No:22

2022
FEBRUARY

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Country Reports 10

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RESEARCH CENTER FOR ISLAMIC ECONOMICS

İLKE Publication No:120 | IKAM Research Reports 22 | IKAM Country Reports 10 | ISBN: 978-625-7684-83-5 | E-ISBN: 978-625-7684-82-8 | DOI: http://dx.doi.org/10.26414/ikm011

Towards a Better Financial Inclusion in Maghreb Countries: Insights on the Role of Islamic Microfinance and Fintech

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This Research Report was prepared by the Research Center for Islamic Economics (İKAM). İKAM aims to produce competent ideas and theories in order to build Islamic economic thought in a holistic manner.

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ABSTRACT

Contrary to what might be assumed, dealing with people at the "bottom of the pyramid" provides tremendous business opportunities if the right approach to engage them profitably is followed. Through an innovative business model, Microfinance has been, to some extent, successful in addressing the needs of poor people in terms of financial services' provision. Rooted in ethics, Islamic Finance has the legitimacy to lead the microfinance industry and to bring new perspectives into the economic empowerment of low-income populations in OIC countries. However, despite the abundant literature on the fit between sustainable development and Islamic Finance as well as some successful impact finance initiatives especially in South East Asia, the market has not yet seen the full potential of the Islamic Microfinance industry in driving socio-economic outcomes at scale for populations at the "bottom of the pyramid". This is particularly true for Maghreb countries, where financial inclusion levels remain insufficient as compared to similar regions. This document focuses on financial inclusion's current situation and challenges in Maghreb countries (Morocco, Algeria and Tunisia) and how to leverage formal and informal mechanisms in this context. It specifically proposes practical strategies to revamp financial inclusion in Maghreb from the Islamic microfinance perspective.

Keywords: Maghreb, financial inclusion, Islamic micro finance, alternative finance.

ÖZET

Gelir düzeyi düşük grupların (Bottom of the Pyramid) iktisadi faaliyete dahil edilmesine yönelik doğru yaklaşımlar izlendiğinde muazzam iş fırsatları ortaya çıkabilmektedir. Yenilikçi bir iş modeli olması sebebiyle mikrofinans, finansal hizmetlerin sağlanması açısından yoksul insanların ihtiyaçlarını karşılanmasında belirli bir noktaya kadar başarılı olmuştur. Ahlaki bir temele dayanan İslami finans, mikrofinans sektörüne liderlik edecek ve İslam İşbirliği Teşkilatı üye ülkelerindeki gelir düzeyi düşük grupların ekonomik olarak güçlendirilmesine yönelik yeni yaklaşımların geliştirilmesine öncü olabilecek güce sahiptir. Sürdürülebilir kalkınma ve İslami finans uyumuna dair literatürdeki zenginliğe ve özellikle Güneydoğu Asya'daki başarılı bazı finansman girişimlerine rağmen İslami mikrofinans piyasası, finansal açıdan gelir düzeyi düşük grupların sosyo-ekonomik sorunlarının çözümünde var olan potansiyeline henüz ulaşamamıştır. Bu durum özellikle finansal erişim düzeylerinin benzer bölgelere kıyasla yetersiz kaldığı Mağrip ülkeleri için geçerlidir. Bu rapor, finansal erişimin Mağrip ülkelerindeki (Fas, Cezayir ve Tunus) mevcut durumuna ve zorluklarına odaklanarak finansal erişimin arttırılmasında resmi ve gayri resmi mekanizmalardan nasıl istifade edileceğine odaklanmaktadır. Rapor, İslami mikrofinans perspektifinden Mağrip'teki gelir düzeyi düşük grupların finansal erişimine yönelik pratik stratejiler önermektedir.

Anahtar Kelimeler: Mağrip, finansal içerim, İslami mikrofinans, alternatif finans.

Reference: Aaminou, M. W. (2022). *Towards a better financial inclusion in Maghreb countries: Insights on the role of Islamic microfinance and fintech* (Research Report No. 22). İstanbul: Research Center for Islamic Economics (IKAM).

ABOUT AUTHOR

Wail Mohamed Aaminou, while living in the US, the 2008 financial crisis' impact on the economy and people pushed Wail Mohamed Aaminou to question the purpose of his job as a financial consultant. He ultimately shifted gears to focus his advisory efforts on fostering more ethical finance that puts the real economy, social welfare, and environment preservation at the center. With assignments in Northwestern Africa, Middle Eastern, and Southeast Asian regions, this journey led him to challenge and shape Islamic finance and Impact finance ecosystems in as varied sectors like energy, healthcare, education, and agriculture.

Working in more than 10 countries has taught him that sustainable development challenges are complex and that a viable solution would start by prioritizing efforts on the most pressing issues when resources are limited. This is particularly true for climate change which transversally impacts virtually all SDGs. Today, as a sustainability finance advisor, Wail Mohamed Aaminou mobilizes people and resources toward the adaptive challenge of building together with the sustainable world that our children and planet deserve.

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Introduction

Doing Business with "Bottom of the Pyramid" Clients

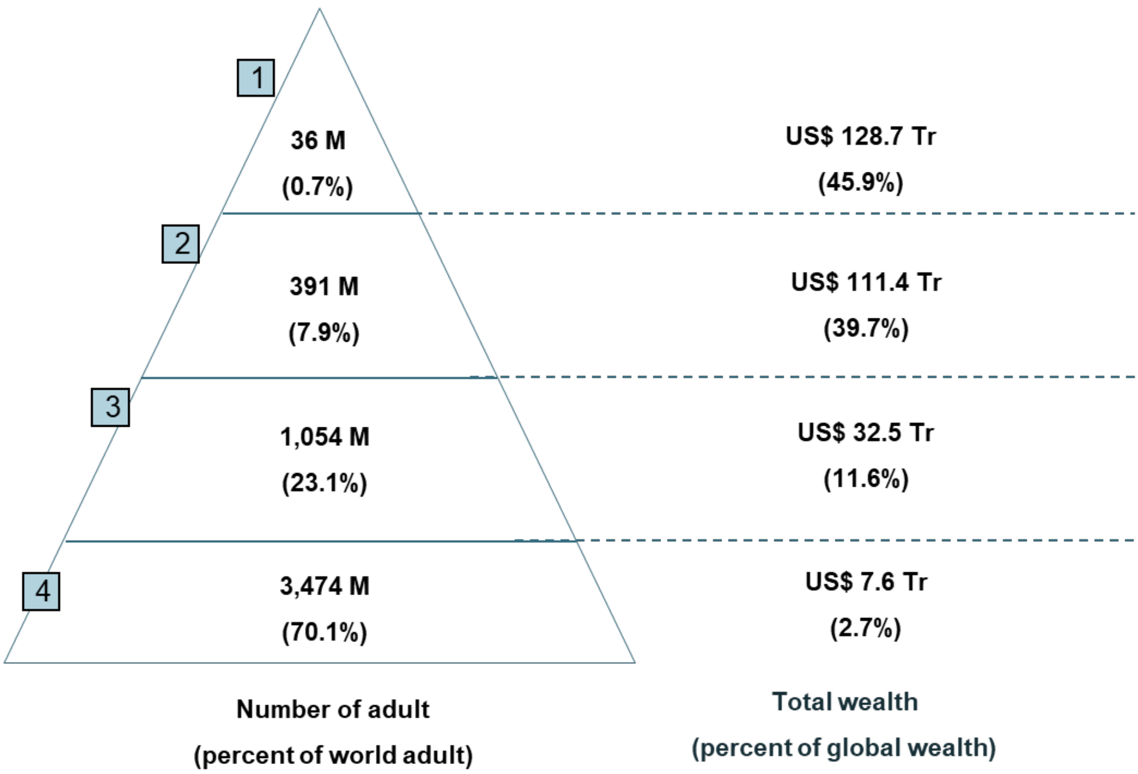
For a long time, there was a perception that it is difficult to do business with the poorest households because of their very limited income. As a result, this large population has been mainly ignored which has further reinforced the exclusion of such a segment called "The bottom of the pyramid".

According to the Financial Times, the Bottom of the Pyramid "is a socio-economic concept that allows us to group that vast segment (…) of the world's poorest citizens constituting an invisible and unserved market blocked by challenging barriers that prevent them from realizing their human potential for their own benefit, those of their families, and that of society's at large" (The Financial Times, n.d.).

Typically, households belonging to the bottom of the pyramid own few assets, have little or no formal education, live in rural villages, or urban slums, and are hard to reach via conventional distribution, credit, and communications channels (JETRO, 2009).

Figure 1 highlights the key figures related to the "Global Pyramid of Wealth". According to this figure, while 70% of the world population belongs to the lowest consumers' tier (3.474 billion adults), their aggregated wealth represents only 2.7% of the global wealth!

Figure 1: The Global Pyramid of Wealth



Source: Adapted from Credit Suisse (2017).

In a landmark article “The Fortune at the Bottom of the Pyramid” in 2002, C.K. Prahalad and Stuart Hart, from the University of Michigan and North Carolina respectively, pioneered the idea that dealing with people at the bottom of the pyramid provides tremendous business opportunities if the right approach to engage them profitably is followed. Additionally, the authors supported their argument about the market viability of the “bottom of the pyramid” orientation by stating that the bulk of the world’s population growth would occur at the bottom of the pyramid (Prahalad, 2002).

In the financial sector, Grameen Bank, a rural bank in Bangladesh created by Nobel Prize winner Muhammad Yunus, was a historical pioneer in addressing the needs of rural poor people in terms of financial services through an innovative business model. This target population is mostly excluded from the formal financial system because it lacks any collateral. Grameen Bank innovated by replacing the requirement of tangible collateral with group responsibility where group repayment behavior determines an individual access to credit. Grameen Bank organizes and trains its members in groups to make them individually and socially accountable (Khandker et al., 1994). This non-financial innovation improves not only the productivity of the members but also the institution’s loan recovery rate which stood at over 95% in April 2021 (Grameen Bank, 2021). As of January 2021, the institution had 9.38 million members of whom 97 percent were women. Grameen Bank had also 2,568 branches and operates in 81,678 villages in Bangladesh (93 percent of the total villages in the country) (Grameen Bank, n.d.).

Islamic Finance has the legitimacy to lead the microfinance industry and to bring new perspectives into the field. First, Islamic Finance is already established in most OIC countries where - 21% of the - population still live below the international poverty line (OECD, 2020). As such, Islamic Finance has a moral obligation to address the immense economic and social challenges faced by these countries especially in the context of COVID-19 crisis. Second, an ethical perspective is natively built into the DNA of Islamic Finance since ethics is one of the pillars of sharia. Third, Islamic Finance business model is inherently embedded into real economy and can be easily integrated into different sectorial ecosystems and value chains. Fourth, Awqaf (Islamic endowment funds) and Zakat institutions (compulsory charity funds) have the necessary levers to channel capital into “below-market return” projects through subsidizing or guaranteeing schemes. Fifth, customers are expecting Islamic finance institutions to be very active on the social front (Maali et al., 2006; Dusuki & Abdullah, 2007) and finally, according to surveys, up to 40% of potential microfinance clients reject non-Sharia compliant financial instruments (Karim et al., 2008).

Despite the abundant literature on the fit between sustainable development and Islamic Finance as well as some successful impact finance initiatives especially in South East Asia, specifically Baitul Maal Wat Tamwil, the largest, oldest, and most prominent Islamic Microfinance Institution in Indonesia (Gates Foundation, 2015), the market has not yet seen the full potential of the Islamic Microfinance industry in driving socio-economic outcomes at scale. Table 1 below illustrates this argument.

Table 1: Islamic Banking versus Islamic Microfinance Statistics

Source	About the source	Results
The Islamic Financial Services Board's (IFSB's) Islamic Financial Services Industry Stability Report	A flagship annual report that presents an assessment of the key vulnerabilities, resilience and future outlook of the global Islamic Finance Industry	Cited microfinance and microinsurance 4 times in its 2020 edition while Islamic banks, Islamic banking and Islamic banker were cited 638 times! (IFSB, 2020)
Google Scholar	Web search engine that indexes the full text or metadata of scholarly literature	"Islamic banking" and "Islamic Microfinance" generates 120,000 and 5,980 results respectively (Google Scholar, n.d.)
Academia	an American for-profit social networking website for academics	"Islamic banking" and "Islamic Microfinance" generates 8,319 and 1,503 results respectively (Academia, n.d.)

Source: Gates Foundation (2015).

