Fintech Taxonomy



Source: FSB, 2017.

v. ***Strategic Objectives:*** The strategy provides the overarching strategy goal and more specific targets, which are aligned with the vision and relate to the opportunities and challenges identified (as the priority policy areas) across the pillars of a digital financial ecosystem.

Depending on the strategy goal, for example, specific quantitative targets could concern the turnover rate of the innovation office or the number of licensed providers for a particular segment; specific

[39] FSB, Financial Stability Implications from Fintech, 2017.

qualitative targets could concern the priority policy area of setting up the regulatory framework for a category of digital financial services. For example:

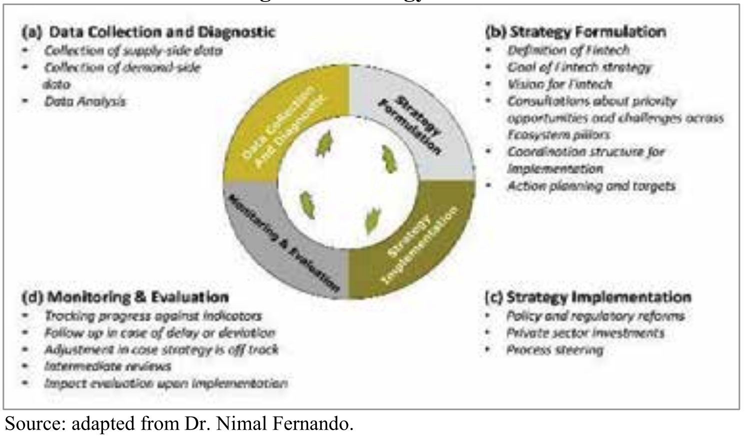
- A challenge could be legacy regulations or the lack of conducive frameworks: Surveyed Fintech startups in the Arab region cite legacy regulations as a primary obstacle and more than 80% are ready to move to another country for regulatory reasons.[40] An opportunity would be to identify the key regulatory enablers that need to be put in place, such as a proportionate regulations, waivers and no action letter, or restricted licensing regimes.
- Another challenge could be that multinational big technology companies have an advantage over home-grown startups in entering markets. An opportunity would then lie in identifying the formal pathways for Fintech startup innovators to enter, grow, and expand across borders, possibly in a regionally harmonized fintech licensing regime.

Policymakers "are increasingly recognizing the importance of setting national targets […]. A major reason appears to be the powerful incentives they generate to achieve the stated outcomes. A sense of ownership is vitally important. National targets are not imposed by an external agency or interests, therefore, achieving them is a matter of pride for the country and for the major stakeholders involved. […] Country-led target setting creates real buy-in and increases the likelihood that a […] target will result in concrete action. Thus, it is not surprising to observe the value placed on incorporating national targets in national strategies."[41]

3.3 Additional Considerations

i. ***Phases of a strategy and action plan:*** A strategy and action plan process can encompass several phases, starting with the data collection and diagnostic phase, followed by the formulation and implementation phases, and the monitoring and evaluation phase. These phases need not to be necessarily segregated over time but can be interwoven depending on the context and circumstances. For example, the data collection and the strategy formulation, especially the stakeholder consultations, can make for a progressively elaborative process in which feedback loops can be helpful. The official implementation phase would be marked by an official clearance.

Figure 7: Strategy Phases



Source: adapted from Dr. Nimal Fernando.

[40] Wamda, Fintech in MENA: Unbundling the financial services industry, 2017.
[41] AFI, National Financial Inclusion Strategies. Current State of Practise, 2018.

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The time period needed for developing a strategy and action pans would most likely depend, among others, on the high-level commitment for the strategy, the clarity in the governance and the roles of stakeholders, the availability of data and the scope of diagnostics, the range of stakeholders engaged and the extent of consultations, the efficiency of the coordination structure, the approval processes, and the quantitative and qualitative capacity of the project management unit.

