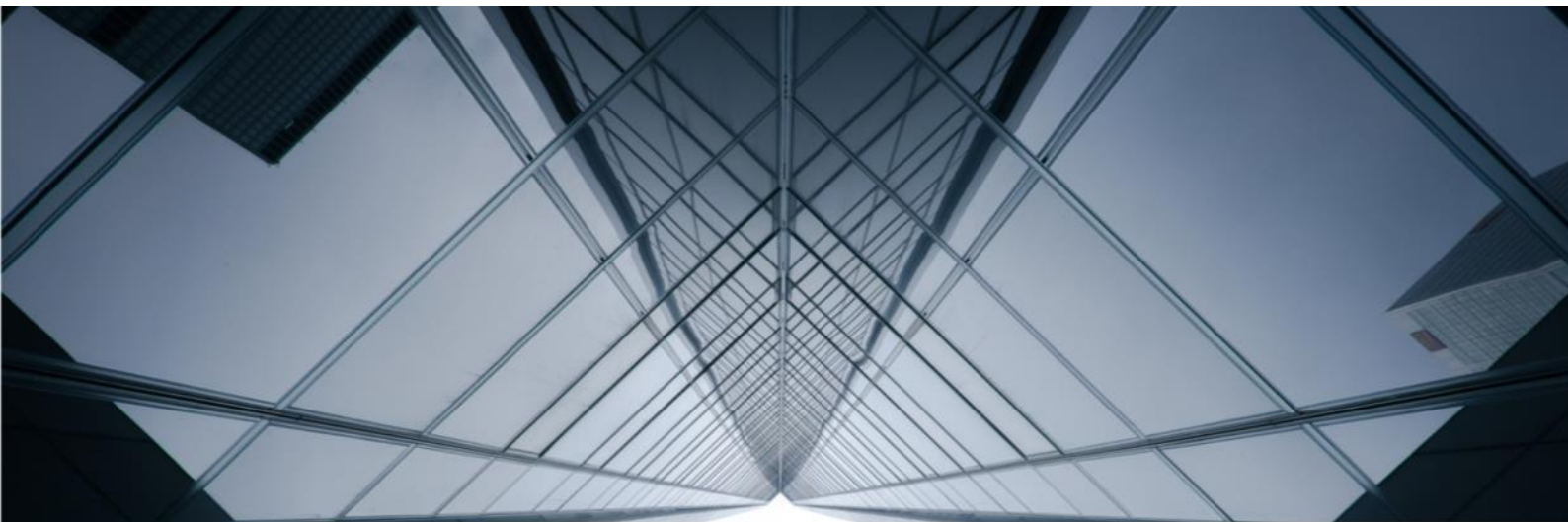




Unlocking Public and Private  
Finance for the Poor



# THE FINTECH LANDSCAPE IN RWANDA

RESULTS OF A UN CAPITAL DEVELOPMENT  
FUND STUDY TO IDENTIFY ITS CURRENT STATE,  
CHALLENGES AND OPPORTUNITIES FOR GROWTH

November 2019

## ABOUT THE UN CAPITAL DEVELOPMENT FUND

The UN Capital Development Fund (UNCDF) makes public and private finance work for the poor in the world's 47 least developed countries. With its capital mandate and instruments, UNCDF offers 'last mile' finance models that unlock public and private resources, especially at the domestic level, to reduce poverty and support local economic development. UNCDF's finance models work through two channels: financial inclusion that expands the opportunities for individuals, households and small businesses to participate in the local economy, providing them with the tools they need to climb out of poverty and manage their financial lives; and localized investments—fiscal decentralization, innovative municipal finance and structured project finance—that drive the public and private funding that underpins local economic expansion and sustainable development.

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## ABBREVIATIONS AND ACRONYMS

BNR	National Bank of Rwanda
e-	electronic
ICT	information and communication technology
IT	information technology
MTN	Mobile Telephone Networks
PAYGO	pay-as-you-go
PSP	payment services provider
RF	Rwanda francs*
RURA	Rwanda Utilities Regulatory Authority
SME	small and medium enterprise
SMS	short messaging service
UNCDF	UN Capital Development Fund
US\$	United States dollars*
USSD	Unstructured Supplementary Service Data

\*Conversion rate: US\$1 = RF910. Source: <https://treasury.un.org/operationalrates/OperationalRates.php#R>, 1 August 2019. Note: This report uses this rate wherever it provides United States dollar equivalents for Rwanda francs.

## EXECUTIVE SUMMARY

### INTRODUCTION AND METHODOLOGY

The UN Capital Development Fund (UNCDF) is partnering with the National Bank of Rwanda (BNR) and the fintech community to provide technical assistance to support innovative approaches for the regulation of the blossoming fintech ecosystem in Rwanda.

Information on fintech start-ups in Rwanda is scattered, and a mapping exercise of ecosystem players is yet to be completed. Addressing those gaps, UNCDF conducted a landscape analysis to (1) develop a centralized repository of information regarding fintech start-ups operating in Rwanda, (2) assess their capacity and needs and (3) identify appropriate areas for collaboration among UNCDF team members, regulatory bodies and fintech start-ups to promote innovation in Rwanda.

The UNCDF team completed the landscape analysis through a combination of desk research and semi-structured interviews with fintech start-ups, ecosystem facilitators, policymakers and regulators. The team reviewed policy documents, regulations and frameworks guiding the development of the financial sector, the digital transformation and the innovation agendas as well.

Information gathered during the research and received from various stakeholders indicated that 44 fintech start-ups are currently operating in Rwanda. Since the fintech landscape in Rwanda is evolving, this number is subject to change as more information on companies that are not active members of various associations in the industry becomes available.

The UNCDF team leveraged the Ernst & Young fintech ecosystem framework,<sup>1</sup> evaluating the current and projected trends in four core ecosystem attributes: (1) availability of talent, (2) demand for products and services, (3) availability of capital for start-ups and innovators, and (4) government policies and regulations regarding innovation.

### PAYMENT DIGITIZATION AND FORMAL FINANCIAL INCLUSION

The proportion of the adult population in Rwanda that is formally financially included increased from 42 percent in 2012 to 68 percent in 2016, while total financial inclusion (both formal and informal) stood at 89 percent in 2016.<sup>2</sup>

Retail payments are increasingly digital. The use of retail digital payments grew from 3 percent of the gross domestic product in 2011 to nearly 27 percent in 2017.<sup>3</sup> The country is aiming to reach 80 percent by 2024.<sup>4</sup>

Mobile money constitutes the largest proportion of digital payment transactions. The number of mobile money customers increased eight times, from just over 1.4 million subscribers in 2012 to 11.1 million subscribers in 2018; meanwhile, the volume of mobile money transactions grew from 22 million to nearly 300 million and the value from RF162 billion (US\$178 million) to nearly RF2 trillion (US\$2 billion).<sup>5,6</sup>

<sup>1</sup> EYGM Limited, 'FinTechs in Sub-Saharan Africa: An overview of market developments and investment opportunities' (London, 2019).

<sup>2</sup> FinMark Trust, 'Digital Financial Services in Rwanda: Leveraging technology for maximum use of financial services' (Kigali, Access to Finance Rwanda, 2016).

<sup>3</sup> BNR, *Rwanda Payment System Strategy: Towards a cashless Rwanda 2018–2024* (Kigali, 2018).

<sup>4</sup> The Banker, 'John Rwangombwa: Delivering Rwanda's digital-driven economy, where everyone is a winner,' 2 January 2019. Available from <http://54.72.50.240/Reports/International-Meetings/View-from-Davos/John-Rwangombwa-Delivering-Rwanda-s-digital-driven-economy-where-everyone-is-a-winner?ct=true>

<sup>5</sup> BNR, 'Payment System Statistics.' Available from <https://www.bnr.rw/browse-in/statistics/payment-system-statistics/> (accessed August 2019).

<sup>6</sup> Conversion rate: US\$1 = RF910. Source: <https://treasury.un.org/operationalrates/OperationalRates.php#R>, 1 August 2019. Note: This report uses this rate wherever it provides United States dollar equivalents for Rwanda francs.

Numerous policy commitments and initiatives, including the goals of the Government to shift to a cashless economy and to achieve a nationwide formal financial inclusion level of 100 percent by 2020, catalysed growth in the digitization of retail payments.

## POLICY AND REGULATORY INITIATIVES DRIVING INNOVATION

Digitization and innovation agendas are guided by broad national-level policy frameworks and numerous initiatives of the Government of Rwanda, including the following:

- *National Financial Inclusion Strategy 2019–2024 (draft)*, which aims to leverage the potential of the fintech sector to expand digital financial services.
- *National Strategy for Transformation 2017–2024*, which includes priorities related to the acceleration of innovation and the growth of digital solutions.
- *Payment Services Providers Regulation No. 05/2018*, which expands BNR oversight of the activities of providers of payment initiation services and aggregators, thereby enabling a wider range of market participants to access the national payment system.
- *Rwanda Payment System Strategy 2018–2024*, which contains several strategic objectives, including fostering an enabling environment for innovation in the payment system through collaboration between the public and private sectors.
- *SMART Rwanda Master Plan 2015–2020*, which aims to expand financial infrastructure to increase access to financial services and support innovation in information and communication technology.

## FINTECH SECTOR OVERVIEW

For the purposes of its landscape analysis, UNCDF defines a fintech start-up as a technology-enabled, new entrant to the financial services industry or an organization not currently under the purview of the financial sector's regulator. Furthermore, UNCDF categorizes fintech start-ups in Rwanda based upon the degree to which they focus on financial products and services (core fintechs) versus technology solutions (enabling fintechs). Using that rubric, the majority of fintech start-ups (75 percent) in Rwanda can be classified as core fintechs. The largely untapped consumer market allows the largest proportion of fintech companies (43 percent) to focus on business-to-consumer models.