The Context in Maghreb Countries

The scale of the informal economy is a proxy that allows to seize the potential of the "Bottom of the pyramid" Market. In Maghreb countries, for instance, the informal economy's indicators are very significant. To illustrate, the undeclared output as a percentage of GDP is 37.9%, 35.7% and 39.6% in Morocco, Algeria and Tunisia respectively. Whereas, the percentage of the workforce that does not contribute to the social security is 76.2%, 63.3% and 51.4% in Morocco, Algeria and Tunisia respectively (World Bank, 2014).

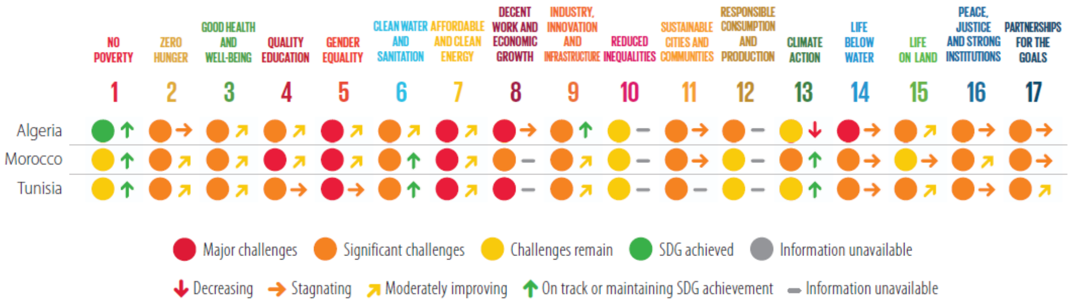
Figure 2: Undeclared output as % of GDP and % of the labor force not contributing to social security in Maghreb countries

Undeclared output as % of GDP	37.9%	35.7%	39.6%
% of the labor force not contributing to social security	76.2%	63.3%	51.4%

Source: World Bank (2014).

Since the last decade, Maghreb countries have put in place ambitious development strategies to support their advancement on the Sustainable Development Goals (SDGs) achievement. However, as shown in Figure 3 performance scores in sustainable development remain insufficient as compared to international standards and the most important gaps are related to human development aspects (Al Maali Group & IRTI, 2021).

Figure 3: SDG Dashboard with Trends - Maghreb Region 2019



Source: SDG Center for Africa & SDSN (2019).

In Maghreb countries, Islamic finance is also mostly driven by Islamic banking and as a result, the industry addresses the needs of "Bottom of the pyramid" clients only marginally (Table 2).

Table 2: Statistics on Islamic Finance Institutions on Maghreb

	Morocco	Algeria	Tunisia
Islamic Banks (Full- fledged and Windows)	9	3	4
Takaful companies	0	0	3
Islamic Microfinance institutions	0	0	1

Compared to other regions, Islamic finance in Maghreb can be considered relatively recent. In addition, as mentioned in the following figures laws and regulations related to Islamic finance have been put in place only since a few years ago.

Figure 4: Moroccan Islamic Banking Milestones

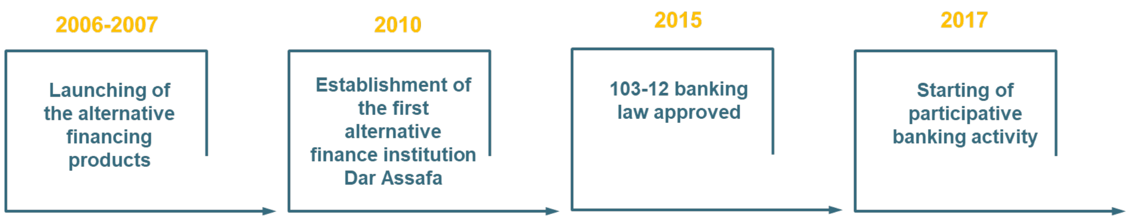


Figure 5: Algerian Islamic Banking Milestones

Figure 6: Tunisian Islamic Banking Milestones

Objectives of the Document

This document focuses on financial inclusion's current situation and challenges in Maghreb countries and how to leverage Islamic microfinance in this context. More specifically, the second section presents the concept of financial inclusion, explores national strategies of financial inclusion and analyzes a selection of related key performance indicators. The following section covers microfinance regulations, statistics and the situation of Islamic microfinance in the region. Informal finance and Rotating Credit and Savings Association (ROSCA) are presented in detail in the fourth section globally and with a focus on the Maghreb region. Section five analyzes the strengths and weaknesses of the fintech environment in Maghreb and summarizes the main elements of the fintech regulatory environment. Finally, the last section discusses strategies to revamp financial inclusion in Maghreb from the microfinance perspective through two levers and five support mechanisms.

Financial Inclusion in Maghreb Countries

Definition of Financial Inclusion

Financial inclusion refers to "the access by enterprises and households to reasonably priced and appropriate formal financial services that meet the needs of enterprises and households. Access to financial services can be defined along several dimensions, including geographic access (that is, proximity to a financial service provider) and socioeconomic access (that is, absence of prohibitive fees and documentation requirements). Appropriate design of products that meet the needs of clients, are sustainable for both providers and users, but do not involve abusive pricing are other important aspects" (World Bank, 2015). Put differently, financial inclusion is the process of ensuring that individuals, especially low-income people, have access to basic financial services in the formal financial sector (Ozili, 2018). It includes saving, investing, borrowing, and insurance. Table 3 summarizes the main attributes of financial inclusion.

Table 3: The Three Dimensions of Financial Inclusion

Accessibility	Physical proximity Pricing Ease of use
Use	Financial capacity Actual use: regularity, frequency and duration of use
Quality	Tailored to customer needs Delivered responsibly Sustainably

Source: Adapted from CGAP (2015).

Globally, about 1.7 billion adults do not have an account at a financial institution or through a mobile money provider. Unbanked adults are present mostly in the developing world.

In 2017, the World Bank conducted the 2017 Global Findex to understand the behavior of the unbanked population. The most common reason for not having a bank account was "having too little money to use an account" (Two-thirds of respondents). Other reasons included "cost and distance" (a quarter of respondents), "not having an account because a family member already has one" (a quarter of respondents), "lack of documentation" (a fifth of respondents), "distrust in the financial system" (a fifth of respondents), and "religious concerns" (6 percent of respondents) (World Bank, 2018a).

Importance of Financial Inclusion

Several studies show that better access to the financial system has both social and economic benefits (Table 4). Financial inclusion is a key factor in reducing poverty and inequality as well as enhancing prosperity. This is particularly relevant in the context of Maghreb countries that struggle with a high rate of unemployment among young people and a large number of informal enterprises which have been compounded during the COVID-19 crisis.

Table 4: Selected Studies on the Social and Economic Benefits of Financial Inclusion

Authors	Countries
(Wurgler, 2000) (Demirgüç-Kunt et al., 2008) (Burgess & Pande, 2005) (Banerjee et al., 2013)	India
(Bruhn & Love, 2009) (Bruhn & Love, 2014)	Mexico
(Karlan & Zinman, 2010)	South Africa
(Dupas & Robinson, 2009)	Kenya

Therefore, it is natural that public authorities focus on the risks associated with financial exclusion and its negative impact on economic, social and political stability. Indeed, the G20 has recognized financial inclusion as one of the pillars of global development, the World Bank has even established an ambitious goal of universal access to financial services before 2020! In addition, more than 60 countries have initiated reforms to improve the financial inclusion situation since 2011 (CGAP, 2017).

Finally, financial inclusion is an important lever to support sustainable development as it is directly related to SDG 1 (Eradicating poverty), SDG 2 (Ending hunger, achieving food security and promoting sustainable agriculture), SDG 3 (Health and well-being), SDG 5 (Gender equality and economic empowerment of women), SDG 8 (Promoting economic growth and jobs), SDG 9 (Supporting industry, innovation, and infrastructure) and SDG 10 (Reducing inequality). The table in Appendix 1 maps the relationship between selected SDGs and financial inclusion.

Current Situation of Financial Inclusion in Maghreb Countries

In Maghreb countries, the share of the population with access to financial services remains low although it has improved during the last decade. Access to financial services is defined as the share of the adult population with account ownership at a financial institution or with a mobile-money-service provider (Table 5) (World Bank, 2018a). More detailed statistics on financial inclusion indicators in the Maghreb region are presented in Appendix 2.

Table 5: A Selection of Financial Inclusion Indicators in Maghreb (2017)

	Global Financial inclusion ranking	Account ownership at a financial institution or with a mobile-money-service provider (% of population 15+)	Makes online purchases and / or pays bills online (% of population 15+)
Morocco	126	28.64%	2%
Algeria	100	42.78%	4.6%
Tunisia	113	36.91%	6.6%

According to the FINDEX survey conducted in 2017 by the World Bank (Demirguc-Kunt et al., 2018), the major obstacle cited by Moroccans is the "lack of funds". Indeed, half of the unbanked adults in Morocco consider "insufficient funds" as the only reason for not having a bank account or payment even if the questionnaire allowed multiple responses. Similar percentages were seen in Egypt (59%) and Tunisia (52%), while the average for MENA and lower middle-income countries reached 44% and 29% respectively (World Bank, 2018a).

National Strategy of Financial Inclusion in Morocco

Several initiatives have been undertaken by different stakeholders over the past decade to expand access to financial services for the benefit of different segments of the population, individuals and businesses. Despite the progress made, access to formal financial services remains limited and uneven. Indeed, the results of the last FINDEX survey revealed significant disparities between certain categories of the population compared to countries with the same level of GDP per capita (World Bank, 2018a).

In this context, the Ministry of Economy and Finance and the Central Bank have led, since 2016, the process of developing a National Strategy for Financial Inclusion. The strategy defined a national vision broken down into strategic orientations and levers targeting young people under 25, women, rural people and Very Small Enterprises (VSEs). The strategy was based on an in-depth analysis of the components of financial inclusion in Morocco and internationally (Moroccan Ministry of Economy and Finance & Bank Al Maghrib, 2019).

In the business segment, the level of financial inclusion also remains very limited for VSEs and micro-enterprises. According to a survey carried out in 2017 by the Moroccan Foundation for Financial Education on nearly 1,000 VSEs, medium-sized enterprises and auto-entrepreneurs, only 48% of small businesses have a bank account and only 6% have a loan even if 60% of businesses respondents said they are having cash flow problems. To cope with this issue, respondents rely on family and friends (53%) or deferred payments from suppliers (29%) (FMEF, n.d.).

The Moroccan strategy of financial inclusion objectives are as follows:

- Reach and then exceed the "average level" of penetration of financial services observed in countries comparable to Morocco;
- Reduce the most significant inclusion gaps;
- Take advantage of financial inclusion as a lever for economic and social inclusion.

In order to successfully implement the strategy and maintain stakeholder buy-in and commitment, the strategy relies on a dedicated governance structure under the leadership of the Ministry and Finance and the Central Bank. To this end, three committees have been set up (Moroccan Ministry of Economy and Finance & Bank Al Maghrib, 2019):

- A National Council in charge of the overall monitoring of the National Financial Inclusion Strategy, with the possibility of reframing the priorities and strategic orientations;
- A Strategic Committee in charge of steering the levers advancement, of the key arbitration decisions required over time and of the mobilization of the stakeholders involved;
- A Steering and Coordination Committee in charge of the operationalization of the strategy and operational steering.

National Strategy of Financial Inclusion in Tunisia

The formulation of the Tunisian National Financial Inclusion Strategy was launched under the chairmanship of the Minister of Finance in May 2016. This strategy is part of the broader framework of the 2016-2020 economic development plan led by the government, which highlights the driving role of the private sector in the development of the country, as well as the special place of social and solidarity economy as the third pillar of the Tunisian economy (Tunisian Ministry of Finance, 2016).

The vision of the National Financial Inclusion Strategy is to ensure access to and use of a diversified range of financial products and services adapted to users and provided at affordable costs to 'all Tunisian economic agents and particularly young people, women, rural populations and VSEs'.

The five overall objectives of the strategy are presented below (Tunisian Ministry of Finance, 2016):

- Digital finance: Promoting financial inclusion through improving access to and use of electronic payment accounts;
- Microinsurance: Developing responsible microinsurance offers tailored to the needs of a low-income population and to VSEs in order to protect their economic capital against disasters and provide them with economic opportunities;
- Refinancing: Putting in place a diversified refinancing system adapted to the needs of microfinance institutions (MFIs) to allow them access to a larger population at lower costs, which will ensure the sustainability of MFIs;
- Social and solidarity economy: Building a collaborative culture among the social and solidarity economy stakeholders (companies, cooperative and mutual structures, etc.) to foster the development of financial inclusion solutions;
- Financial education: Ensuring that individuals and households are financially stable and able to make the right decisions about their financial needs.