An internal roadmap, produced by the lead institution at the very beginning, can be a helpful tool to plan for and structure the strategy and action development process itself (i.e. phases (a) and (b) in the chart). Such internal roadmap provides project staff and others with time-bound steps, their responsibilities, and key milestones (e.g. consultations, diagnostic work, approval).[42]

ii. ***Data and Diagnostics:*** Policymakers and regulators as well as financial service providers and other stakeholders require a wide range of reliable, recent market data from thematic or sectoral diagnostics for their policies, strategies, and investments on country or firm level, respectively. "Robust data and diagnostics activities also provide a valuable baseline from which to measure progress over time and structure a robust M&E system".[43]

Data is a key input to inform the development of the strategy, starting with pinning down the sets of data that are required for identifying (i) the Fintech drivers, opportunities and challenges in the environment as well as (ii) analyzing the relevant market forces on the demand and supply side. Different types of data result from diagnostics in distinct areas:

- *Environmental assessment:* the macro-level context reveals the drivers for the digital financial transformation and the opportunities and challenges in the ecosystem across political, economic, social, technological, legal, capital, and talent considerations.
- *Market analysis (demand and supply side data):* industry or supply-side data is generally faster accessible (e.g. payments, online/mobile subscriptions, or startup investments), but demand-side data (e.g. smartphone penetration, financial access and usage, informality) can be particularly relevant depending on the strategy goal. Porter's 5 Forces Model helps to frame the analysis of market players (rivalry), new entrants (threat), suppliers / partners and buyers (bargaining power of each), and products (potential substitutes).

iii. ***Prioritizing Policy Areas:*** *"A national strategy is essentially about making choices about what and what not to do. It is important to be systematic when setting priorities to achieve the desired results within the specified period."*[44]

Strategies "generally include a hierarchy of priorities: prioritizing barriers to be addressed; prioritizing policies to address the chosen barriers; prioritizing activities within selected policy areas."[45]

In the context of the strategy, prioritization takes place for the challenges and opportunities identified across the digital financial ecosystem. These are priority areas "to which relatively high importance needs to be attached in the effort to achieve the goals articulated in the national strategy."[46] This is important because of resource limitations with the stakeholders. Prioritization can follow the vision outlined in the strategy.

iv. ***Governance and inter-agency coordination:*** With their distinct approaches to fintech, countries encourage certain types of technology-enabled financial innovation, establish their market as global hub, enhance market infrastructure, facilitate regulatory compliance, or improve consumer outcomes.

[42] AMF/GIZ, Fintech Toolkit: Smart Regulatory and Market Approaches to Financial Technology Innovation, 2020.
[43] World Bank, Developing and Operationalizing a National Financial Inclusion Strategy, 2018.
[44] Dr. Nimal Fernando in AFI, 2018.
[45] AFI, National Financial Inclusion Strategies. Current State of Practise, 2018.
[46] AFI, 2018c.

Such objectives provide a basis for national strategies that, however, in all cases require coordinated approaches across government agencies.

Box 7: Example Case: Hong Kong Monetary Authority's (HKMA) and the Fintech Facilitation Office (FFO)[47].

in April 2015, Hong Kong's government established a steering group (chaired by the secretary of finance and treasury, included representatives from all relevant regulatory agencies and industry) to advise on the development and promotion of the region as an Asian financial technology hub. In 2016, Hong Kong's central bank established the Fintech Facilitation Office (FFO) which aims to facilitate the healthy development of the fintech ecosystem in Hong Kong and further, promotes Hong Kong as a fintech hub in Asia. Among other things, the FFO acts as:

1. a platform for exchanging ideas of innovative fintech initiatives among key stakeholders and conducting outreaching activities.
2. an interface between market participants and regulators within the HKMA to help improve the industry's understanding about the parts of the regulatory landscape which are relevant to them.
3. an initiator of industry research in potential application and risks of fintech solutions; and
4. a facilitator to nurture talents to meet the growing needs of the fintech industry in Hong Kong.

Box 8: Example Case: The Monetary Authority of Singapore (MAS)[48].

Singapore's central bank (MAS) established a Fintech and Innovation Group in May 2015 to develop policies that facilitate technology in the financial sector. In 2016 the Group created a Fintech Office to align financial technology programs across the government and propose cross-agency strategies and policies that could position Singapore as a hub for innovation. The technologies regulated thereunder include: Artificial Intelligence, APIs, Blockchain/Distributed Ledger Technology (DLT), Cloud, Cybersecurity, Digital ID & e-KYC and RegTech. Their focused sectors include: Banking, Insurance, Capital Markets and Payments. Their collaboration efforts include various Fintech Co-operation Agreements, Global Financial Innovation Network (GFIN), ASEAN Financial Innovation Network (AFIN), MAS-UNCDF Partnerships for Financial Inclusion and the International Technology Advisory Panel (ITAP).

[47] AMF, Fintech Strategy Guidelines for the Arab Region, 2020.
[48] Ibid., p. 71.

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