Fintechs involved in payments/remittances are the most prevalent start-ups in the market, operating against the backdrop of government cashless initiatives, while those involved with lending/financing are the second most prevalent, addressing the gap created by the collateral-based, bank-led lending model that currently focuses on corporate sectors. Financial management, regtech and data analytics remain attractive segments in light of the low rate of insurance penetration and the ongoing changes in compliance reporting.

Of the 44 fintechs identified, 24 companies are headquartered in Rwanda while the remaining 20 are based in different parts of the world (including Kenya, the Netherlands, Singapore, South Africa, the United Kingdom of Great Britain and Northern Ireland, and the United States of America).

Access to funding remains a challenge for fintech start-ups in Rwanda. Although one third (30 percent) has raised seed capital, a quarter (25 percent) is bootstrapping to support early-stage operations.<sup>7</sup> Funding sources for over a quarter of companies (27 percent) are unknown. The remaining companies (18 percent) have secured growth financing through equity, Series A, debt financing or corporate round; all of these companies are foreign-owned—they either were established outside of Rwanda or are Rwandan-based but founded by a foreigner.

<sup>7</sup> Bootstrapping is building a company from personal finances or operating revenues of the new company.

## KEY FINDINGS REGARDING THE FINTECH ECOSYSTEM

Table 1 summarizes the key findings of the UNCDF landscape analysis of the Rwandan fintech ecosystem. Findings are categorized by the four ecosystem attributes: talent, demand, capital, and policy and regulation.

**Table 1: Key findings regarding the fintech ecosystem in Rwanda**

ATTRIBUTE	ENABLERS	INHIBITORS
<b>TALENT</b>	<ul style="list-style-type: none"> <li>• There are world-class training centres and academic institutions producing graduates specializing in computer science and information technology (IT) to respond to the growing demand for IT professionals.</li> <li>• There is exposure to global stakeholders and facilitation of connections and potential partnerships through numerous regional and international technology conferences that Rwanda hosts, as well as partnerships forged with international partners such as Insight2Impact and the Japan International Cooperation Agency.</li> <li>• A promising talent pool nurtures fintech start-ups' staffing needs (of the 24 fintechs headquartered in Rwanda, 22 were founded and are run by Rwandans).</li> </ul>	<ul style="list-style-type: none"> <li>• Most founders have a technical background (usually software development engineering) but have limited marketing, business and financial management experience.</li> <li>• Most fintechs are in an early stage of development and are heavily dependent on the founder.</li> <li>• Fintech founders tend to be young and lack practical experience.</li> <li>• Technical assistance in the form of capacity-building programmes distract start-up teams from their work and offer no added value.</li> </ul>
<b>DEMAND</b>	<ul style="list-style-type: none"> <li>• The government push towards a cashless economy and the government effort to ensure that 100 percent of the adult population is financially included both stimulate the demand for fintech solutions.</li> <li>• The implementation by BNR of an electronic data warehouse is likely to expand financial institutions' demand for process automation solutions offered by fintechs.</li> </ul>	<ul style="list-style-type: none"> <li>• There is a lack of diversity in terms of products and services offered, resulting in a concentration in some segments and unmet demand in others.</li> <li>• Complex procurement processes limit the ability of fintech start-ups to provide solutions to large corporations or government institutions.</li> <li>• There are low levels of financial literacy and trust in digital solutions among potential consumers, which affect fintech start-ups' ability to reach scale.</li> </ul>
<b>CAPITAL</b>	<ul style="list-style-type: none"> <li>• There are six active Rwandan-based investment actors, including BeneFactors, Business Development Fund, Business Partners International, GroFin, Ignite and Kountable, which provide seed and early-stage funding to all business sectors.</li> </ul>	<ul style="list-style-type: none"> <li>• There is a limited number of seed and early-stage investors, which forces start-ups to rely on banks for capital.</li> <li>• Many fintech start-ups are not investment ready due to a lack of proper documentation, investment knowledge and networks.</li> <li>• Fintech start-ups cannot afford essential skillsets, which hinders their fundraising initiatives.</li> </ul>

ATTRIBUTE	ENABLERS	INHIBITORS
<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>POLICY AND REGULATION</b></p>	<ul style="list-style-type: none"> <li>• BNR signed a memorandum of understanding with the Rwanda Utilities Regulatory Authority (RURA) to ensure oversight of financial market infrastructures and payment services. It also shares responsibilities regarding cyber-security and cyber-resilience, monitoring of digital finance transaction data for anti-money-laundering efforts, and data protection with regard to the extraction of customer financial data from call detail records.</li> <li>• BNR and RURA regulatory sandboxes are some of the pioneering ecosystem catalysts that allow testing of ground-breaking products and services.</li> <li>• BNR and RURA are open to engaging with fintech start-ups through the bimonthly Fintech Friday events. Although it is still too early to assess the impact of Fintech Fridays, start-ups said they appreciate that they provide an essential forum for networking, peer learning and information sharing.</li> <li>• Initiatives to position Rwanda as a proof-of-concept hub and an international financial centre in order to enable the country to attract ideas, talents, capital and innovations that can scale across the world.</li> </ul>	<ul style="list-style-type: none"> <li>• Regulatory sandboxes are underutilized:                             <ul style="list-style-type: none"> <li>○ There is a lack of awareness of the regulatory sandbox and clarity on the expectations for participating start-ups during and after the programme.</li> <li>○ Many fintech start-ups see minimal value in participating in the sandboxes.</li> <li>○ The sandbox application process is paper-intensive.</li> </ul> </li> <li>• Data localization requirements impose enormous costs on start-ups.</li> <li>• Fintech start-ups do not have direct access to the database maintained by the National Identification Agency or the payment switch.</li> <li>• Start-ups are unaware of the risk-proportionate capital requirements for a payment services provider licence.</li> <li>• Unstructured Supplementary Service Data code and telecom integration fees add to fintech start-ups' operational costs.</li> </ul>



## CONCLUSION AND RECOMMENDATIONS

- **Fintech companies need support to match technical expertise with sound business acumen.** A promising pool of talent with technical skills (software developers, data scientists, telecom engineers, etc.) is emerging to serve the fintech community, still there is a need to bridge the gap between technical skills and sound business acumen. As a result, there are only a few fintech companies that have broken through and expanded beyond Rwanda. To address challenges related to the lack of critical skills, stakeholders recommended the following interventions:

  - Conduct a skills gap assessment to map out essential skills that are currently lacking among fintech start-ups.
  - Establish a structured mentorship program for the budding fintech talents to be paired by mentors who have demonstrated success in similar areas. career guidance and helping start-ups build the skills needed to succeed.
  
- **Product and market research support is needed to ensure fintech products address the market needs.** Stakeholders emphasized the need to support fintechs on the journey toward product-market fit to ensure their value propositions and minimum viable products are guided by customer/market research. This will address the perceived disconnect between some of the solutions with market demand. In addition, stakeholders recommended the following:

  - Facilitate partnership linkages between fintechs and large institutions. This will help fintechs to capitalize on the partner’s customers for initial testing and development of product-market fit for potential scale.
  - The Government and other ecosystem supporters should incentivize fintech start-ups to diversify their offerings to segments that are currently underserved. These segments include insurance, lending/credit, and regtech solutions to help start-ups assess their need to comply with specific regulations.
  
- **There is a considerable funding gap.** As for capital, bootstrapping has been the most common source of funding. The role of angel investors, venture capitalists, and initial public offerings is faint, given the lack of funders in Rwanda. As a result, fintech start-ups without good fundraising skills and/or contacts with foreign funders struggle to raise capital. Besides, foreign investors lack a contextual understanding of the local market, which makes it difficult for them to interpret risks on the ground and make investment decisions. To address the access to capital challenge stakeholders recommended the following interventions:

  - Establish a fintech innovation hub, a dedicated fintech centre, to foster innovation and develop solutions to shape the future of the fintech landscape in Rwanda.
  - Accelerate the launch of the Rwanda Innovation Fund and provide information on how start-ups can access it.
  
- **The policy environment is enabling, but it could benefit from comprehensive policy interventions alongside regulatory sandboxes.** The Government recognizes the importance of fintech, as demonstrated by its call for collaboration between the public and private sectors to support fintech companies to promote innovations in Rwanda; however, policies such as data localization impose high costs on fintech start-ups and create barriers to market entry. To address policy and regulatory issues raised, stakeholders recommended the following:

  - A cost-benefit analysis of the data localization policy and its economic impact should be conducted. It would help policymakers consider whether data localization is an effective solution for protecting citizens’ personal information when potential losses in economic growth, innovation and job creation are taken into consideration. Alternatively, within the constraints of the data localization regime, research should be conducted to understand other policy options that help to achieve data sovereignty objectives with minimal cost to the market participants.

- Establish favourable tax policies such as lower tax rates or tax breaks to help fintechs minimize costs during their early stages of growth.
- Provide tiered access to the national ID database to enable efficient verification of fintechs customers.
- Improve the public-private partnership (PPP) arrangements to level the playing field, ensure fair access to the market, and create competition.

While BNR has already established clear steps for promoting fintech start-ups, a collaborative approach among the critical public- and private-sector stakeholders is needed to overcome existing gaps and strengthen the ecosystem.

## I. INTRODUCTION

In partnership with the National Bank of Rwanda (BNR) and the fintech community, the UN Capital Development Fund (UNCDF) is contributing to the Rwanda Payment System Strategy 2018–2024,<sup>8</sup> by providing technical assistance to support innovative approaches for regulation and helping a select sample of fintech start-ups to navigate the regulatory requirements and engage with the regulators on compliance issues. The partnership aims to drive innovation in the financial sector by creating a more enabling environment for fintech start-ups to grow and prosper.