These global objectives have all been broken down into several specific objectives from which concrete and measurable actions have been defined, for each theme. The strategy implementation is supervised by a National Committee for Financial Inclusion (Tunisian Ministry of Finance, 2016).

National Strategy of Financial Inclusion in Algeria

Unlike Morocco and Tunisia, Algeria does not have an explicit financial inclusion strategy with quantified objectives and governance mechanisms to support its implementation. However, the Central Bank of Algeria has formalized guidelines to promote financial inclusion in the country (Bank of Algeria, n.d.). These guidelines are as follows:

- Strengthening financial infrastructure.

The availability of a solid financial infrastructure to meet the demand of financial inclusion is one of the fundamental pillars to create an enabling environment. Priorities are set for the creation of this infrastructure in order to consolidate economic growth and facilitate citizens' access to financial services. These priorities are:

  - Establishment of an appropriate legislative framework to support financial inclusion;
  - Extension of financial service providers branches and support the creation of branches or small offices for service providers, in particular, for microfinance;
  - Development of national payment and settlement systems;
  - Development and improvement of communication and exchange of financial information;
  - Enabling of credit information bureaus targeting individuals and small and medium-sized businesses as well as movable property.

- Ensuring financial protection of consumers.

The financial protection of consumers is key to increase confidence in the banking and financial sector in order to promote the process of financial inclusion and financial stability

- Developing financial services and products that meet the needs of all socio-professional categories.

This guideline focuses on facilitating access to financial services for the benefit of individuals and small, medium and micro enterprises through the following levers:

  - Taking into account customers' needs and requirements as well as their constraints when designing products and services;
  - Encouraging competition between suppliers of financial services;
  - Reducing unjustified taxes and commissions imposed on customers;
  - Training the staff of financial services providers.

- Enhancing financial education.

The objective of this guideline is to establish an integrated financial education system that helps citizens and entrepreneurs make sound decisions regarding their various financial transactions with the lowest degree of risk.

Microfinance in Maghreb Countries

Microfinance Regulation in Morocco

The microfinance activity in Morocco is governed by law N ° 18-97 of April 1, 1999. According to this law, all MFIs shall be organized in associative form and shall not collect savings from the public (Moroccan Official Gazette, 1999). This law has undergone several modifications since its publication, in particular in 2004, 2007, 2012, and 2019.

According to the first article of the aforementioned law, the main purpose of MFIs "is to distribute microcredits under the conditions provided for by this law and the texts adopted for its application". The law n° 58-03 of April 21, 2004, amended and supplemented law n° 18-97 by allowing micro-credit associations to extend their activities to loans "whose object is to enable "economically weak" people to acquire, build or improve their housing, to acquire electrical installations or to ensure the supply of drinking water to their homes " (Moroccan Official Gazette, 2004).

In the beginning, the maximum value of microloans was set at 50,000 dh. This threshold was subsequently amended in Law No. 85-19 to reach 150,000 dh.

According to Law No. 18-97, the activity of MFIs in Morocco is governed mainly by two bodies, namely:

- The National Federation of Microcredit Associations (FNAM)
- An Advisory Council for Microcredit (CCM)

In 2014, the new banking law (103-12) introduced new provisions pertaining to micro-credit associations, which, while remaining governed by their specific regulations will be subject to the provisions of the banking law relating to the granting and withdrawal of authorization, to prudential regulations and accounting and sanctions regime (Moroccan Official Gazette, 2014).

In 2020, the governor of the Central Bank announced the creation of a guarantee fund to support MFIs during the COVID-19 crisis. "Caisse Centrale de Garantie", the national Guarantee body will manage the microfinance fund (Bourse News, 2020).

Finally, the law No. 50-20 on microfinance was approved by the House of Representatives in 2021. Under this bill, these institutions can take the form of either a microfinance association or a public limited company. The activity of these institutions should always focus on low-income people seeking the creation or development of production or service activities and income-generating and job-creating activities. The bill will be completed by a decree that sets several levels of micro-loans ceiling depending on the category and objectives of each microfinance institution and its financial resources (Moroccan Official Gazette, 2021a).

Microfinance Regulation in Tunisia

In 2011, the Tunisian Ministry of Finance adopted a national development strategy for the microfinance sector to tackle financial exclusion and contribute to economic development throughout the country, including in disadvantaged regions. Additionally, the provision of microfinance services needed to go beyond simply granting microcredits to also include savings deposits and insurance services (microinsurance).

In November 2011, Decree-Law No. 2011-117 on the organization of the activity of microfinance institutions, for the first time allowed limited companies to grant microcredit. These companies must have a minimum capital of 3 million dinars (Tunisian Official Gazette, 2011). Article 58 of this decree-law allows micro-credit associations to continue to operate if they comply with the provisions of this decree-law, including the constitution of minimum capital of 200 thousand dinars modified to 50 thousand dinars per Law No. 2014-46 of July 24, 2014, amending Decree-Law No. 2011-117 of November 5, 2011 (Tunisian Official Gazette, 2014).

Moreover, Decree-Law No. 2011-117 of November 5, 2011, gives the possibility for a microfinance institution to diversify its products by offering microinsurance. The sale of microinsurance products is, however, subject to the signature of an agreement between professional insurance and professional microfinance associations. Also, this text creates a supervisory authority whose main mission is the supervision of microfinance institutions. Decree No. 2012-2128 of September 28, 2012, sets the operating procedures of the Microfinance Control Authority.

Finally, the new regulations brought changes to the level of the microcredit ceiling and the conditions for granting microloans. The ceiling remains the same for associations (five thousand dinars), but it is set at twenty thousand dinars for microfinance institutions incorporated as public limited companies. Concerning loans granted for the improvement of living conditions, the ceiling is one thousand dinars for associations and three thousand dinars for public limited companies.

Microfinance Regulation in Algeria

Unlike Morocco and Tunisia, there is no regulatory and institutional framework dedicated to microfinance in Algeria, but rather social assistance and microcredit mechanisms which mainly target social integration and job creation mainly through the national microcredit agency (ANGEM) (ANGEM, n.d.).

Microcredit was first launched in Algeria in 1999. Although it has allowed the creation of more than 150,000 activities at that time, microcredit did not really achieve the objectives expected by the public authorities due to a lack of support of micro-entrepreneurs during the launch and the implementation of their projects. In this context, AGNEM was setup by a presidential decree n° 04-13 of January 22, 2004. The agency’s main objective is to tackle unemployment and poverty by supporting people in creating their own activities (Achir, 2018).

ANGEM is a specific organization, placed under the supervision of the Ministry of National Solidarity, the Family and the Status of Women. In order to carry out its missions, the Agency has adopted a decentralized organizational model, with 49 local agencies, supported by 548 support units at the level of each Algerian district. This local network aims at better targeting needy people and participatory support for beneficiaries of microcredit (ANGEM, n.d.).

The ANGEM system offers numerous advantages to beneficiaries: financial advantages (interest rates subsidized to 100%, deferred repayments), taxation (taxes exemption for the first three years), and training sessions free of charge for the benefit of micro-credit beneficiaries in order to initiate them to better manage their micro-enterprises.

ANGEM proposes diverse financial arrangements that depend on:

- The needs: Purchasing raw materials or acquiring small materials or equipment
- The geographical area
- The client segment: housewives, students, disabled, etc.

The system allows two financing formulas, including one with the assistance of one of partner public banks (ANGEM, n.d.).

Finally, there is only one NGO: La Touiza, an association that provides microcredit for disadvantaged rural populations but which depends on foreign donors to finance its activity (Gregório & Kasiyandima, 2017).

Islamic Microfinance in Maghreb Countries

Globally, microfinance activity witnessed an average annual growth rate of 11.5% from 2013 to 2018. In addition, the number of borrowers worldwide continued to increase – even though at a slower pace than in the 2000 to 2010 period - recording an average annual growth rate of 7% since 2012, compared to a rate of nearly 20% in the previous decade (Convergences, 2019). Based on the presented figures, microfinance has undoubtedly had a positive impact on the financial inclusion of the served population globally although not to its full potential.

In this context, understanding the choice's determinants of microfinance by the targeted population is key to design efficient policy interventions aiming at leveraging microfinance to improve financial inclusion.

The following table summarizes factors influencing people to approach microfinance institutions.

Table 6: Factors Influencing People to Approach Microfinance Institutions

Factor	Details
Financial Model	The combination of financial services provided, such as loans, insurance and savings
Interest Rates	The annual rate that must be paid for the debts borrowed or received for the saving
Diversity	Widespread of the institutions over countries
Integrity	The act of being consistent between one's words and behavior
Purpose	The quality of being objective
Fairness	Treating customers with respect and dignity, and thriving towards a balance of the permissible interests among all affected parties
Professionalism	Maintaining and developing the image of the profession and thrive to improve the service quality provided to the public.
Service Provided	Performing a work or service for a customer or an institution that needs it in exchange for legitimate remuneration
CSR Activities	The social activities enable the institution to achieve its social mission for the welfare of the society
Legal Elements	The rules to return the credit and the consequences that must be faced if one does not repay the debt at stipulated time

Source: Aarthi & Suresh (2018).

In the specific case of OIC countries, one important constraint for expanding microfinance has been the prohibition of interest rates under Sharia rules (World Bank, 2015). Based on Table 6, sharia compliance can be classified under "Financial model" and "Legal elements" factors.

More specifically, market surveys by financial institutions and other reports on Islamic microfinance consistently argue that poor Muslim populations, in particular, are reluctant to deal with conventional microfinance institutions (Gates Foundation, 2015). Therefore, adapting microfinance value proposition to Sharia principles can promote the financial inclusion of populations who are self-excluding from conventional financing options. A 2008 CGAP paper suggests that up to 40% of potential microfinance clients reject non-Sharia compliant loans (Karim et al., 2008).

Islamic microfinance represents the integration of two rapidly expanding industries: microfinance and Islamic finance. It has the potential to not only respond to unmet demand from low-income economic agents but also to leverage Islamic social principles to address sustainability issues. Unlocking this potential could be the key to providing financial access to poor customers who currently reject microfinance products for sharia compliance issues.

- *The case of ZITOUNA TAMKEEN in Tunisia*

Approved by the Ministry of Finance in 2016, Zitouna Tamkeen is the first and only Islamic Microfinance institution in the Maghreb region. It has currently 16 branches across Tunisia and serves 65,000 clients (Guesmi & Jarboui, 2020). Zitouna Tamkeen aims at promoting the financial and economic inclusion of youths and individuals in social distress. Zitouna Tamkeen offers a variety of Sharia-compliantinstruments to finance and technically assist projects with social and economic impacts. The Tunisian Islamic Microfinance institution provides four main services. First, targeting high potential value chains and selecting specific touch-points to reach a large number of beneficiaries through economic empowerment. Second, providing micro-insurance to beneficiaries via existing Takaful operators. Third, microfinancing using a wide range of Sharia-compliantfinancing products. Forth, capacity building and human capital development through training and development (Zitouna Tamkeen, n.d.).

Microfinance Performance in Maghreb Countries

The number of microfinance clients in Morocco, Tunisia, and Algeria is 89,4031, 59,7053, and 79,6333 respectively (Table 7). Detailed statistics on microfinance in Maghreb countries are presented in Appendix 4, 5 and 6.

Table 7: Number of Microfinance Clients in Maghreb Countries

Number of Microfinance Clients		
Morocco (as of April 2021)	Tunisia (as of Decembre 2020)	Algeria (as of October 2017)
894,031	597,053	796,333

The number of clients of microfinance institutions needs to be contrasted with the number of people living under the poverty line in Maghreb (Table 8). According to OECD, the poverty rate is the ratio of the number of people (in a given age group) whose income falls below the poverty line; taken as half the median household income of the total population. Therefore, two countries with the same poverty rates may differ in terms of the relative income-level of the poor" (OECD, 2021).

Table 8: Percentage and Number of People Living Under the Poverty Line Based on OECD Data

Poverty Rate		
Morocco	Tunisia	Algeria
4.80% (1,792,550 people)	15.20% (1,814,236 people)	5.50% (2,453,914 people)

Source: World Population Review (n.d.).

Of course, the figures related to people vulnerable to poverty are much larger. For instance, because of the economic and social crisis induced by COVID-19, the proportion of people "vulnerable to poverty" and/or "poor" in Morocco is estimated to be 19.87% of the population in 2020, or approximately 7,420,411 people (Haut-Commissariat au Plan, 2020).

In light of these figures, it is clear that microfinance institutions in Maghreb countries have not yet fully addressed the poverty issues in the region.

ROSCA and Informal Finance in Maghreb Countries

Informal Finance

Adams and Fitchett (1994) define informal finance as “all financial transactions (loans and deposits) which are not regulated by a central monetary authority or by a central financial market.” A Rotating Credit and Savings Association (ROSCA) can be classified under informal finance.

Informal finance does not sound negative. On the contrary, this informality gives it several advantages in terms of flexibility and efficiency. Ultimately, what characterizes informal finance best is that the relationships between debtors and creditors are personal. Indeed, the financial transactions between debtors and creditors are not simply linked to their economic activity, they are embedded in their social relations. Informal finance is based on both solidarity and reciprocity (Lelart, 2006).

However, informal finance presents two main constraints. The first limit relates to time. Informal finance is generally short-term. For example, it allows a trader to satisfy his/her operating needs rather than his/her long-term investment needs. The second limit relates to space because informal finance is practiced between members of a small group generally present in the same geographical region (Lelart, 2006).

Defining ROSCA

ROSCA can be definedas “An association formed upon a core of participants who agree to make regular contributions to a fund which is given, in whole or in part, to each contributor in a rotation”. ROSCA is an extremely flexible instrument that fulfills many financial and social functions (Ardener, 1964) .

In their paper “ROSCA in Morocco: social logic, economic logic, solidarity logic”, Ould-Ahmed, El Housni and Moisseron describe several features of ROSCA features in Morocco, which are similar throughout the Maghreb region (Moisseron et al., 2017).

The authors mention that ROSCA plays both the role of a credit instrument and a savings instrument. It all depends on the place of the participant in the succession of beneficiaries. For the first beneficiary, ROSCA is akin to a debt instrument with no interest rate, administration fees, or insurance on possible defaults. For the last beneficiary, ROSCA is a pure savings instrument. Between the position of the pure creditor and the pure debtor which correspond respectively to the last or the first position, the other participants use ROSCA as a hybrid instrument of credit and borrowing. The closer they are to rank one, the more they act as a debtor towards the community, the closer they are to the ultimate rank, the more they act as creditors.

The authors add that sometimes ROSCA fulfills other functions. For instance, in modest circles, it is used by women to gain control over certain expenses. By obtaining from their husbands the possibility of participating in ROSCA, they obtain access to financial resources that they can manage on their own by involving their husbands in forced savings. ROSCA is in a number of cases, a factor of emancipation.

Finally, in the event of non-payment, the authors mention the possibility of participants individually or collectively canceling their receivables by sharing the loss.

In the Maghreb region, labor ROSCA is also present. It is called Touiza, which in Amazigh means "to help", is a social practice, the fruit of collective work, mainly applied in the countryside. It represents a system of traditional mutual aid and association between individuals without legal obligation. We distinguish its two forms which are the Touiza of common interest and the individual Touiza, which are respectively requested by the community and by an individual in need of help (Achour, 2018).

Informal Finance and ROSCA Statistics in Maghreb Countries

- *Morocco*

According to the World Bank Financial Capability Survey (WBFCS) (Zottel et al., 2014), 14% of adults are current members of a ROSCA, while 68% report having participated in a ROSCA in the past five years. Using their own calculations, Ababou and Goldemberg (2017) estimated that roughly 54% of Moroccans using ROSCAs between 2009 to 2014. Furthermore, WBFCS data shows that ROSCA use is not exclusively restricted to low-income households but it is rather common among more affluent people.

Table 9: ROSCA Use in Morocco According to Income

<table>
<tr><th>Income Quintile</th><th>Sample (% adults)</th><th>Current use of ROSCA</th><th>Number of users</th><th>Current use of ROSCA</th></tr>
<tr><td>1st</td><td>19%</td><td>23%</td><td rowspan="2">287</td><td rowspan="2">23%</td></tr>
<tr><td>2nd</td><td>18%</td><td>22%</td></tr>
<tr><td>3rd</td><td>18%</td><td>9%</td><td rowspan="2">110</td><td rowspan="2">10%</td></tr>
<tr><td>4th</td><td>19%</td><td>11%</td></tr>
<tr><td>5th</td><td>22%</td><td>7%</td><td>38</td><td>7%</td></tr>
<tr><td>N/A</td><td>4%</td><td>7%</td><td>10</td><td>7%</td></tr>
<tr><td>Total</td><td>100%</td><td>14%</td><td>445</td><td>14%</td></tr>
</table>

Source: Ababou & Goldemberg (2017).

In another survey on ROSCA usage in Morocco carried out by Bousalam and Hamzaoui (2015), the authors found out that the average number of participants in Moroccan ROSCAs is between 5 and 10 members, with monthly median contributions of 1,000 DH. These figures lead to an estimated flow of 40 billion DH generated by ROSCAs every year.

- *Algeria*

As mentioned by Sam Hocine (2019), informal finance statistics in Algeria are hard to collect. In this section, we rely on the FINDEX survey data conducted in 2017 in Algeria by the World Bank.

In 2017, around 38% of adults in Algeria saved money in the past year. Only 11% of savers mentioned making formal savings in a formal financial institution while 4% of savers reported using a saving club or entrusting the savings to someone outside the family. The striking fact is that 23% of savers declared saving money at home or saving in the form of livestock, jewelry, or real estate. In addition, according to the Findex survey, 29% of respondents in Algeria said that they borrowed money and that the main source of credit was family or friends, while only 3% of respondents mentioned borrowing from an official financial institution.

- *Tunisia*

The "National Survey on Financial Inclusion, 2018" is a benchmark study in Tunisia that focused on twenty-two indicators; such as the use, the access and the perception of services, on two separate samples distributed between companies and individuals in seven Tunisian regions (Altai Consulting, 2018).

The main findings are as follows:

- Tunisians borrow mainly outside banks and microfinance institutions: only 16% used formal credit in the past year, compared to 66% for informal credit;
- Micro-enterprises favor informal financing: 46% used it last year against 33% for formal credit, which most of the time requires collateral;
- Savings are mainly done informally (in cash, at home): only 17% save in a remunerated savings account.

The Maghreb Fintech Environment [1]

Drivers of Fintech Emergence in Maghreb

CIBAFI (2020) defines Fintech as "everything from high-speed algorithmic trading in financial markets to delivery of small-scale payment services through smartphones. Some Fintech activities involve new business models, for example peer-to-peer lending, while others involve improving the efficiency and effectiveness of existing business models, for example the use of distributed ledger technology to improve back-office record-keeping."

The Maghreb region has many favors that potentially favor the development of fintech. Firstly, the Maghreb population was estimated to be around 100 million in 2018, about 1.3% of the world's population and 7.8% of Africa's population. The demographic transition in Maghreb countries has gradually shifted with an active population (15 to 59 years old) currently representing the most preponderant part of the pyramid (around two-thirds) (Cf. Appendix 7) (Haut-Commissariat au Plan, 2018). Moreover, Maghreb countries have quickly transformed from mostly rural into predominantly urban societies. The urbanpopulation tripled between 1980 and 2018 while the rural population grew only by 20% during the same period (Haut-Commissariat au Plan, 2018) (Cf. Appendix 7).

1 This section's content is mainly based on the author's work in the chapter: Fintech landscape in Maghreb region of the "Bridging Islamic finance and sustainability through fintech" 2021 report.

Secondly, internet access has been growing steadily in the region over the past two decades. Today, around two-thirdsof the population are connected to internet mostly through mobile phones (Cf. Appendix 8). Virtually all citizens of Maghreb countries have mobile phones, which tend to be connected to a broadband network (3G-4G) as shown in Appendix 8. In Maghreb countries, around half of internet users are active users of social media. In Morocco, for instance, the users spend every day 2 hours and 33 minutes on average on different social media platforms (Cf. Appendix 8).

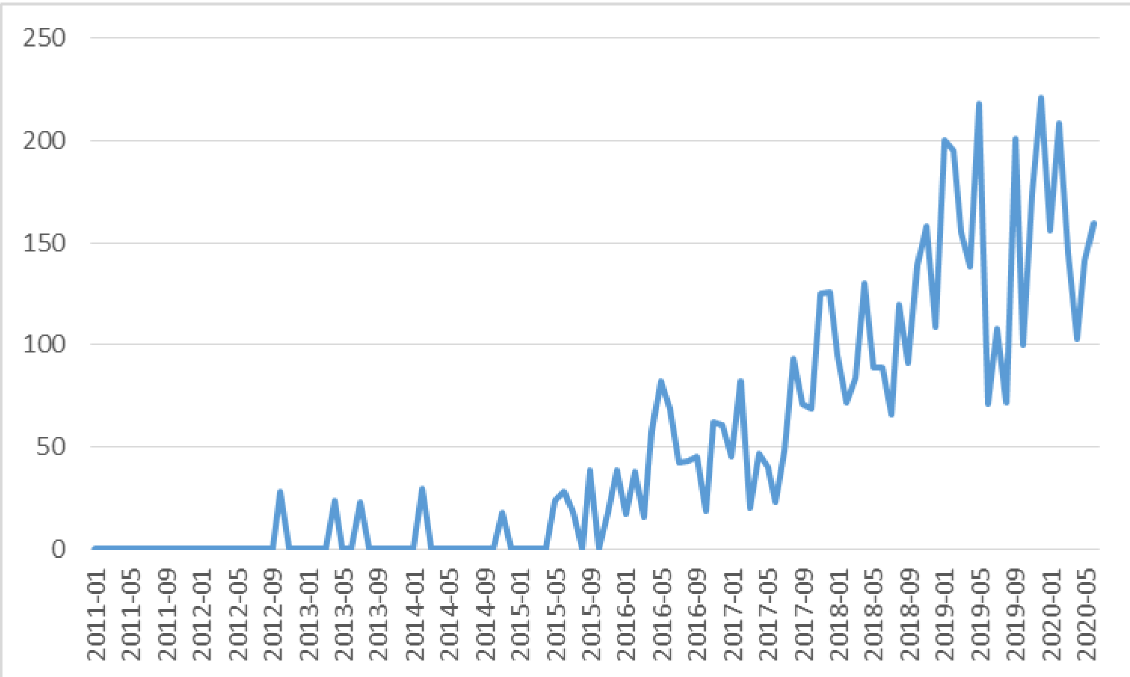
Thirdly, as presented in the previous sections, the share of the population in Maghreb with access to financial services remains low although it has improved during the last decade.

Finally, Maghreb migration dates back to the first half of the 20th century and has taken place predominantly in Western Europe which hosts 80% of Maghreb migrants with around 15 million people of North African origin in 2016 (Haut-Commissariat au Plan, 2018). The strong growth of Maghreb diaspora in Europe and globally has naturally led to a steady increase in remittances to countries of origin (Cf. Appendix 9). However, the cost of money transfer has remained relatively high and above the SDG Target 10.C of 3 percent sought to be attained by 2030 (World Bank, 2018b), which opens doors to alternative solutions.

Factors Precluding Fintech Emergence in Maghreb

In recent years, Fintech has attracted the attention of Maghreb financial institutions, start-ups, the media and the general public as shown in the Google Trend below (Figure 7).

Figure 7: Fintech Interest Trend in Maghreb Countries (2011-2020) Based on "Google Trends" Data



Source: Google Trends which provides a normalized measure of search volume for a given search term over a selected period of time (Google Trends, n.d.).

Despite this Fintech's popularity, Maghreb is among the least developed regions in the world in this industry. None of the Maghreb countries appears in the 2018 IFZ Global Fintech Rankings (30 countries) (Thomson Reuters, 2018), nor is it listed in "the 2019 Fintech 100 ranking (KMPG, 2019). Moreover, in "The 2020 Global Fintech Index" (Findexable, 2020), Tunis is ranked 6th in MENA region and 196th globally. Regionally, Morocco and Tunisia were classified under emerging African Fintech ecosystems in "Digitalizing Africa: The rise of Fintech Companies" report (PWC and CFC, 2019). In another Fintech study focusing on MENA region, Morocco and Tunisia are ranked seventh and ninth respectively in terms of the number of Fintech start-ups (MAGNiTT, 2019) (Appendix 10).