The fintech ecosystem in Rwanda has developed rapidly in the last 10 years. Facilitators like ICT Chamber,<sup>9</sup> incubators and accelerators are forging a close-knit fintech community where ideas are developed, incubated and transformed into start-ups. As a result, numerous fintech start-ups have entered the market, offering a wider range of services to financial institutions, government entities, individuals and other business customers. While many start-ups are struggling to scale up and some are pivoting into other businesses, many others are looking to enter the market. This dynamic environment makes it difficult to keep track of fintech start-ups operating in Rwanda.

Information on fintech start-ups operating in Rwanda is scattered, and a mapping exercise of ecosystem players is yet to be completed. The situation in Rwanda presents an opportunity for market actors to define the fintech ecosystem suitable for the national context and to develop a live fintech database to track fintech start-up operations and growth in the country going forward.

In May 2019, the Payments Department at BNR and a team at UNCDF agreed to conduct a fintech landscape analysis in order to develop a centralized repository of information regarding fintech start-ups operating in Rwanda. The objective of this landscape analysis was to assess the following:

- Number of fintech start-ups operating in Rwanda and the current stage of their operations.
- Popular/Common types of fintech solutions offered.
- Capacity and needs of fintech start-ups as well as challenges that prevent them from achieving scale.
- Fintech start-ups' experiences with the current regulatory framework, including the nature and types of engagement with regulatory bodies.
- Appropriate areas for collaboration among UNCDF team members, regulatory bodies and fintech start-ups to promote innovation in Rwanda.

The information gained was intended to provide insights to the key agents responsible for implementing activities to support fintech companies that are promoting innovations that improve access to and adoption and usage of financial products and services in the country, as articulated by BNR in the *Rwanda Payment System Strategy 2018–2024*.

<sup>8</sup> BNR, *Rwanda Payment System Strategy: Towards a cashless Rwanda 2018–2024* (Kigali, 2018).

<sup>9</sup> "ICT Chamber is an arm of the Private Sector Federation Rwanda. Established in 2011, ICT Chamber is the leading partner for organizations to share experience, network and meet key players in the Rwandan ICT sector. ... ICT Chamber manages associations of different players in the Rwandan ICT sector and helps ensure members get the needed skills, opportunities and tools to grow. ... The mission is to make Rwanda the leading ICT-driven society." *Source*: ICT Chamber, 'About Us.' Available from <https://ictchamber.rw/abouts/> (accessed July 2019).

## II. METHODOLOGY

The UNCDF team derived results, detailed in this report, from a combination of desk research and semi-structured interviews with fintech start-ups operating in Rwanda. The team reviewed key policy and regulatory initiatives supporting digitization and innovation in Rwanda as well, including these:

- *Business Plan for the Rwanda National Digital Payment System*.<sup>10</sup>
- *National Data Revolution Policy*.<sup>11</sup>
- *National Financial Education Strategy for Rwanda 2013–2018*.<sup>12</sup>
- *National Financial Inclusion Strategy 2019–2024 (draft)*.<sup>13</sup>
- *National Strategy for Transformation 2017–2024*.<sup>14</sup>
- *Payment Services Providers Regulation No. 05/2018*.<sup>15</sup>
- *Rwanda Payment System Strategy 2018–2024*.<sup>16</sup>
- *SMART Rwanda Master Plan 2015–2020*.<sup>17</sup>

Between May and June 2019, the UNCDF team interviewed members of 19 fintech companies, Fintech Association<sup>18</sup> and ICT Chamber (see annex A for a list of stakeholders with whom the team met). For the semi-structured interviews, the team followed the Ernst & Young fintech ecosystem framework,<sup>19</sup> evaluating the current and projected trends in four core ecosystem attributes (see figure I):

- **TALENT:** Availability of talent in the areas of technology, finance and entrepreneurship.
- **DEMAND:** Demand across a wide range of consumers, corporates, financial institutions and other organizations.
- **CAPITAL:** Availability of financial resources for start-ups and innovators.
- **POLICY AND REGULATION:** Government policies and regulations regarding innovation initiatives.

<sup>10</sup> BNR and Access to Finance Rwanda, *Business Plan for the Rwanda National Digital Payment System* (Kigali, 2018).

<sup>11</sup> Rwanda, Ministry of Youth and ICT, *National Data Revolution Policy* (Kigali, 2017).

<sup>12</sup> Rwanda, Ministry of Finance and Economic Planning, *National Financial Education Strategy for Rwanda* (Kigali, 2013).

<sup>13</sup> At the time of this analysis, the *National Financial Inclusion Strategy 2019–2024* was not yet published.

<sup>14</sup> Rwanda, *7 Years Government Programme: National Strategy for Transformation (NST1) 2017–2024* (Kigali, 2018).

<sup>15</sup> Rwanda, *Governing Payment Services Providers*, Regulation No. 05/2018 of 27 March 2018.

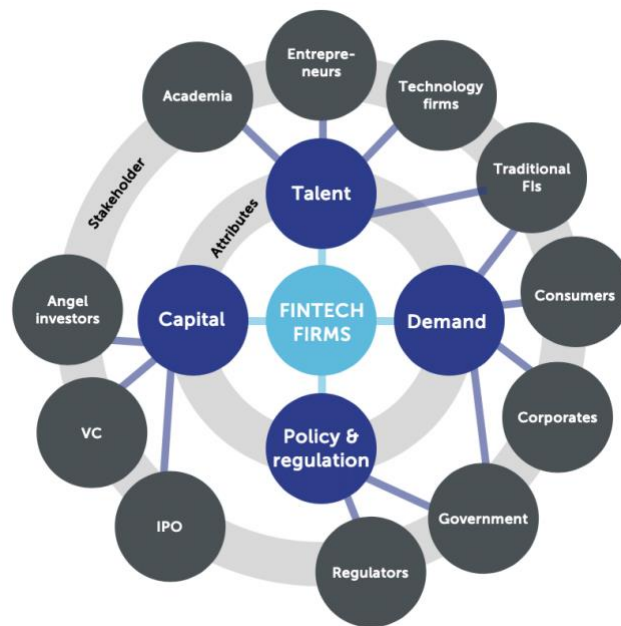
<sup>16</sup> BNR, *Rwanda Payment System Strategy 2018–2024*.

<sup>17</sup> Rwanda, Ministry of Youth and ICT, *SMART Rwanda Master Plan 2015–2020: A prosperous and knowledgeable society through SMART ICT* (Kigali, 2016).

<sup>18</sup> It is a fee-based association that brings together fintech companies in Rwanda. The Fintech Association aims to catalyse the efforts of its members towards achieving a cashless economy through advocacy and policy, financing opportunity, mobilization and capacity-building initiatives. Members include tech and non-tech companies that provide digital payments and financial service solutions.

<sup>19</sup> EYGM Limited, 'FinTechs in Sub-Saharan Africa.'

Figure 1: Fintech ecosystem



Source: EY Analysis

Note: Figure is based, with permission from the author, on the following: EYGM Limited, 'FinTechs in Sub-Saharan Africa: An overview of market developments and investment opportunities,' figure 5, page 8 (London, 2019).

Acronyms: FI, financial institution; IPO, initial public offering; VC, venture capitalist

In addition to these attributes, the interviewers gathered information on the background of and services offered by the companies.

The team also conducted desk research on fintech start-ups in Rwanda to collect descriptive statistics on, or information regarding, companies that were not available for in-person interviews.

## DATA LIMITATIONS

The approach utilized by the UNCDF team considered all of the relevant sources of information available at the time. To establish the number of start-ups, UNCDF relied on lists of fintech companies that it received from the Fintech Association, ICT Chamber and kLab.<sup>20</sup> These lists indicated that about 30 fintech start-ups are operating in Rwanda; however, some of the companies are software development or electronic (e-) commerce companies that do not view themselves as fintech start-ups.

To ensure that the full range of fintech start-ups was included in the landscape analysis, UNCDF requested referrals and asked interviewed companies to list their competitors. From this technique, the team determined that 44 fintech start-ups are currently operating in Rwanda.

In summary, the total estimated number of fintech start-ups provided in this report is based on information received from various stakeholders with which UNCDF interacted and cannot be verified through any public sources.

<sup>20</sup> Started in 2012, kLab is the first innovation and technopreneur co-working space in Rwanda. kLab is "where students, fresh graduates, entrepreneurs and innovators come to work on their ideas/projects to turn them into viable business models." kLab provides facilities as well as mentorship and training programmes and "hosts events, workshops, boot camps, hackathons and networking sessions to promote collaboration/partnerships, investment and financing." Namely, kLab helps to link members to investment and financing opportunities. Source: kLab, 'About.' Available from <https://klab.rw/public/about> (accessed August 2019).

### III. FINANCIAL SECTOR FACTS AND FIGURES

#### A. PAYMENT DIGITIZATION AND FORMAL FINANCIAL INCLUSION

The retail e-payment system in Rwanda has different components, including Internet banking, mobile banking, mobile money and cards, among others.<sup>21</sup> A variety of actors is active in the payment space, including banks and non-bank financial institutions.<sup>22</sup>

Banks offer platforms for Internet banking (via the bank's online website) and mobile banking (via the bank's mobile app or Unstructured Supplementary Service Data [USSD]) to their customers. At the end of 2017, there were 52,020 Internet banking users, who collectively performed 339,522 transactions amounting to RF1.42 trillion (US\$1.56 billion); meanwhile, there were 1,158,944 mobile banking users performing 3,906,642 transactions totalling RF36 billion (US\$40 million).<sup>23</sup> The low number of subscribers and frequency of transactions, in comparison to the transacted amounts, suggests that Internet banking transactions are predominantly performed by businesses, while most mobile banking transactions are individual payments.

Mobile money constitutes the largest proportion of transactions initiated by digital instruments in Rwanda. The number of registered mobile money customers at the end of 2017 was 9,079,983.<sup>24</sup> During 2017, the mobile money industry facilitated over 251 million transactions worth RF1.38 trillion (US\$1.52 billion)<sup>25</sup> (see annex B for a graphical presentation of these trends).

Fintech start-ups are entering the landscape as payment aggregators with infrastructure that supports card-based and mobile payments and are offering competitive services, including bill payments, airtime top-ups and merchant payments.

The growth in payment digitization is mainly due to numerous policy commitments, including the goals of the Government to shift to a cashless economy and to achieve a nationwide formal financial inclusion level of 100 percent by 2020.<sup>26</sup> With those goals in mind, the Government has joined forces with international partners, including Access to Finance Rwanda, Alliance for Financial Inclusion and Better Than Cash Alliance,<sup>27</sup> to formulate national strategies and implement regulatory reforms to foster payment digitization and financial inclusion.

Because of these efforts, the proportion of the adult population that is formally financially included increased from 42 percent in 2012 to 68 percent in 2016, while total financial inclusion (both formal and informal) stood at 89 percent in 2016.<sup>28</sup> The non-bank financial sector, particularly mobile money, has been the key driver of formal inclusion. The number of mobile money customers grew eight times, from about 1.4 million subscribers in 2012 to 11.1 million subscribers in 2018; meanwhile, the volume of mobile money transactions grew from 22 million to nearly 300 million and the value from RF162 billion (US\$178 million) to almost RF2 trillion (US\$2 billion).<sup>29</sup> Moreover, the use of retail e-payments grew from 3 percent of the gross domestic product in 2011 to nearly 27 percent in 2017.<sup>30</sup> The country is aiming to reach 80 percent by 2024.<sup>31</sup>

To help ensure financial stability and reduce risk in the payment system, BNR continues to undertake initiatives, including the implementation of a system for payment system oversight, the reinforcement of the

<sup>21</sup> BNR, *Oversight Policy Framework for Financial Market Infrastructures in Rwanda* (Kigali, 2014).

<sup>22</sup> BNR, 'Companies Licensed by the National Bank of Rwanda under the Laws of Payment Systems and CSD' (Kigali, 2016).

<sup>23</sup> BNR, 'Payment System Statistics.'

<sup>24</sup> Ibid.

<sup>25</sup> Ibid.

<sup>26</sup> BNR, *Rwanda Payment System Strategy 2018–2024*.

<sup>27</sup> Rwanda, Ministry of Finance and Economic Planning, 'Rwanda to accelerate digital payments by joining the Better Than Cash Alliance,' 29 October 2014. Available from

[http://www.minecofin.gov.rw/index.php?id=119&tx\\_ttnews%5Btt\\_news%5D=387&cHash=f79836af9cc1e7469868dbc0416904c0](http://www.minecofin.gov.rw/index.php?id=119&tx_ttnews%5Btt_news%5D=387&cHash=f79836af9cc1e7469868dbc0416904c0)

<sup>28</sup> FinMark Trust, 'Digital Financial Services in Rwanda.'

<sup>29</sup> BNR, 'Payment System Statistics.'

<sup>30</sup> BNR, *Rwanda Payment System Strategy 2018–2024*.

<sup>31</sup> The Banker, 'John Rwangombwa: Delivering Rwanda's digital-driven economy.'

payment system regulatory framework, and the enactment of new regulations on money remittance services, among others.<sup>32</sup>

## B. POLICY AND REGULATORY INITIATIVES DRIVING INNOVATION

Digitization and innovation agendas are guided by broad national-level policy frameworks and numerous government initiatives, including these:

- **National Strategy for Transformation 2017–2024**, with the third and fifth priorities under the economic pillar focusing on the financial sector. These priorities are supported by strategic interventions that aim to accelerate innovation and growth of digital solutions in Rwanda. These interventions include the need to do the following:
  - Operationalize the Rwanda Innovation Fund to support firms in the innovation and technology industry.<sup>33</sup>
  - Ensure the digital literacy of all youth (16–30 years old) and at least 60 percent of adults by 2024 through the implementation of a national digital literacy programme.<sup>34</sup>
  - Develop specialized skills and establish incentive mechanisms to attract investors to the financial sector and advance Rwanda so it is seen as a centre of financial services.
  - Increase the value of payment transactions conducted electronically, with the aim to boost their contribution to the gross domestic product from just under 27 percent in 2017 to 80 percent by 2024.<sup>35</sup>
- **SMART Rwanda Master Plan 2015–2020**, with the objective to expand financial infrastructure to increase access to financial services, particularly through e-financial transactions and financial inclusion efforts. The Plan articulates several goals to support innovation in information and communication technology (ICT), including these:
  - Cultivate new local ICT enterprises by tracking innovative and entrepreneurial talent from the earliest education level.
  - Establish the Rwanda ICT Business Investment Readiness Index to assess investment readiness of Rwandan ICT.
- **Payment Services Providers Regulation**, which passed in 2018.<sup>36</sup> It regulates the activities of providers of payment initiation services and aggregators, thereby enabling a wider range of market participants to access the national payment system.<sup>37</sup> The Regulation also defines risk-proportionate minimum initial capital requirements to allow unregulated banks and microfinance institutions to participate in payment services.
- **National Financial Inclusion Strategy 2019–2024 (draft)**, with the aim of leveraging the potential of the fintech sector to expand digital financial services.

<sup>32</sup> BNR, 'Annual Financial Stability Report, July 2017–June 2018' (Kigali, 2019).

<sup>33</sup> The Rwanda Innovation Fund aims to promote an innovation economy in Rwanda, as described here: Rwanda Development Board, '2017 Annual Report' (Kigali, 2018). "The Fund will support and provide equity financing for SMEs, train tech-oriented entrepreneurs in business planning and management, and raise awareness for intellectual property rights in Rwanda and beyond. It aims to mobilize US\$100m in direct commitments from the Rwandan Government and private investors, while targeting a leverage multiplier effect of up to US\$300m in follow-on investments. The Project is expected to support more than 150 companies at various stages and invest in 20 early growth stage opportunities. It will create more than 2,000 direct jobs and over 6,000 indirect jobs over its 10-year life cycle. It will provide capacity building to 7-10 incubators and accelerators, facilitate 3-5 additional angel networks, and trainings to about 30,000 entrepreneurs across the region." Source: Tom Jackson, 'AfDB backs Rwanda Innovation Fund with \$30m,' 20 March 2018. Available from <http://disrupt-africa.com/2018/03/afdb-backs-rwanda-innovation-fund-with-30m/>

<sup>34</sup> Rwanda, *7 Years Government Programme: National Strategy for Transformation (NST1) 2017-2024*, p. 4.

<sup>35</sup> Ibid, p. 7.

<sup>36</sup> "Payment services providers are any entit[ies] providing services enabling cash deposits and withdrawals, execution of payment transactions, issuing and/or acquisition of payment instruments, money remittances and any other services functional to the transfer of money." Source: BNR, *Oversight Policy Framework for Financial Market Infrastructures in Rwanda*, p. 8.

<sup>37</sup> Rwanda, *Governing Payment Services Providers*, Regulation No. 05/2018.

- **Rwanda Payment System Strategy 2018–2024**, with a roadmap to establish a cashless economy by 2024.<sup>38</sup> One of the strategic objectives is to foster an enabling environment for innovation in the payment system, calling for collaboration between the public and private sectors to promote better access to and adoption and usage of financial products and services. The actions specifically identified include these:
  - Facilitate collaboration between the public and private sectors to develop innovative retail payment solutions that are driven by digital financial services.
  - Establish a fintech accelerator/incubator to nurture ideas and transform them into start-up companies.
  - Mobilize angel investors, venture capitalists and private equity firms to establish the Rwanda Innovation Fund (seed and growth capital) to support fintech start-ups to develop proof-of-concept, test solutions and achieve scale.
  - Operationalize the regulatory sandbox to allow fintech start-ups "to test their product, service or solution in a live, contained environment, subject to the requirements under the respective regulation."<sup>39</sup>
  - Provide technical assistance to local fintech start-ups.
  - Work with the fintech industry to assess the potential of disruptive technologies (e.g., distributed ledgers) and explore how they can be used to digitize payments, make them more secure and promote financial inclusion.

The strategic objectives of BNR align well with the goal of UNCDF to support regulatory innovation through fintech start-ups. The findings from this landscape analysis will help identify appropriate areas for collaboration between UNCDF team members, regulatory bodies and fintech start-ups to promote innovation in Rwanda.

<sup>38</sup> BNR, *Rwanda Payment System Strategy 2018–2024*.

<sup>39</sup> Rwanda, *Governing Payment Services Providers, Regulation No. 05/2018*.