The factors explaining the underdevelopment of fintech in the region are as follows. First, internet quality and availability are still an issue in Maghreb countries. Based on the metrics presented in Appendix 11, it would be fair to claim that mobile internet quality in Maghreb region is at best average compared to other regions.

With regards to fixed broadband, the situation is not better. In fact, Table 31 in Appendix 11 indicates that Maghreb countries are not well ranked globally in terms of download speed in fixed broadband. Additionally, the fixed broadband penetration rate in the region (measured by subscriptions per 100000 people) has been lower than middle-income countries during the last ten years (World Bank a, n.d.).

Second, as presented in the Introduction section, the informal economy's weight is very significant in Maghreb countries both in terms of GDP and employment. Since transactions in the informal sector are cash-based, formal financial institutions (including fintech companies) are de facto penalized.

Third, there is a significant gap between the development of the banking system and the development of Maghreb capital markets. The efficiency of capital markets is key for the success of startups operating in the fintech field. Tables in Appendix 12 track the evolution of IPOs (Initial Public Offer) and IFOs (Follow-On Public Offer) in Maghreb countries from 2010 to 2019 (PWC, 2020). In 2019, total capital raised in Maghreb countries through IFOs and IPOs amounted to US$ 1,244 million, which is less than 0.36% of the region's GDP (World Bank b, n.d.).

Finally, The Fintech legal and regulatory framework in Maghreb is still at an embryonic stage, with many fintech domains not covered by laws or regulations. The discrepancy between the rapid changes in financial technologies as compared with time consuming legal and regulatory processes represents a major challenge. The next section explores in further details the Fintech legal and regulatory environment in Maghreb countries.

Zoom on the Fintech Legal and Regulatory Environment in Maghreb

- *Payments*

Historically, payments have been provided exclusively by banking institutions. This monopoly ended in Morocco and Tunisia in the past two years and payment companies are now fully active in Morocco (cf. Figure 8 and Figure 9) (Bank Al Maghrib, 2018a; Bank Al Maghrib, 2018b; Central Bank of Tunisia, 2018). According to the latest estimations, payment companies in Morocco already manage more than 1.5 million e-wallets (Berrada, 2020). More detailed indicators on payment companies in Morocco are particularly scarce and hard to collect.

Figure 8: Payment Companies' Milestones in Morocco

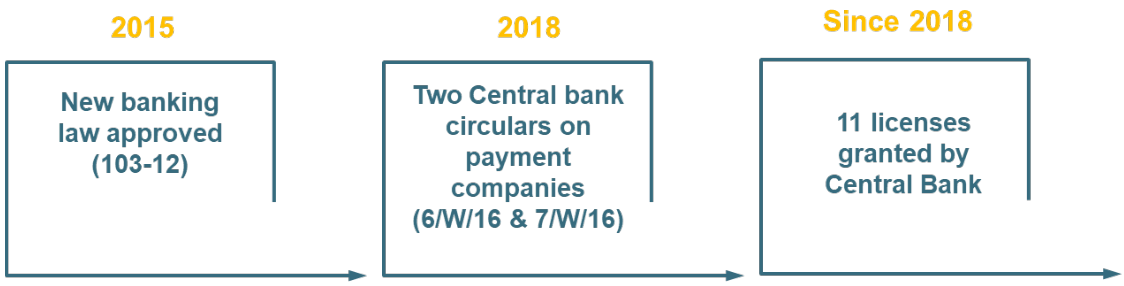


Figure 9: Payment Companies' Milestones in Tunisia

Regulations in Morocco and Tunisia allow payment companies to deliver various services through three e-wallet categories that are defined depending on the account's maximum limit. Know Your Customer (KYC) requirements differ depending on the account and these companies are not allowed to offer financing services.

One of the advantages enjoyed by payment companies is the possibility to onboard clients digitally. In Morocco, it was only after April 23rd, 2020 (in the midst of the COVID-19 crisis) that banks have been authorized to onboard retail and corporate clients remotely through digital authentication tools (Bank Al Maghrib, 2018c).

- *Digital signature*

All Maghreb countries introduced laws on digital signature and the electronic exchange of legal data (Morocco: Law 53-05; Tunisia: Law 2000-83 & Algeria: Law 15-04). The goal of these laws is to support dematerialization policies initiated by the public administration and the private sector.

However, the number of certificates issued is still very low (35 000 certificates in 2019 in Morocco and 21 738 in Tunisia in 2018) (Tunisian Ministry of Communication Technology, n.d.).

In April 2020 and as a response to the COVID-19 crisis, Barid Al-Maghrib, the only trusted third party in Morocco, announced the simplification of the processes for granting electronic signature certificates as well as the reduction of certificates' prices.

- *Crowdfunding*

Despite the growing number of Crowdfunding platforms operating in Maghreb region, their activities are currently not under any specific Crowdfunding regulation. In Morocco and Tunisia, Crowdfunding legal framework already exist (Moroccan Official Gazette, 2021b; Tunisian Official Gazette, 2020) while in Algeria, Crowdfunding was authorized in the amended finance law 2020 following COVID-19 crisis (Algerian Ministry of Finance, 2020). Table 10 summarizes the features of crowdfunding laws in Maghreb countries.

Table 10: Maghreb Crowdfunding Laws and Regulations Comparison

	Morocco	Tunisia	Algeria
Current status	Law approved on February 2021	Law approved on August 2020	Crowdfunding authorized in the amended 2020 finance law
Crowdfunding activities covered	Lending, equity and donations	Lending and equity	Equity
Supervisory bodies	Lending and donations: The Central Bank Equity: The Securities Commission	Lending: The Central Bank Equity: The Securities Commission	The Securities Commission
Crowdfunding company minimum equity	30 000 US$	Not specified	Not specified
Limits for projects financed	Maximum US$ 1 million per year per project Maximum US$ 2 million per year per project	Not specified	Not specified

- *Crypto-currencies*

There is no regulation specifically addressing crypto-currencies or crypto-assets in Maghreb countries. However, in November 2017, the Moroccan Central Bank, the Securities' Commission, and the Ministry of Finance jointly warned the public that any use of cryptocurrencies and specifically BITCOIN as a method of payment would be a clear breach of the applicable laws. This warning was made on the premises that crypto-currencies do not offer any protection to customers, are volatile, and are used as a support to criminal activities and money laundering (Moroccan Central Bank et al., 2017).

- *Fintech Sandboxes*

Tunisia is the only Maghreb country with a Fintech sandbox, which was officially launched on January 2020. According to the Tunisian Central Bank, the Sandbox is a test environment that allows monitoring the testing of innovative solutions offered by small-scale Fintechs and with voluntary customers. This is a flexibility granted by the regulator aimed at punctually exempting startups from certain obligations without allowing them to use this Sandbox to circumvent potential regulatory or legal provisions upon expiry of the test period (Central Bank of Tunisia, 2020). After an application process that lasts one month, selected Fintech companies are admitted into the Sandbox for a period up to one year.

- *Start-ups*

Tunisia is the only Maghreb country with a dedicated legal and regulatory framework for Startups (the Startup Act). This framework, presented in Table 11, seeks to facilitate the launch and development of Tunisian startups.

Table 11: Startup Act Legal & Regulatory Framework

Element	Details
Law No. 2018-20	Law N°. 2018-20 (April 17, 2018) related to Startups
Decree N ° 2018-840	Decree N° 2018-840 (October 11, 2018) setting the conditions, procedures and time limits for granting and withdrawing the startup label and for the benefit of incentives and advantages for Startups and the organization, prerogatives and operating procedures of the labeling committee
Circular of the Central Bank of Tunisia 2019-01	Circular of the Central Bank of Tunisia N° 2019-01 (January 30th 2019) related to startups foreign currency accounts
Circular of the Central Bank 2019-02	Circular of the Central Bank of Tunisia N° 2019-02 (January 30th 2019) related to the use of international payment cards by labeled start-ups

Source: Startup Tunisia (n.d. a).

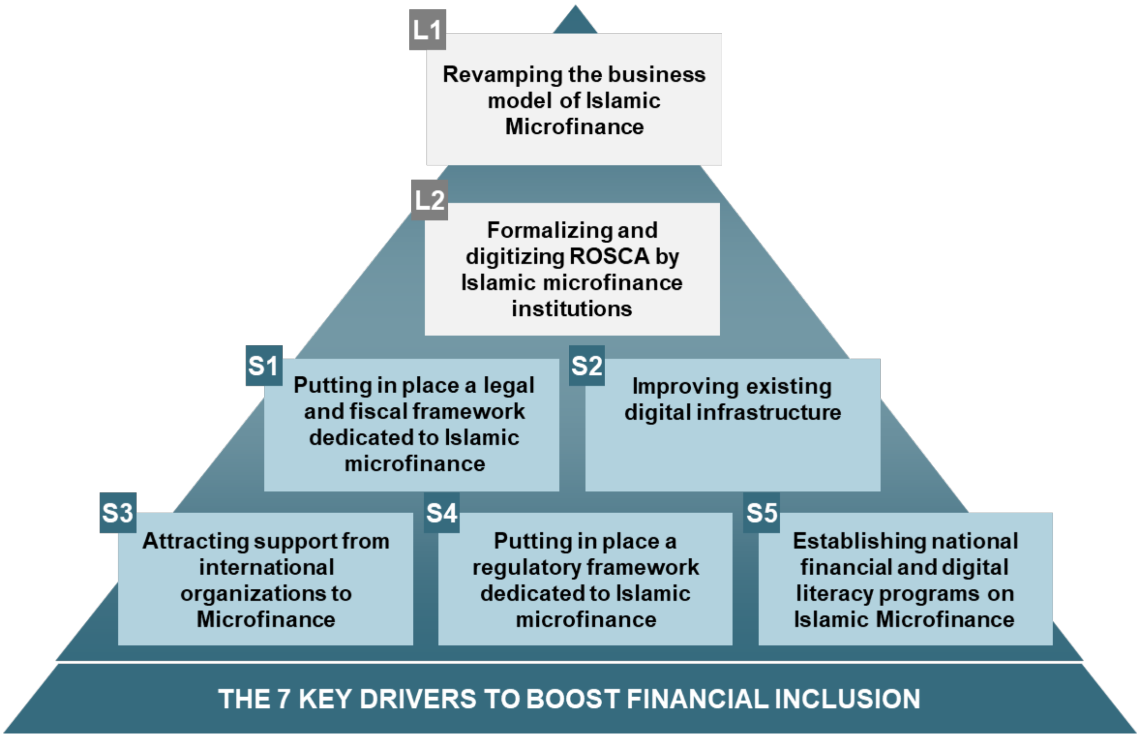
The Startup Act includes 20 measures structured around a Label of merit and benefits to entrepreneurs, investors and Startups. As of June 2021, 534 startups got the Startup Act label out of 997 applications (Startup Tunisia, n.d. b).

Strategies to Improve Financial Inclusion in Maghreb

We have seen so far that despite the strategies put in place and the willingness of governments to improve financial inclusion in Maghreb countries, results are mixed.

Strategies to improve financial inclusion in Maghreb countries comprise two levers (L) and five support mechanisms (S) as shown in Figure 10.

Figure 10: Levers & Support Mechanisms for Financial Inclusion



Source: Author's model.

Lever 1: Revamping the Business Model of Islamic Microfinance

- *Developing synergies with Fintech*

Given that the microfinance industry has been historically struggling with high costs and low earnings (Mersland & Strøm, 2013), Fintech can support traditional microfinance players through several Indirect involvement strategies, including:

- Build their e-money system. In this scheme, financings are pushed out automatically from the core banking system, and then cashed out and repaid through fintech agents. The same applies for deposits related operations;
- Use the payments systems that a fintech or mobile money system provide in order to make loan disbursements or repayments;
- Use fintech's data capability to loan decision-making.

In addition to traditional players embracing fintech, there are also "digitally native" microfinance ventures that put Fintech at the center of their value proposition.

One of the famous applications of fintech in Microfinance is KIVA. Kiva is a crowdfunding platform that aims at improving the quality and cost of financial services to achieve financial and economic inclusion around the world. The main principle underlying Kiva platform is to facilitate the access of people to financial resources without any additional cost. Indeed, the operating costs of Kiva are covered by voluntary donations from Kiva lenders. By the end of Mai 2020, Kiva has dealt with 3.6 million borrowers with more than US$1.45 billion of loans granted to 1.9 million lenders across 77 countries. The repayment rate is equal to 96% and the minimum contribution to loans is US$ 25 (Kiva, n.d.).