## IV. FINTECH SECTOR OVERVIEW

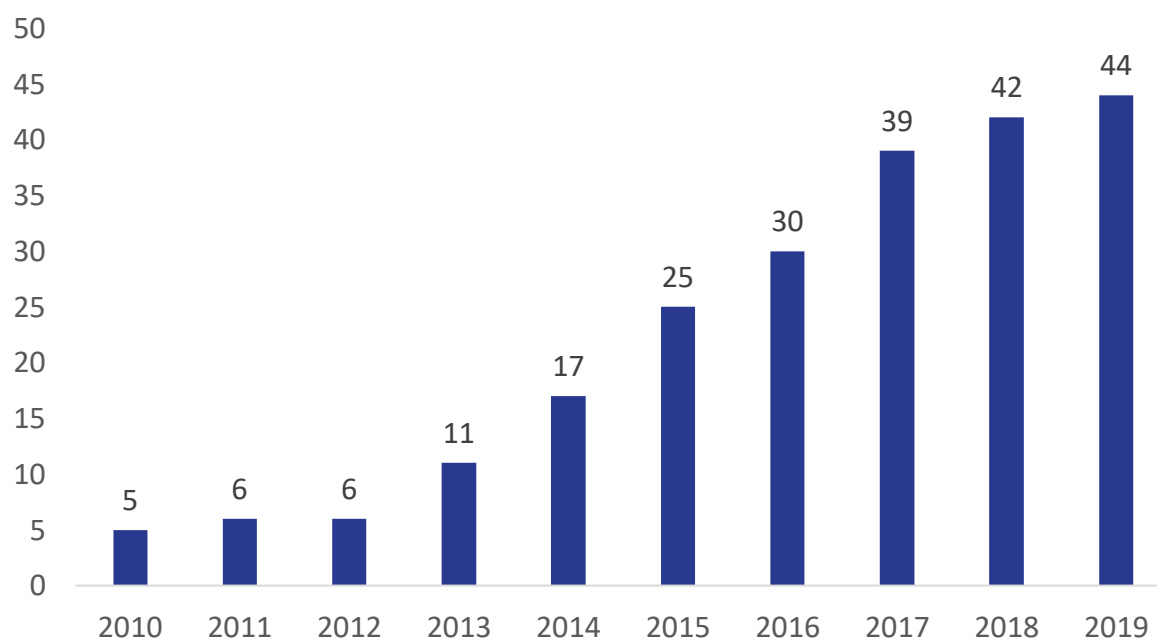
**Definition:** In the context of this analysis, a fintech start-up is defined as a technology-enabled, new entrant to the financial services industry or an organization not currently under the purview of the financial sector's regulator. This definition **excludes** the following:

- × Regulated technology companies that provide mobile money wallets such as Airtel-Tigo and Mobile Telephone Networks (MTN) or payment system operators such as RSwitch.
- × Technology solution companies or start-ups run by incumbent financial institutions such as BK TechHouse.
- × Companies that are no longer active in the market for different reasons such as Mergims and VugaPay (while VugaPay is pivoting to become an Internet service provider, the reasons for the inactivity of Mergims are unknown).
- × E-commerce companies such as Kasha and SpiderBit.

Under the definition above, there are currently 44 companies operating in the Rwandan fintech industry. Similar to other African markets, the fintech landscape in Rwanda is evolving. Therefore, the total number of fintech start-ups is subject to change as more information on companies that are not active members of various associations in the industry becomes available.

Overall, the fintech industry in Rwanda has experienced a rapid growth rate, almost tripled in size over the last five years (see figure II).

**Figure II: Number of fintech start-ups in Rwanda at year-end (2009–2019)**



Source: UNCDF analysis

The change in the fintech start-up landscape is positively correlated with regulatory reforms in the payment sector and the launch of ICT-focused government policies. For instance, BNR issued regulatory instruments governing the oversight and regulation of payment services providers (PSPs) in 2010. These instruments created an open, level playing field for non-bank providers, including fintech companies, to enter the market and offer payment services. Additionally, the regulators' flexibility in responding to the evolving nature of the payment industry catalysed the introduction of new technologies and business models that are leveraged by

fintech companies.<sup>40</sup> In less than 10 years, the regulators have issued at least four regulations that respond to the evolution of payment services.<sup>41</sup>

Government approval of the *SMART Rwanda Master Plan* in 2015 was another catalyst for growth in the fintech industry. Finance is one of the sectors where the use of ICT to enable efficient and effective service delivery is emphasized. To do so, the Government is making investments to build ICT skills and capacity, develop secure shared infrastructure, and enhance governance and management.

Fintech start-ups can be separated into two major groups:

1. **CORE fintechs** provide financial services such as payments/remittances, lending/financing, savings and insurance products directly to end users.
2. **ENABLING fintechs** provide technology/business solutions primarily to financial institutions to enable the delivery of financial services. They do not offer their own financial products and services to end users (see the fintech landscape in figure III for the list of core and enabling fintechs in Rwanda).

<sup>40</sup> Kalvin Bahia and Brian Muthiora, 'The Mobile Money Regulatory Index' (London, GSMA, 2019).

<sup>41</sup> *Ibid*, p. 9

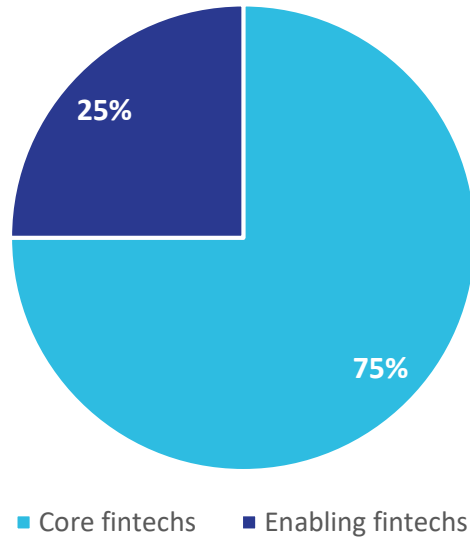
Figure III: Rwandan fintech landscape



Note: See annex C for additional information on these companies.

Of the fintech start-ups operating in Rwanda, 75 percent is considered a core fintech (see figure IV). This pattern could be because start-ups find it easier to innovate in areas that are currently un(der)served by financial services providers than to help financial institutions digitize their service offerings or internal processes. Alternatively, it could reflect the fact that financial institutions are building in-house capability for services such as data analytics and business process automation that they would have acquired from enabling fintechs.

**Figure IV: Segmentation of fintech start-ups in Rwanda**

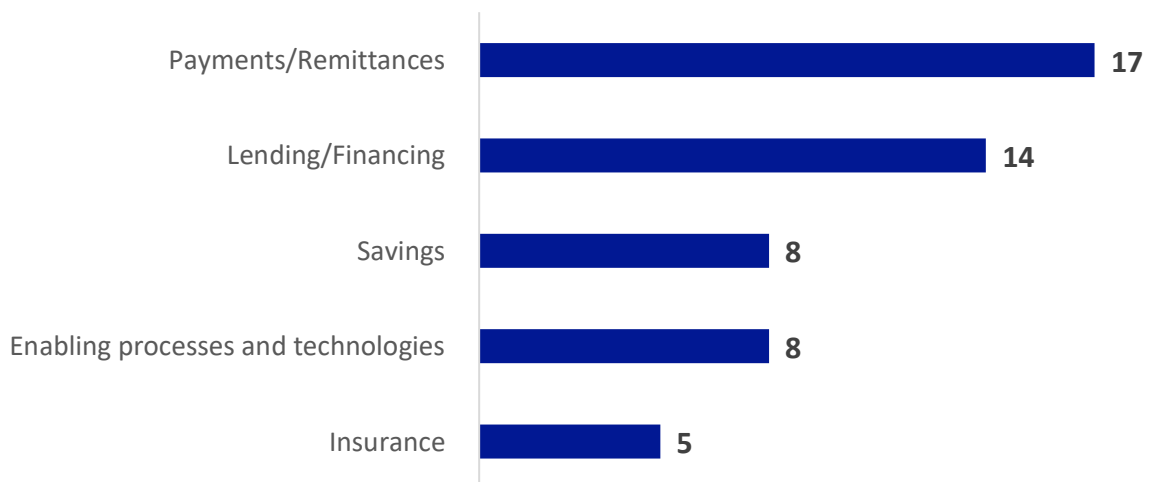


Source: UNCDF analysis

### A. BUSINESS MODELS

Fintech start-ups in Rwanda provide a range of traditional products and services and charge transaction fees or premiums for insurance products (see figure V for a breakdown of the fintech start-ups by product/service subsector). Payments/Remittances and lending/financing are the most prevalent services offered by fintechs.

**Figure V: Number of fintech start-ups in Rwanda by subsector**



Source: UNCDF analysis

Note: Enabling processes and technologies include business process automation, alternative banking, credit risk management, and banking system implementation and development provided by enabling fintechs.

Fintech start-ups involved in the **payments/remittances** subsector dominate the Rwandan market. Most companies operating in this space either provide payment aggregation/gateway services (enabling the merchant to receive payments through various channels) or digitize payments in a specific section of a value chain (such as transport). The concentration on payments/remittances is unsurprising given the positive trajectory of underlying factors, including the growth in e-commerce and mobile commerce transactions. Moreover, an enabling regulatory framework plays a role in encouraging innovation among banks and non-bank providers.

Fintech start-ups involved with **lending/financing** come second, addressing the gap created by the collateral-based, bank-led lending model in the country that currently focuses on corporate segments. Fintech start-ups are using alternative data sources to assess creditworthiness and extend financing solutions to the small and medium enterprise (SME) sector and the low-income population. For instance, companies such as BeneFactors and Kountable are leveraging the creditworthiness of SME buyers to offer trade and factoring finance solutions. The low-income population accesses micro/nano loans from companies such as Jumo that rely on unstructured/alternative data sources such as short message service (SMS) and social media to generate credit scores and assess customer risk levels.

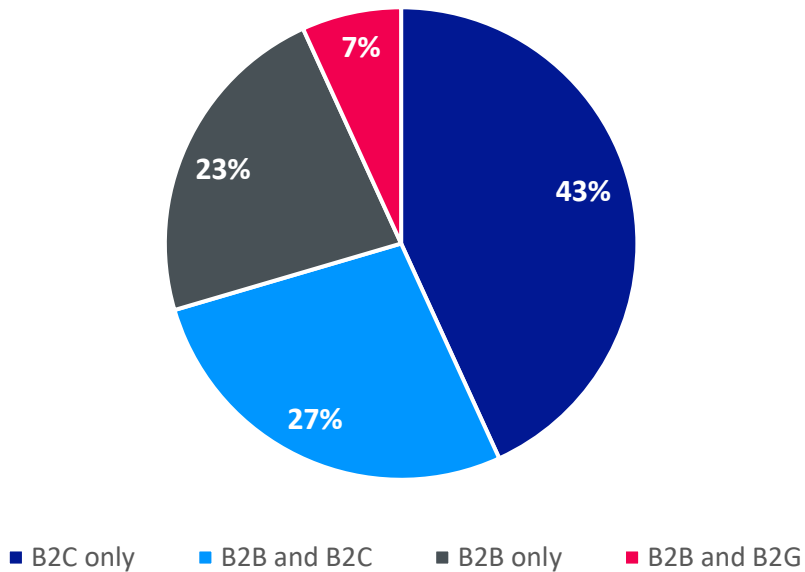
The ability to use alternative data sources and apply risk-based pricing gives fintech start-ups an advantage over banks in extending credit to SMEs and low-income Rwandans. Banks rely almost exclusively on traditional data points in advancing credit, which limits their capacity to lend to individuals or small businesses that lack documented income and collateral, respectively.

Few fintech start-ups in Rwanda have ventured into **financial management** such as insurance products, investments or personal financial management services. There are only five start-ups that have an insurance product in the market or are in a testing phase. No fintech company currently offers an investment product or personal financial management product in Rwanda, though one company indicated that it is working on an investment product. Given the low rate of insurance penetration (gross premiums relative to gross domestic product) in the country, which stood at 1.7 percent as of June 2018,<sup>42</sup> fintech start-ups could be incentivized to stimulate growth in the insurance sector.

Given that most start-ups in Rwanda are core fintechs, it is unsurprising that the largest proportion (43 percent) operates business-to-consumer–focused business models (see figure VI). The reason could largely be that there is still a significant section of the untapped consumer market that fintechs are trying to reach. It could also be because start-ups want to scale up quickly, as focusing on business-to-business or business-to-government models would slow their rate of growth. Business-to-business and business-to-government models cater to niche needs, take longer to scale up and have a low likelihood of exponential growth.

<sup>42</sup> BNR, 'Annual Financial Stability Report, July 2017–June 2018.'

Figure VI: Proportion of fintech start-ups in Rwanda by business model focus



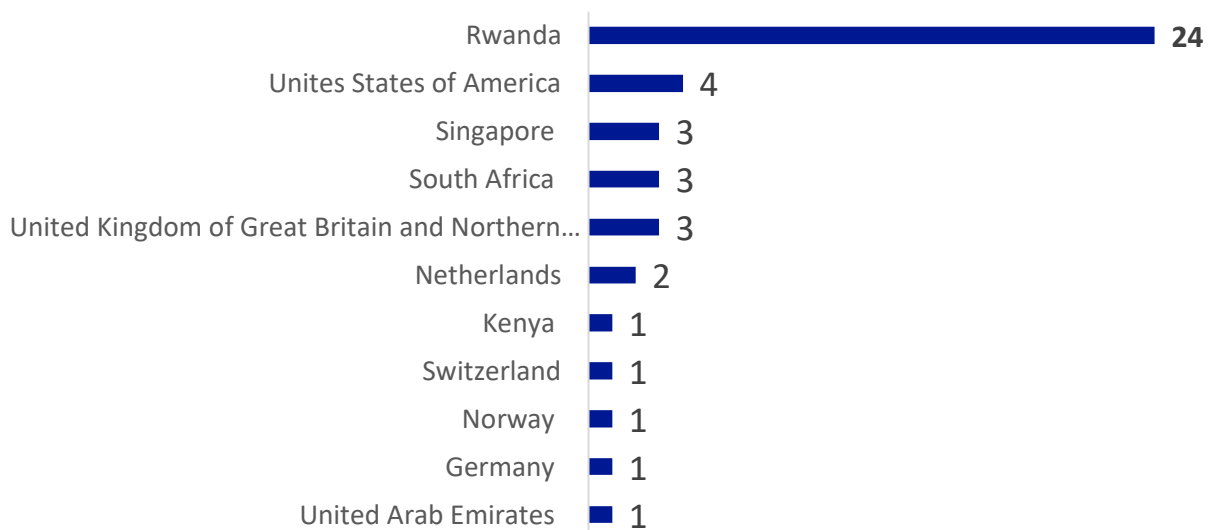
Source: UNCDF analysis

Acronyms: B2B, business to business; B2C, business to consumer; B2G, business to government

## B. HEADQUARTERS AND TEAMS

The industry boasts a dynamic blend of globally recognized brands and innovative companies that are in an early stage of development. Over half (55 percent) is headquartered in Rwanda (see figure VII), and those established by international entities bring their international experience and culture to the industry. AC Group is one of the few fintech start-ups incubated by kLab that is scaling up operations outside Rwanda (see box 1 for more information).

Figure VII: Number of fintech start-ups in Rwanda by headquarters' location



Source: UNCDF analysis

Most fintech teams in Rwanda are small in scale, reflecting their start-up status. Aside from those with unknown or undisclosed team sizes, most fintech start-ups in the country employ 1 to 10 employees (see figure VIII).

## BOX 1: AC GROUP SUCCESS STORY



Established in 2015, AC Group facilitates smart transport systems by digitizing public transport payments. It provides a contactless Tap & Go bus fare system that enables passengers to board public buses without using hard cash. It also offers Tap & Go 4G Wi-Fi on public buses and plans to provide Internet access to 2 million Rwandans by the end of 2020. Aside from being a homegrown solution developed through consultation with commuters and bus operators, AC Group benefited from partnerships with the Government and other ecosystem players. It continues to forge partnerships to improve its value proposition and enhance customer experience. In early 2019, AC Group partnered with MTN to launch a top-up payment model for bus cards to streamline the ticketing process and enable customers to recharge at their convenience.<sup>a</sup>

Since its establishment, the Tap & Go solution has increased the revenue of bus operators by over 30 percent and decreased commute durations.<sup>b</sup> The company currently has about 1.5 million Tap & Go customers in Rwanda, and it has facilitated over 170 million trips.<sup>c</sup> In 2017, AC Group expanded its operations to Yaoundé, Cameroon. Currently, it is in conversation with the Governments of Angola, Kenya and the United Republic of Tanzania to replicate its solutions.<sup>d</sup>

<sup>a</sup> Hope Magazine, 'MTN in partnership with AC Group Ltd launches bus card top-up payment,' 9 March 2019. Available from <http://www.hope-mag.com/index.php?com=news&option=read&ca=7&a=4090>

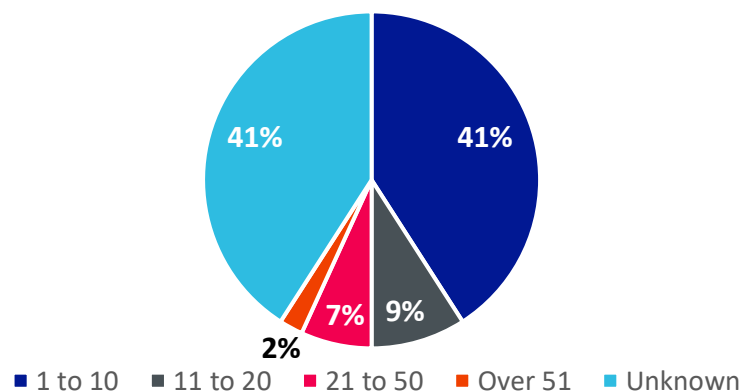
<sup>b</sup> Moses K. Gahigi, 'Firms compete to offer smart transport options,' 22 November 2018. Available from <http://rwandatoday.africa/news/Firms-compete-to-offer-smart-transport-options/4383214-4863506-174046/index.html>

<sup>c</sup> AC Group, 'Home.' Available from <http://acgroup.rw/> (accessed August 2019).

<sup>d</sup> Frank Rijsberman, GGGI Director-General, 'GGGI Update,' presentation, 11 June 2019. Available from [http://gggi.org/site/assets/uploads/2019/06/Friends-of-GGGI-Presentation\\_June-2019-final.pdf](http://gggi.org/site/assets/uploads/2019/06/Friends-of-GGGI-Presentation_June-2019-final.pdf)

While fintech start-ups in Rwanda have only had a small impact on employment to date, enabling existing companies to scale up or attracting new start-ups could be a vehicle for job creation. Having prospects for growth, fintech companies are likely to increase their demand for talent in information technology (IT), marketing and business support such as accounting and human resources management.

**Figure VIII: Proportion of fintech start-ups in Rwanda by the number of local team members**



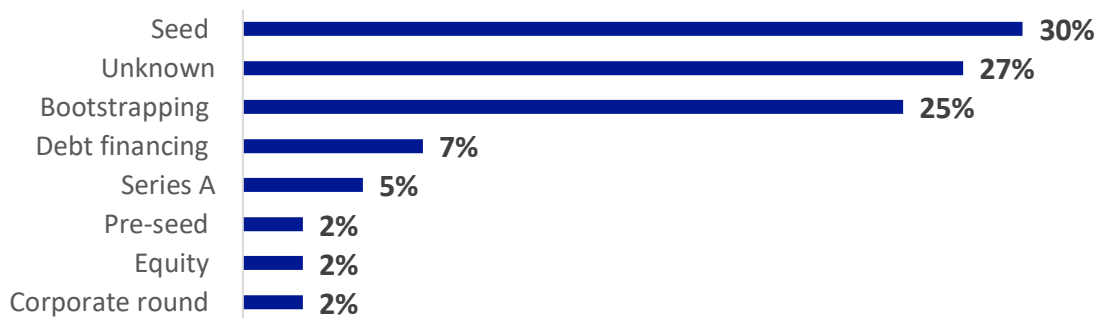
Source: UNCDF analysis

### C. FUNDING

Most fintech start-ups in Rwanda are still looking for funding opportunities to either test their offerings or scale up their operations domestically and internationally. Over half (55 percent) of companies operating in Rwanda has either raised seed funding (30 percent) or is bootstrapping<sup>43</sup> (25 percent) to support early-stage operations (see figure IX).