Another example is Angsur (still in the "seed" stage) which serves the unbanked population in Indonesia by providing Sharia-compliant financing to undergraduate students without credit history and collateral. Angsur gathers social media data and assesses creditworthiness based on digital presence. Then, financing is extended through Murabahah contracts where installments are paid over 1 to 12 months according to the borrower's preferences, with usually more than 10% advance payment. Education on the Angsur microfinance benefit is performed by other students called Angsur Student Partners. Additionally, Angsur takes 2.5% from product margin for sadaqah which will be distributed to orphan and people who lives in slums (World Bank, 2020).

In the context of Maghreb countries, it is clear that leveraging fintech by Islamic microfinance operators should improve the efficiency and effectiveness and strongly contribute to include more citizens into the financial system. However, constraints for the emergence of fintech in Maghreb countries, as presented earlier, include Internet quality & availability and the limitations of the Fintech legal and regulatory framework.

- *Develop synergies with existing financial institutions*

Since poverty alleviation through microfinance requires a holistic approach that encompasses not only the financial perspective but also non-financial business development services, developing synergies with existing financial and non-financial institutions either conventional or Islamic is critical to unleash the potential of Islamic microfinance in Maghreb countries.

The target financial institutions for synergies are:

- Islamic Banks;
- Conventional banks;
- Islamic Microfinance companies;
- Conventional Microfinance companies;
- Credit guarantee funds.

These financial institutions, which can be located in Maghreb countries or abroad, might seek to diversity into Islamic microfinance for the following considerations:

- Gain access to a sizable, profitable and largely untapped market segment;
- Deploy excess liquidity at acceptable risk;
- Better utilize fixed assets;
- Bring new clients into their product portfolio (provided sharia compliance is respected);
- Improve public perception of these institutions.

To diversity into microfinance, Islamic and conventional financial institutions can adopt two main strategies. Generic direct and indirect involvement strategies in the context of microfinance are explained hereafter.

Direct Involvement Strategies

Table 12: Direct Involvement Strategies

Direct Strategies	Details
Internal Unit	Setting up an internal Islamic Microfinance business unit within the financial institution
Full-fledged entity	Setting up a Full-fledged Islamic Microfinance entity
Service	Circular of the Central Bank of Tunisia N° 2019-01 (January 30th 2019) related to startups foreign currency accounts

Source: Adapted from CGAP (2006).

Indirect Involvement Strategies

Table 13: Indirect Involvement Strategies

Direct Strategies	Details
Outsourcing	The financial institution addresses the Islamic microfinance market through a partnership with an existing Islamic microfinance institution
Providing financing and guarantee	The financial institution provides lines of financings and third-party guarantee schemes to existing Islamic micro finance institutions
Providing systems and infrastructure	The financial institution provides existing Islamic microfinance institution with access to its capabilities

Source: Adapted from CGAP (2006).

- *Develop synergies with non-financial institutions*

Microfinance clients not only lack financial resources but also skills, support and networks to succeed in their businesses. In many cases, focusing on the provision of financing seldom guarantees the project's success and will as a consequence affect the microfinance institution's scalability and profitability. Economic empowerment through the structuring of specific industries' value chains (suppliers, production systems, distribution networks, supporting activities…) and integrating micro-entrepreneurs into these value chains is one alternative approach that has been experienced in the Islamic Microfinance sphere although in very few institutions such as Zitouna Tamkeen in Tunisia. As of February 2021, this institution has contracted with more than 800 suppliers to provide its customers with discounts and after-sales service advantages (Entreprises Magazine, 2020). Zitouna Tamkeen does not consider clients as mere borrowers; its goal is rather to offer every entrepreneur a package that encompasses financing, support and business benefits in order to maximize their chances of success. To do this, Zitouna Tamkeen establishes and develops partnerships with stakeholders in the private sector and the social economy to develop impactful and sustainable projects in value chains with high added value. Dairy products, Cereals and Olive Oil are among the value chains targeted by the institution.

Additionally, key to the success of microentrepreneurs is the provision of capacity building in relation to business skills. Maroc PME in Morocco illustrates this approachproviding an array of non-financial business development services to new and existing enterprises (including micro enterprises) to enhance entrepreneurial, technical and managerial skills (Maroc PME, n.d.).

Finally, Islamic finance institutions should also consider potential synergies with Waqf and Zakat funds through co-financing, subsidizing or credit guarantee mechanisms for micro-entrepreneurs. Synergies with Islamic Microfinance allow waqf and zakat funds to be more sustainable and more focused on income-generating activities for beneficiaries rather than on simple cash transfers. However, in the case of Zakat care must be taken to ensure the eligibility of beneficiaries to Zakat.

Lever 2: Formalizing and Digitizing ROSCA by Islamic Microfinance Institutions

The possibilities offered by information and communication technologies today make it easy to digitize ROSCA in order to improve the competitiveness of ROSCA while leveraging its strengths and limiting its constraints. Technically speaking, it is about setting up a mobile application with an intuitive interface that digitizes all the processes and financial flows associated with a traditional ROSCA. This application will be integrated into a financial institution's core information system for the management of transfer operations.

There are various experiences globally leveraging technology to unleash the ROSCA potential including Ahorro Libre, Tutanda (Mexico); E-Savings Club (Uganda, Benin); Osusu Mobile (Nigeria); Chamasoft, m-PESA Chama (Kenya); BankSouSou, Clearstreet, Elikya, eMoneyPool, Monk, Puddle (US); Ma Tontine (Senegal); MoneyFellows (UK/Egypt); Ngwe.Su (Myanmar) and Arisan Mapan by Ruma (Indonesia) (Parbhoo et al., 2016).

Islamic financial institutions looking to tap into the low-income banking segments in Maghreb countries can propose a ROSCA app free of charge or integrate ROSCA services into their clients' applications.

Compared to a traditional ROSCA, a digital ROSCA:

- Saves travel time and money: Thanks to its proximity strategy, users no longer have to travel to remit the contribution to the beneficiary, they just need to go to the nearest branch;

- Organizes remote ROSCAs anywhere within a country or even with people abroad: With its branch network, the financial institution allows users to collect the pot from wherever they are;
- Is totally transparent: ROSCA participants and organizer can access all the information concerning the status of payment of contributions;
- Is supported by a reminder system to notify each participant of any delays related to the payment of members' contributions.

From the Islamic financial institution perspective, a formal ROSCA application could generate various economic gains:

- Acquiring new customers that were not clients of formal financial institutions;
- Increasing the use of formal banking services among ROSCA users (transfers, debit card, investment accounts…);
- Generate data on ROSCA users' financial behavior which could enable these institutions to finance ROSCA users in the future or sell the financial behavior data to other partners;
- Associate the social image of the financial institution with financial inclusion.

The roles and responsibilities of stakeholders in a formalized ROSCA are described in the following table:

Table 14: Roles and Responsibilities of Stakeholders in a Formalized ROSCA

Stakeholder	Role in digital ROSCA
The organizer	- Hiring ROSCA members - Screening to accept a member into a ROSCA scheme
The participants	- Accepting ROSCA terms and conditions - Making the payments
The financial institution	- Providing the ROSCA app - Providing prepaid cards / bank accounts - Managing ROSCA financial flows - Providing the possibility of facilitating the payments through the physical branches

While ROSCA is based on non-interest payments and while some scholars deemed ROSCA sharia-compliant (El-Zoghbi & Tarazi, 2013), it is important for Islamic financial institutions proposing digital ROSCA to get a formal sharia compliance approval from the national sharia committees (Morocco & Algeria) or the institutions' sharia boards (Tunisia) before proposing the Digital ROSCA as a service.

To make the above presented levers effective, we need to support them by the following initiatives.

Support Mechanism 1: Putting in Place a Legal and Fiscal Framework Dedicated to Islamic Microfinance

- *Description*

The rules, rights and obligations of stakeholders of any system are included in its legal framework. The primary objective of this framework is to protect the interests of this system's stakeholders. Similarly, through a fiscal framework, the government can incentivize investors (through favorable taxation) to increase their participation in Islamic Microfinance and boost customers' interest in this market's products and services.

- *Objectives*

In the context of Islamic microfinance, putting in place an Islamic microfinance legal framework is a first step that should be completed to prove to all stakeholders that their interests are protected by law and encourage them to contribute to the success of this industry.

Similarly, tax incentives that can be used by governments of Maghreb countries to promote the development of Islamic microfinance can take the form for example of favorable tax rates on:

- profit rates applicable to customers' loans
- profits related to Islamic investment deposits, etc.

This will, as a result, lead to lowering the cost of Islamic microfinance products and services ultimately paving the way to increased affordability and financial inclusion.

- *Challenges*

Granting specific tax advantages to the Islamic microfinance industry has at least two negative consequences:

- First, it penalizes conventional microfinance institutions that compete with Islamic ones and that eventually lack these tax advantages. A possible mitigation solution is to generalize these advantages across all the microfinance sectors to ensure fair treatment for all market players.

Second, it deprives the government from valuable sources of funds that diminish as a result of tax reductions. The decision to waive these governments' revenues might be critical especially in the current COVID-19 context. As a result, an assessment of this policy is required to understand its impact, especially from the social perspective.

Support Mechanism 2: Improving Existing Digital Infrastructure

- *Description*

Improvement efforts needed in terms of the existing digital infrastructure in Maghreb countries include but are not limited to:

- Investment in internet infrastructure to support the efforts of providing digital services;
- Investment in technologies that facilitate and expedite the processes of financial services requiring government intervention. Investments in Fintech, digital signatures, or any e-government solution can be of great usefulness for financial inclusion.

- *Objectives*

Maghreb countries existing infrastructure needs to be improved from its current status to better serve the Islamic microfinance sector. The ultimate benefit of these investments is lowering the cost of financial services and making them accessible.

- *Challenges*

This recommendation faces the following challenges:

- First, e-government solutions and Fintech, in general, necessitate solid technical expertise and financial resources. As a consequence, the cost of this policy can be considerable;
- Second, the willingness of the government to achieve change is key while bureaucracy and sticking to "business as usual" standards will likely limit the effectiveness of this kind of initiatives;
- Third, introducing new technologies can potentially disrupt the existing practices in the market. The use of a regulatory sandbox allowing to test innovations in financial inclusion can help mitigate this risk.

Support Mechanism 3: Promoting Islamic Microfinance to Attract Further Support from International Organizations

- *Description*

International institutions, whether multilateral, bilateral, private institutions or foundations, possess a multidisciplinary experience in supporting projects with social and economic dimensions. Maghreb countries should double efforts to attract these international institutions. Relevant government bodies should be involved in getting/negotiating additional support of the Islamic microfinance sector from international partners.

- *Objectives*

Supporting Islamic microfinance sector is the intended objective of this recommendation that can be achieved through a number of international institutions support mechanisms:

- Equity participations to establish Islamic microfinance institutions;
- Debt financing to this kind of institutions. International conventional institutions are not to be excluded from this as experience has shown that these have managed to provide Islamic microfinance institutions with Sharia-compliant financing;
- Technical assistance programs to strengthen the operational capacities of these institutions. Particularly, Sharia side is of particular concern where IsDB expertise can be solicited;
- Grants;
- Guarantees to obtain financing from local banks;
- Any other form of support.

- *Challenges*

Challenges to this support mechanism include:

- Vulnerable economies in Maghreb during the COVID-19 crisis makes raising capital more challenging;
- The lack of a comprehensive legal and regulatory framework concerning Islamic microfinance is certainly a major obstacle to foreign investors desiring to invest in this segment. Hence, establishing such a framework is an essential step.

Support Mechanism 4: Putting in Place a Regulatory Framework Dedicated to Islamic Microfinance

- *Description*

The Islamic microfinance regulation should follow to set the rules of overseeing Islamic microfinance institutions' operations, products and services rules as well as diverse directives and instructions such as those related to licensing, internal control, minimum capital, etc. and those facilitating the introduction of Fintech (eg., e-KYC).

- *Objectives*

A regulatory framework completes the role of a legal framework in terms of creating market transparency between Islamic microfinance institutions and their customers, protects the interests of the latter, ensures equity between market players, and generalizes a culture of governance among them.