Most start-ups that have secured seed and/or growth financing (through equity, Series A, debt financing or corporate round) were either established outside of Rwanda or are Rwandan-based but founded by a foreigner.

**Figure IX: Proportion of fintech start-ups in Rwanda by funding type**

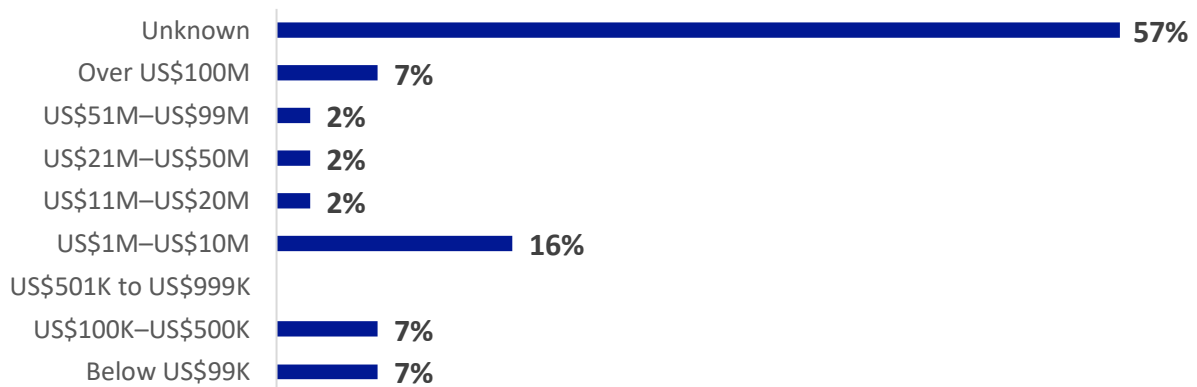


Source: UNCDF analysis

The total amount of funding raised or invested for over half (57 percent) of companies is unknown (see figure X). Of the 24 companies headquartered in Rwanda, only seven disclosed their total funding information or have it publicly available. Of those, only two have invested between US\$1 million and US\$10 million. The other five have raised between US\$100,000 and US\$500,000 (three companies) or below US\$99,000 (two companies).

Only 13 of the 20 fintech start-ups headquartered outside Rwanda have disclosed their total funding. Of them, most (eight companies) have total funding above US\$11 million. Pay-as-you-go (PAYGO) lending/financing start-ups constitute the largest proportion of companies that have raised more than US\$11 million.

**Figure X: Proportion of fintech start-ups in Rwanda by total funding amount**



Source: UNCDF analysis

<sup>43</sup> Bootstrapping is building a company from personal finances or operating revenues of the new company.



## V. KEY FINDINGS REGARDING THE FINTECH ECOSYSTEM

Findings are categorized by the four ecosystem attributes: talent, demand, capital, and policy and regulation.

### A. TALENT

The fintech ecosystem in Rwanda benefits from the presence of academic institutions and world-class training centres. Institutions include the African Center of Excellence in Data Science, African Institute for Mathematical Sciences, African Leadership University, Carnegie Mellon University, Centre of Excellence in Internet of Things, Kigali Institute of Science and Technology, and National University of Rwanda. These institutions produce graduates specializing in computer science and IT to respond to the growing demand for IT professionals. In addition, Rwanda hosts numerous regional and international technology conferences, which provide local talent with international exposure, connections and potential partnerships.

Of the 24 fintech companies headquartered in Rwanda, 22 were founded and are run by Rwandans, which suggests the country has a promising pool of talent to nurture fintech start-ups' staffing needs; however, interviews with start-ups confirmed the following observations regarding talent for fintechs in Rwanda:

- 1. Most founders have a technical background (usually software development engineering) but have limited marketing, business and financial management experience.** There is an adequate talent pool for the development of technical solutions, but there are talent gaps in the areas of marketing and business knowledge to achieve market fit for products and to lead go-to-market and scale-up strategies. Many fintech start-ups struggle to create a strong value proposition to attract, acquire and retain customers. Fintech start-ups acknowledged that the sector requires people with specialized skills at the intersection of finance and technology. People with such skills are either unavailable or too expensive for the fintech start-ups. In addition, the sector requires high-quality human capital in supporting fields, including customer experience, security and financial management, in order to scale up offerings effectively.
- 2. Most fintech companies are in an early stage of development and are heavily dependent on the founder.** An overreliance on the founder limits fintech start-ups' potential to scale up and/or demonstrate the level of maturity for which potential investors may be looking. Several fintech start-ups expressed the need for investors to provide or fund capable business management hires to bridge the gap between the founder's technical knowledge and the company's lack of business operation knowledge.
- 3. Fintech founders tend to be young and lack practical experience.** Most fintech start-ups suffer from a double whammy, namely the young age of the founder and the small size of the company, which makes them unappealing to potential partners—particularly large institutions that prefer to work with experienced staff. Fintech start-ups could consider collaborating with senior associates to match their technical skillsets with more practically experienced staff. Enacting flexible labour laws to attract and retain foreign talent from mature markets is another option to grow the local fintech industry.
- 4. Technical assistance in the form of capacity-building programmes distract start-up teams from their work and offer no added value.** Some fintech start-ups raised concerns about the technical assistance programmes offered to them by development partners. They argue that a week or day of business training to an engineer does not generate a long-term impact. Providing or sponsoring hires with business skills would be a preferred means of support to boost the growth of their operations.

To address challenges related to talent, ecosystem facilitators are playing a significant role in building a strong support network. These hubs, incubators and accelerators provide workspace, mentorship, connections and linkages to investors. Figure XI shows the landscape of ecosystem facilitators in Rwanda (see annex D for a detailed description of each); however, none offers fintech-specific incubation or acceleration programmes. Rather, the facilitators provide generic support to start-ups in all sectors. BNR plans to establish a fintech accelerator/incubator that addresses the need for tailored support to the fintech ecosystem.<sup>44</sup> While the Fintech Association is not providing incubation or acceleration programmes, it is an important body that mobilizes fintech companies in order to build a vibrant fintech industry in Rwanda.

Figure XI: Ecosystem facilitators in Rwanda



## B. DEMAND

Fintech customers vary from individuals to businesses and government entities. The needs of individual customers in Rwanda create plenty of opportunities for the fintech ecosystem, as indicated by the large proportion of fintech start-ups offering solutions to this customer segment (43 percent). The efforts by the Government towards achieving a cashless economy and ensuring that 100 percent of the adult population is financially included expand the demand for fintech solutions also. For instance, the Rwanda Revenue Authority partnered with MobiCash to ease person-to-government and business-to-government tax and non-tax payment collection.<sup>45</sup>

Moreover, the implementation of an e-data warehouse by BNR is pushing financial institutions to digitize their internal processes to enable BNR to pull data directly from their IT systems.<sup>46</sup> Going forward, this initiative is likely to increase financial institutions' demand for process automation solutions offered by fintech companies.

<sup>44</sup> BNR, *Rwanda Payment System Strategy 2018–2024*.

<sup>45</sup> The New Times, 'RRA, MobiCash partner to ease tax collection, compliance,' 10 September 2015. Available from <https://www.newtimes.co.rw/section/read/192410>

<sup>46</sup> The Rwandan Banker, 'Towards a Price Based Monetary Policy Framework,' No. 31, ISSN 2410-6844, p. 11 (August 2018).

The landscape analysis highlighted the following challenges when it comes to demand for fintech products and services in Rwanda:

- 1. There is a lack of diversity in terms of products and services offered, resulting in a concentration in some segments and unmet demand in others.** Of the fintech start-ups operating in Rwanda, nearly 40 percent provides solutions for payments/remittances. Within that subsector, the majority concentrates on payment aggregation or payment gateway services. This concentration on payment segments leaves other segments of the market mostly unserved. For instance, insurance penetration remains very low in Rwanda, but fintech start-ups are not expanding as quickly in this segment as in the payments or lending/financing segments. There is a considerable market opportunity for insurance coverage, particularly microinsurance for agriculture given the commitment by the Government through its agriculture insurance subsidy programme.<sup>47</sup> Similarly, there is a sizeable scope for providing long-term savings, investments and personal finance management solutions, which are mainly accessible now to formally employed Rwandans only. Thus, informally employed Rwandans present a huge untapped market.

**“MANY FINTECHS ARE COPYING WHAT OTHERS ARE DOING INSTEAD OF INNOVATING IN OTHER AREAS OF THE INDUSTRY. THIS LIMITS THE INDUSTRY POTENTIAL TO CREATE ‘UNICORNS’ IF EVERY VENTURE STARTS IMITATING THE SUCCESSFUL ONES.”**

**- Rwandan fintech founder**

- 2. Complex procurement processes limit the ability of fintech start-ups to provide solutions to large corporations or government institutions.** The Government and large multinational corporations are the largest purchasers of technology services in Rwanda. Yet, requirements in their procurement processes limit the ability of fintech start-ups to compete for such tenders. For instance, the requirement for audited financial records inhibits start-ups’ participation, as many are unable to produce such records. Fintech start-ups feel that adjusting such requirements might be a first step that policymakers could take to provide access to government entities as potential customers for start-ups. The Fintech Association, cognizant of this challenge, wants to help members access both domestic and international markets through partnerships with development agencies that can guarantee supervisory functions and/or funds.
- 3. There are low levels of financial literacy and trust in digital solutions among potential consumers, which affect fintech start-ups’ ability to reach scale.** The digital literacy rate in Rwanda stands at 12 percent as of 2019,<sup>48</sup> which limits the demand for fintech start-ups’ products. Large-scale consumer education and awareness campaigns are necessary to increase consumer demand for fintech products. Start-ups highlighted the need for government and development partners to invest in educating citizens about digital solutions to drive the knowledge-based, technology and cashless agenda.