- *Challenges*

Putting in place a regulatory framework requires expertise in a number of areas specific to both microfinance and Sharia. To overcome this challenge, it is recommended to get support of international institutions that offer capacity building in Islamic finance standards such as the IFSB (Islamic Financial Services Board) in which the Central banks of Morocco and Tunisia are respectively full and associate members.

Support Mechanism 5: Establishing National Financial and Digital Literacy Programs Covering Islamic Microfinance

- *Description*

The financial literacy concept covers financial education, the ability to take advantage of financial instruments and services and financial behavior. In addition, Islamic finance literacy emphasizes the specificities and dimensions of compliance to Sharia (Tahiri Jouti, 2020) . Besides, digital literacy in the context of financial services refers to knowledge, acquired skills and necessary habits to use digital devices for financial transactions effectively (Alliance for Financial Inclusion, 2020).

- *Objectives*

In line with Maghreb countries ambition with regards to Financial Inclusion, a financial literacy program should be implemented on the national level 'to enable customers to better manage their finances and empower them to make the right choices of financial services available, plan for the future, achieve their financial goals, and avoid over-indebtedness. From the Islamic microfinance perspective, this program should focus on a number of dimensions namely:

- Equipping participants with adequate knowledge in terms of Islamic microfinance products and services, their risks and return (eventually) as well as encouraging a saving behavior and avoiding over-indebtedness.
- Sharia dimension is also important as providing participants with knowledge in this area not only strengthens customers' understanding of Sharia matters but also improves credibility of this industry.
- Technology dimension is also important. In fact, technological literacy is an efficient means to help people access and use financial services.
- Part of this strategy will be to conduct surveys to better understand customers' needs in terms of Islamic microfinance products. It is also important to grasp their current level of proficiency and understanding both in terms of Islamic microfinance concepts and technology dimension. This would help in designing the best products that fit the needs of customers while maximizing their satisfaction.

• *Challenges*

Implementing a national digital and financial Islamic microfinance literacy program faces the following challenges:

- Effective communication about this strategy is crucial to its success. An inefficient communication about it will certainly prevent the CBD to reach the intended objectives of this strategy. Using all available channels of communication to ensure wide communication about the content of this strategy is crucial. This can be done using all available communication channels, both traditional and digital ones.
- Some concepts can be complicated for some people especially the technology dimension resulting in financial exclusion. This could be addressed by simplifying concepts so that the policy suits everyone's level of understanding.

Appendix 1: Financial Inclusion and SDGs Mapping

Table 15: Linking Financial Inclusion to SDG Targets

SDGs	Targets related to financial inclusion	Targets' description
SDG 1: Eradicating poverty	1.4	By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance
SDG 2: Ending hunger, achieving food security and promoting sustainable agriculture	2.3	By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.
SDG 3: Health and well-being	3.8	Achieve universal health coverage, including financial risk protection, access to quality essential healthcare services and access to safe, effective, quality and affordable essential medicines and vaccines for all
SDG 5: Gender equality and economic empowerment of women	5.A	Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws
SDG 8: Promoting economic growth and jobs	8.3	Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services
SDG 9: Supporting industry, innovation, and infrastructure	9.3	Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets
SDG 10: Reducing inequality	10.2	By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

Source: UN (n.d.).

Appendix 2: A Selection of Financial Inclusion Indicators in Maghreb Countries

Table 16: A Selection of Financial Inclusion Indicators in 2017

	Global Financial inclusion ranking	Account ownership at a financial institution or with a mobile-money-service provider (% of population 15+)	Makes online purchases And / or pays bills online (% of population 15+)
Morocco	126	28.64%	2%
Algeria	100	42.78%	4.6%
Tunisia	113	36.91%	6.6%

Table 17: Financial Inclusion in Relation to Religious Motives in Maghreb

	No account because of religious reasons (% age 15+)	No account because of religious reasons (% without a financial institution account, age 15+)
Algeria	5%	8%
Morocco	3%	4%
Tunisia	10%	15%

Table 18: Informal Saving Indicators in Maghreb

	Saved using a savings club or a person outside the family (% age 15+)	Saved using a savings club or a person outside the family, male (% age 15+)	Saved using a savings club or a person outside the family, in labor force (% age 15+)	Saved using a savings club or a person outside the family, rural (% age 15+)
Algeria	4%	5%	7%	7%
Morocco	4%	2%	5%	3%
Tunisia	3%	5%	4%	3%

Table 19: Behavior in relation to deposits in Maghreb

	No deposit and no withdrawal from an account in the past year, male (% age 15+)	No deposit and no withdrawal from an account in the past year, female (% age 15+)	No deposit and no withdrawal from an account in the past year, rural (% age 15+)
Algeria	19%	8%	21%
Morocco	7%	4%	5%
Tunisia	5%	4%	4%

Appendix 3: List of Microfinance Institutions in Maghreb Countries

Morocco

- Al Amana Microfinance
- Al Karama pour la Microfinance
- AMOS
- ARRAWAJ
- ARDI
- Association Ismailia pour le Micro Crédit
- ATIL Microcrédit
- Attadamoune Micro-Finance
- Attawfiq Micro-Finance
- Bab Rizq Jameel
- Fondation Micro Crédit du Nord
- INMAA
- Tawada pour le Micro Crédit

Tunisia

- ENDA Tamweel
- TAYSIR
- Microfinance
- BAOBAB Tunisie
- ADVANS Tunisie
- CFE Tunisie
- ZITOUNA Tamkeen
- EL AMEL de Microfinance
- ASAD Tamweel
- AKDI

Algeria

- Association Touiza

Appendix 4: Microfinance Indicators in Morocco as of April 2021

Table 20: Microfinance Indicators in Morocco as of April 2021

A-ACTIVITY	April. 2021	April. 2020	Variation Apr. 21/Apr. 20
Number of borrowers	894 031	896 649	-0.29%
Men	416 518	449 110	-7.26%
Women	477 563	447 539	6.71%
Active borrowers according to the type of loan			
Individual	659 975	594 886	12.47%
Collective	227 051	295 444	-26.10%
Very small Entreprise	7 055	6319	5.84%
Active borrowers by geographic area			
Rural	297 263	279 697	6.28%
Urban	596 818	616953	-3.26%
Loans released during the month			
Number	46 070	278	3504.85%
Amount (KDH)	1 167 870	11759	9831.71%
Loan renewal rate	63%	69%	6pts
Loans released (year-to-date)			
Number	192 979	132 033	46.16%
Amount (KDH)	3 013 935	1649527	82.72%
Total amount of microcredits (KDH) by type of loan	8 304 520	7344763	13.07%
Individual	6 456 483	5 342 776	20.85%
Collective	1 578 080	1 932 669	-18.35%
Very small Entreprise	269 957	69 318	269.45%
Outstanding loans (KDH) by geographic area			
Rural	2 825 669	1 951 559	44.79%
Urban	5 478 851	5 393 204	1.59%

B- RESOURCES			
Staff	7 954	7 847	1.36%
Headquarters staff	801	798	0.38%
Branches staff	7 153	7049	-1.37%
Number of branches	1662	1696	-2.00%
Rural	628	726	-13.50%
Urban	1034	970	6.60%
Nombre of mobile branches	119	120	-0.83%
Rural	94	95	-1.05%
Urban	25	25	0.00%
Cost of Risk (Loan loss provisioning/ Average outstanding loans)	7.35%	3.80%	3.55 pts

Table 21: Microfinance Indicators in Tunisia as of Decembre 20202(Clients and Loans)

	31/12/2018		31/12/2019		31/12/2020	
	Value	%	Value	%	Value	%
Active clients IMF-SA[2]	393 730	65.9%	422 737	66.1%	447 250	66.3%
Active clients IMF-AMC[3]	240 184	40.2%	258 280	40.4%	274 828	40.7%
Dual clients IMF(SA-AMC)	-36 861	-6.2%	-41 775	-6.5%	-46988	-7.0%
Nb total clients actifs	597 053	100%	639 242	100%	675 090	100%
Total outstanding loans IMF-SA	793 985	76.4%	1038276	79.5%	1 308 318	81.8%
Total outstanding loans IMF-AMC	244 883	23.6%	266 946	20.5%	291 784	18.2%
Total outstanding loans (K-TND)	1 038 868	100%	1 305 222	100%	1 600 102	100%
Average outstanding amount per client (TND)	1 740		2 042		2 370	

Source: Centre Mohammed 6 de Soutien à la Microfinance Solidaire (2021).

2 Microfinance institutions (corporations)

Appendix 5: Microfinance Indicators in Tunisia as of December 2020

Table 22: Microfinance Indicators in Tunisia as of Decembre 2020 (Disbursements)

Disbursements	2018		2019		2020	
	Value	%	Value	%	Value	%
IMF SA/ Disbursements (in K-TND)	1 052 468	91.6%	1 291 778	92.6%	1 301 633	92.8%
IMF AMC / Disbursements (in K-TND)	97 091	8.4%	103 297	7.4%	101 015	7.2%
Total Disbursements (in K-TND)	1 149 559	100%	1 395 075	100%	1 402 648	100%
IMF SA / Disbursements (in number of loans)	403 169	88.4%	424 608	89.1%	358 751	87.3%
IMF AMC / Disbursements (in number of loans)	52 702	11.6%	51 710	10.9%	52 354	12.7%
Total Disbursements (in number of loans)	455 871	100%	476 318	100%	411 105	100%

Source: Autorité de Contrôle de la Microfinance de Tunisie (2021).

Appendix 6: Microfinance Indicators in Algeria as of 2017

Table 23: Microfinance Indicators in Algeria as of 2017 (by Gender Repartition)

	Number of clients	Percentage (%)
Women	497,194	62.44%
Men	4350	17.91%
Total	796,333	100%

Source: ANGEM (n.d.).

Table 24: Microfinance Indicators in Algeria as of 2017 (by Type of Funding)

Financing type	Number of loans	Percentage (%)
Funding for the Purchase of Commodities	723,120	90.22%
Triangular financing "ANGEM-Bank-Micro-entrepreneur"	77,932	9.79%
Total	801,052	100%

Source: ANGEM (n.d.).

Table 25: Microfinance Indicators in Algeria as of 2017 (by Sector)

Sectors	Number of loans	Percentage (%)
Agriculture	112,880	14.08%
Very small industries	310,426	38.73%
Construction	68,134	8.50%
Services	166,534	20.78%
Handicrafts	139,617	17.42%
Trade	3,164	0.39%
Fisheries	758	0.09%
Total	801,513	100%

Source: ANGEM (n.d.).

Appendix 7: Maghreb Demographic Indicators

Table 26: Evolution of the Age Pyramid in Maghreb Between 1980 and 2018

	1980			2018		
	Under 15	15-60	Over 60	Under 15	15-60	Over 60
Morocco	43.5 %	51.8 %	4.8 %	27.1 %	61.8 %	11.1 %
Algeria	46.4 %	48.6 %	4.9 %	29.3 %	61.1 %	9.6 %
Tunisia	41.9 %	52.5 %	5.7 %	24.0 %	63.3 %	12.7 %

Source: Haut-Commissariat au Plan (2018).

Table 27: Urban Population Rate in Maghreb Between 1980 and 2018

	Urban population (% of total population) 1980	Urban population (% of total population) 2018
Morocco	41.1%	62.4%
Algeria	43.5 %	72.6%
Tunisia	50.6%	68.9%

Source: Haut-Commissariat au Plan (2018).

Appendix 8: Maghreb Internet Indicators

Table 28: Internet Access Rates in Maghreb

	Internet users (Million)	Internet users (% of population)	Internet users' growth (01/2019 to 01/2020)
Morocco	25.32	69%	+13%
Algeria	22.71	52%	+12%
Tunisia	7.55	64%	+0.6%

Source: Hootsuite (2020a); Hootsuite (2020b); Hootsuite (2020c).

Table 29: Social Media Usage in Maghreb

	Active social Media users (Million)	Social media penetration rate
Morocco	18	49%
Algeria	22	51%
Tunisia	7.3	62%

Source: Hootsuite (2020a); Hootsuite (2020b); Hootsuite (2020c).

Appendix 9: Maghreb Remittances Indicators

Table 30: Personal Remittances Received in Maghreb Countries

	In Billion US$ (2019)	As % of GDP (2018)
Morocco	6.7	5.9%
Algeria	1.79	4.8%
Tunisia	1.9	1%

Source: World Bank (n.d. b).

Appendix 10: Maghreb Countries Rankings in Fintech

Figure 11: Maghreb Countries Presence in Selected International and Regional Rankings

			
2018 IFZ Global FinTech Rankings	✗	✗	✗
2019 Fintech 100 ranking	✗	✗	✗
2020 Global Fintech Index	✗	✗	✓
Digitalizing Africa report 2019	✓	✗	✓
MENA Fintech venture report 2019	✓	✓	✓

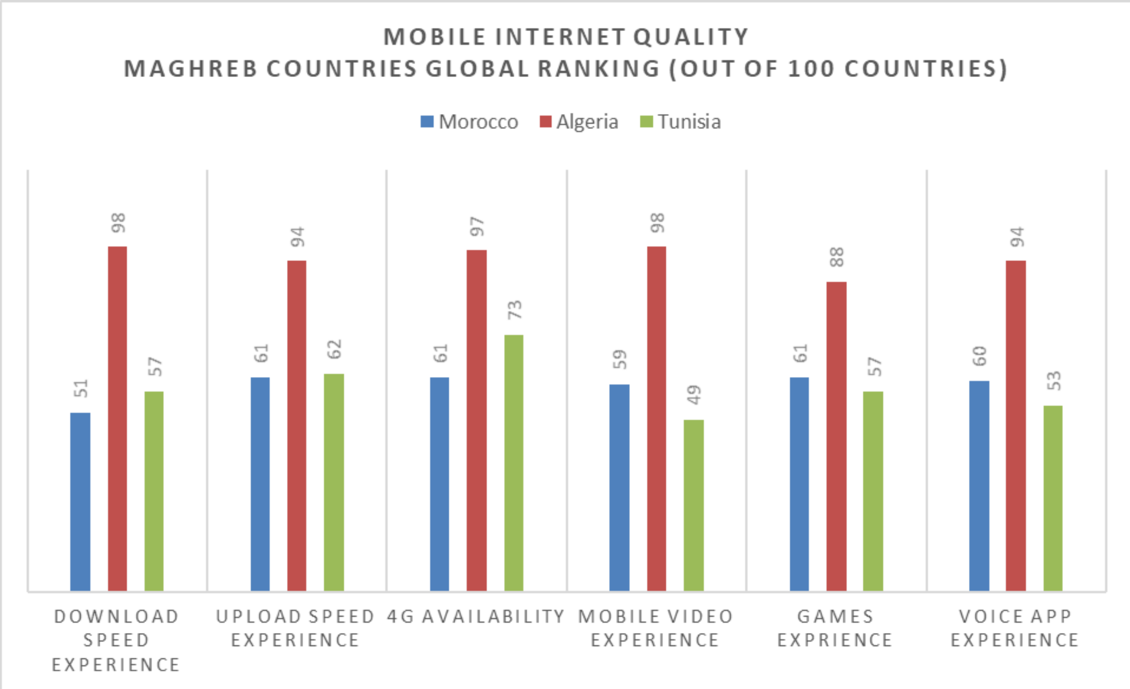
Source: PWC & CFC (2019); Findexable (2020); MAGNiTT (2019); Thomson Reuters (2018); KMPG (2019).

Appendix 11: Internet Quality in Maghreb Countries

According to Opensignal, Internet quality can be captured through several metrics including:

- Download speed experience
- Upload speed experience
- Quality of Mobile video experience
- 4G availability
- Voice app experience
- Game experience

Figure 12: Mobile Internet Quality in Maghreb Countries: Global Ranking (Out of 100 Countries)



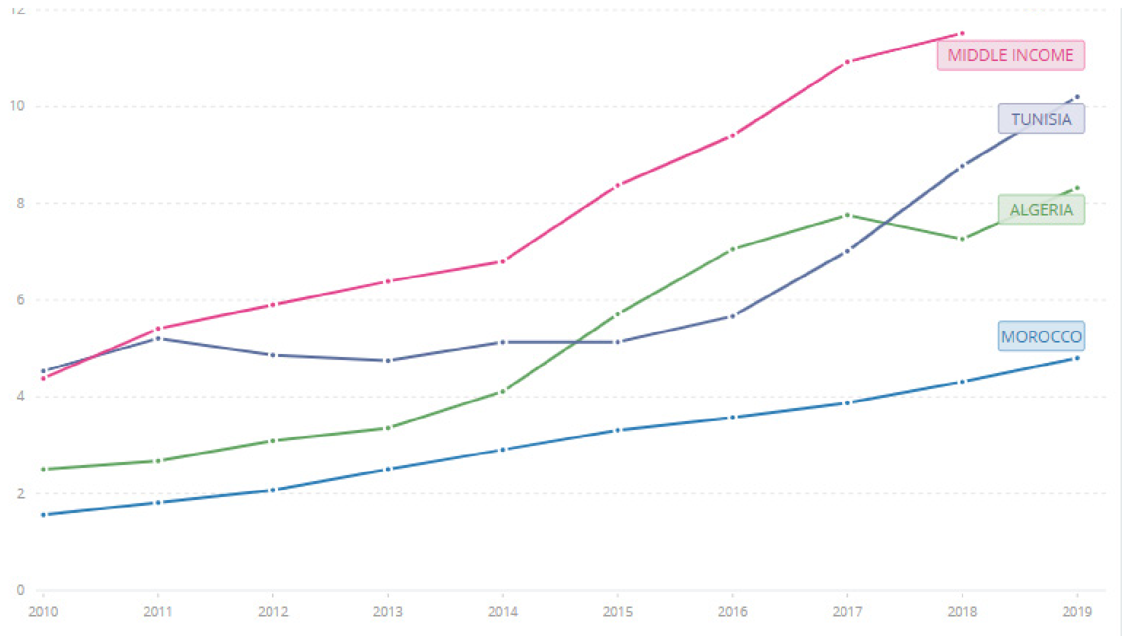
Source: Opensignal (2020).

Table 31: Maghreb Countries Fixed Broadband Download Speed and Global Ranking

	Morocco	Algeria	Tunisia
Fixed broadband download speed (Ranking out of 175 countries)	123	172	158
Fixed broadband download speed (Mbps)	20.29	4.81	10.23

Source: Speedtest (n.d.).

Figure 13: Evolution Fixed Broadband Subscriptions per 100 000 People in Maghreb and Middle-income Countries From 2010 to 2019



Source: World Bank (n.d. b).

Appendix 12: IPOs and IFOs Statistics in Maghreb Countries

Table 32: Evolution of IPOs in Maghreb Countries 2016-2019

	2016		2017		2018		2019	
	Number of IPOs	Capital raised ($m)	Number of IPOs	Capital raised ($m)	Number of IPOs	Capital raised ($m)	Number of IPOs	Capital raised ($m)
Morocco	1	195	0	0	2	84	0	0
Tunisia	1	21	2	11	1	8	0	0
Algeria	1	58	0	0	1	1	0	0

Source: PWC (2020).

Table 33: Evolution of IFOs in Maghreb Countries 2016-2019

	2016		2017		2018		2019	
	Number of IFOs	Capital raised ($m)	Number of IFOs	Capital raised ($m)	Number of IFOs	Capital raised ($m)	Number of IFOs	Capital raised ($m)
Morocco	0	0	2	145	0	0	5	1 100
Tunisia	2	12	6	24	1	42	4	144
Algeria	0	0	0	0	0	0	0	0

Source: PWC (2020).

Appendix 13: Example of ROSCA Names Globally

Source: (GDRC, n.d.).

Africa

- Benin: *Asusu, Yissirou, Ndjonu, Tontine*
- Botswana: *Motshelo, beer parties*
- Burkina Faso: *Tontine, Tibissiligbi, Pari, Song-taaba*
- Burundi: *Upato (in Kiswahili)*
- Cameroon: *Jangi, Ujangi, Djana, Mandjon, Djapa, Tontine, Djanggi, Njanggi, Ngwa, Ntchwa*
- Egypt: *Gameya, Jam'iyya*
- Ethiopia: *Ekub, Ikub*
- Gabon: *Bandoi*
- The Gambia: *Osusu, susu, esusu, Compin*
- Ghana: *Susu, Nanamei akpee, Onitsha, Nnoboa*
- Ivory Coast: *Tonton, Tontine, Moni, Diaou Moni, War Moni, Djigi Moni, Safina, Akpole wule, Susu, Aposumbo, Kukule, a tche le sezu, Komite, n'detie, m'bgli sika, Monu, mone*
- Kenya: *Mabati, Nyakinyua, Itega, Mkutano ya wanwake, Mkutano ya wazee*
- Liberia: *Esusu, susu, sau*
- Madagascar: *Fokontany*
- Mali: *Pari*
- Morocco : *Daret*
- Mozambique: *Upato, Xitique*
- Niger: *Adasse, Tomtine, Asusu*
- Nigeria: *Esusu, Osusu, Enusu, Ajo (Yoruba), Cha (Ibo), Oha, Oja, Adashi (Haussa, Tiv), Bam (Tiv), Isusu (Ot), Utu (Ibo), Dashi (Nupe), Efe (Ibibios), Oku (Kalabari Ijawas), Mitiri, Compiri, Club (Ibo)*
- Congo, PR: *Temo, Kitemo, Ikilemba, Kikedimba, Kikirimbahu, Likilimba, Efongo Eambongo, Otabaka, Ekori, Otabi*
- Senegal: *Tontine, Nath*
- Sierra Leone: *Asusu, Esusu*

- Somalia: *Haghad, Shaloongo, Aiuto*
- South Africa: *Chita, Chitu, Stokfel, Stockfair, Mahodisana, Motshelo, Umangelo*
- Sudan: *Khatta, Sanduk, Sandook Box*
- Swaziland: *Stokfel*
- Tanzania: *Upato, Fongongo*
- Tchad: *Pare*
- Togo: *Soo, Tonton, Sodzodzo, Sodyodyo, Abo*
- Tunisia: *Noufi, Sanduk*
- Uganda: *Chilemba, Kiremba, Upato, Kwegatta*
- Zaire: *Ikelemba, Osassa, Bandoi, Kitemo, Kitwadi, Adashi, Tontine, Bandal*
- Zambia: *Icilimba, Upato, Chilenba*
- Zimbabwe: *Chilemba, Stockfair, Kutunderrera*

Asia

- Bangladesh: *Samity*
- Cambodia: *Tontine*
- China: *Lun-hui, Yao-hui, Piao-hui, Hui, Ho-hui, Foei-Tsjing*
- Hong Kong: *Chinese types and Chit clubs*
- India: *Kameti, Kuri, Chitty, Chit funds, Vishi, Bishi, Nidhi, Committee*
- Indonesia: *Arisan, Paketan Daging, Paketan Kawinan, Mapalus, Bajulo julo, Jula-jula, Mengandelek*
- Japan: *Ko, Kou, Miyin, Mujin, Musin, Tanamoshi*
- Korea: *Keyes, Kyes, Mujin, Ke*
- Lebanon: *Al-tawfir el medawar*
- Malaysia: *Kutu, Kootu, Kongsi, Tontine, Hui, Main, Kut*
- Nepal: *Dhikur, Dhituti*
- Pakistan: *Committee, Bisi, Kistuna*
- Papua New Guinea: *Hui, Sande*
- Philippines: *Paluwagan, Turnohan*
- Singapore: *Tontine, Kutu*
- Sri Lanka: *Chit Funds, Cheetu/Sheetu, Sittu Danawa, Situ Mudal, Sittu Wendesiya*
- Taiwan: *Hui*
- Thailand: *Chaer, Hui, Hue, Pia Huey, Len Chaer*
- Vietnam: *Hui, Hui Thao, Hui hue hong, Hui bac (ho), Yi hui*
- Yemen: *Hacba*

Latin America, Caribbean and Pacifics

- Bahamas: *Esu*
- Barbados: *Meetings*
- Belize: *Syndicate, Tanda*
- Bolivia: *Pasanacu*
- Brazil: *Consorcio, Pandero, Syndicates*
- Curacao: *Sam, Hunga sam*
- Dominican Republic: *San*
- Guatemala: *Cuchubal, Cuchuval*
- Guyana: *Throw a box, Boxi money*
- Jamaica: *Partners, (Throw a) Box, Susu*
- Mauritius: *Pool, Cycle, Sheet*
- Mexico: *Tanda, Cundina, Mutualista*
- Panama: *Pandero*
- Peru: *Pandero*
- Surinam: *Kasmonie*
- Tobago: *Susu*
- Trinidad: *(E)susu, Sou sou, Hui, Chitty*
- West Indies: *Susu*
- Western Samoa: *Pelagolagomai*

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