The Government is addressing the national challenge of digital literacy, setting a target of achieving digital literacy of all youth (16–30 years old) and at least 60 percent of adults by 2024.<sup>49</sup> The Digital Ambassador programme, championed by the Ministry of ICT and Innovation in collaboration with Digital Opportunity Trust,

<sup>47</sup> Access to Finance Rwanda, ‘Rwanda Government Launches the National Agriculture Insurance Scheme in Partnership with the Private Sector,’ 23 April 2019. Available from <http://www.afr.rw/resources/news/article/rwanda-government-launches-the-national-agriculture-insurance-scheme-in>

<sup>48</sup> Elias Hakizimana, ‘ICT project that seeks to impart digital skills to 1 million Rwandans next year, faces huge budget deficit,’ 11 May 2019. Available from <http://rwandainspirer.com/2019/05/11/ict-project-that-seeks-to-impart-digital-skills-to-1-million-rwandans-next-year-faces-huge-budget-deficit/>

<sup>49</sup> Rwanda, *7 Years Government Programme: National Strategy for Transformation (NST1) 2017-2024*.

leads in the efforts to achieve these targets. The initiative plans to empower 5 million Rwandans with digital skills and facilitate their adoption of e-services to drive digital inclusion and growth.<sup>50</sup>

## C. CAPITAL

Although funding has emerged as one of the most important aspects of fintech start-ups' success, information on types, amounts and stages of funding is spotty in the Rwandan fintech ecosystem. UNCDF gathered some information about the availability of and access to capital for fintech start-ups, as detailed below, but a comprehensive analysis is recommended to gain tractable insights on companies' current and projected fundraising potential.

Of the 13 companies that have raised seed capital, only six of the fintechs are headquartered in Rwanda. Most companies that are headquartered in Rwanda are bootstrapping (ten companies), and one has received pre-seed capital. Funding information for the remaining seven is unknown. Funding has mainly come from international investors.

There are limited angel investors, venture capitalists and initial public offering opportunities in Rwanda, compared to other markets such as Kenya. Rwandan-based fintech start-ups acknowledge that Rwanda, given both its population size and growth perspective, is a less attractive fintech market for investors than Kenya.

A mapping exercise of Rwandan-based investment actors shows six active investors, including BeneFactors, Business Development Fund, Business Partners International, GroFin, Ignite Rwanda and Kountable,<sup>51</sup> that provide seed and early-stage funding to all business sectors. Interviews with fintech founders confirmed that the following challenges to accessing capital exist in Rwanda:

1. **There is a limited number of seed and early-stage investors, which forces start-ups to rely on banks for capital.** Bank lending models are inappropriate for start-ups, particularly ones operating in technology sectors. Banks lack appropriate products and risk-mitigation instruments to offer financing to start-ups, instead focusing on mid- to late-stage companies.<sup>52</sup> In addition, commercial banks base their lending on the provision of collateral, which most start-ups lack. Furthermore, the average interest rate charged by banks (17.6 percent) discourages start-ups from financing their ventures through bank loans.<sup>53</sup> However, this gap provides an opportunity for other types of investors to enter the untapped investment space in the fintech industry.
2. **Many fintech start-ups are not investment ready due to a lack of proper documentation, investment knowledge and networks.** Most fintech start-ups are led by recent graduates who lack the capital to bootstrap or develop their solution/prototype to a level that would attract investors. This gap in capital, combined with a lack of experience and networks to fundraise, makes it challenging for fintech start-ups to draw the attention of investors. Investors also want proof of traction and a plan for scaling up beyond Rwanda, which most fintech start-ups fail to demonstrate. Rwandan start-ups expressed the need for development partners to play the role of early-stage investors to help de-risk business models and demonstrate business viability to private-sector investors who can support the business with growth capital.

<sup>50</sup> The Digital Ambassador programme, locally known as *Intore Mu Ikoranabuhanga*, is an initiative designed to enhance uptake of ICT solutions in the countryside. The programme aims to empower 5,000 young Rwandans to serve as Digital Ambassadors and introduce 5 million citizens to digital literacy and opportunities through e-government and e-business services in the next five years (2019–2024). As of October 2017, some of the districts covered include Gisagara, Nyagatare, Nyarugenge, Rulindo and Rusizi. *Source*: The New Times, 'Editorial: "Digital ambassadors" key to digital literacy,' 2 October. 2017. Available from <https://www.newtimes.co.rw/section/read/220967>

<sup>51</sup> Colleen Green and Robin Young, 'Rwanda Banking and Investment Analysis: Fueling Enterprise Innovation, Growth and Job Creation' (Kigali, United States Agency for International Development - Rwanda, 2018).

<sup>52</sup> *Ibid*, p. 31.

<sup>53</sup> BNR, 'Lending interest rate by bank by type of borrower from 3rd to 9th June 2019' (Kigali, 2019).

- 3. Fintech start-ups cannot afford essential skillsets, which hinders their fundraising initiatives.** Investors need to be convinced that a company they are funding has the talent necessary to achieve the milestones required to reach scale. Most companies cannot afford the right team without raising capital, finding themselves in a vicious cycle.

Recognizing the challenges start-ups face in accessing capital in Rwanda, BNR plans to mobilize angel investors, venture capitalists and private equity firms to establish the Rwanda Innovation Fund to alleviate challenges in accessing early-stage capital to develop, test and scale up fintech products and services.<sup>54</sup>

## D. POLICY AND REGULATION

There are two main regulatory bodies involved in digital financial services in Rwanda. Table 2 provides a high-level summary of the roles and responsibilities of each.

**Table 2: Regulatory bodies involved in digital financial services in Rwanda**

<b>NATIONAL BANK OF RWANDA</b>	<p>The primary responsibility of BNR is to maintain price and financial stability in the country. It does so by regulating and supervising different financial-sector players within its mandate, including banks, insurance companies, savings and credit cooperatives and microfinance institutions, as well as the payment system.</p> <p>In the last decade, the BNR mandate has broadened to include financial inclusion, financial integrity, consumer protection and innovation. The promotion of financial innovation is gaining prominence as an objective of BNR, as demonstrated by the establishment of the fintech regulatory sandbox in 2018, which is “part of the broader innovation initiatives that the country seeks to encourage and promote DFS [digital financial services].”<sup>a</sup></p>
<b>RWANDA UTILITIES REGULATORY AUTHORITY</b>	<p>The mandate of RURA is to regulate certain public utilities, including ICT, broadcasting and converging e-technologies, electricity, water, transport, postal services and other public utilities, as deemed necessary.</p> <p>RURA also oversees cyber-security, data privacy, mobile-number portability, competition, consumer protection, e-signatures, e-contracts and e-records in the ICT sector. To encourage investment and innovation in ICT, for the promotion of e-transactions, RURA issued a draft regulatory sandbox framework in 2017.<sup>b</sup></p>

<sup>a</sup> Mobile Money Africa, ‘Rwanda: Central Bank grants testing approval to emerging fintech firm,’ 16 October 2018. Available from <https://mobilemoneyafrica.com/blog/rwanda-central-bank-grants-testing-approval-to-emerging-fintech-firm>

<sup>b</sup> RURA, ‘Draft Regulatory Sandbox Framework,’ version 1.0 (Kigali, 8 November 2017). Available from [http://www.rura.rw/fileadmin/Documents/ICT/Laws/Sandbox\\_Framework\\_.pdf](http://www.rura.rw/fileadmin/Documents/ICT/Laws/Sandbox_Framework_.pdf)

BNR signed a memorandum of understanding with RURA to ensure oversight of financial market infrastructures and payment services.<sup>55</sup> It also shares responsibilities regarding cyber-security and cyber-resilience, monitoring of digital finance transaction data for anti-money-laundering efforts, and data protection with regard to the extraction of customer financial data from call detail records.<sup>56</sup>

The fintech start-ups that were interviewed applaud the regulatory bodies and policymakers for their efforts to provide a regulatory environment that is conducive to the deployment of fintech products and services in Rwanda. The BNR and RURA regulatory sandboxes are some of the pioneering ecosystem catalysts that allow testing of ground-breaking products and services.

<sup>54</sup> BNR, *Rwanda Payment System Strategy 2018–2024*.

<sup>55</sup> Ibid.

<sup>56</sup> BNR and Access to Finance Rwanda, *Business Plan for the Rwanda National Digital Payment System*.

The regulatory sandbox approach is an attempt to balance a flexible yet clear regulatory environment that enables start-ups to test products without a full regulatory process in place. In doing so, the regulators in Rwanda are following in the footsteps of forerunner financial authorities such as the British Financial Conduct Authority that have adopted the tool to promote innovation and competition in their ecosystems. At the time of this analysis, only one fintech start-up (Riha Payment System) is enrolled in the sandbox; it is testing its mobile wallet solution.

BNR and RURA are open to engaging with fintech start-ups through bimonthly Fintech Friday events.<sup>57</sup> Although it is still too early to assess the impact of Fintech Fridays, start-ups said they appreciate that they provide an essential forum for networking, peer learning and information sharing. Nevertheless, they did argue that the events would have more impact if they were led by the regulatory bodies, particularly BNR.

Also, the initiatives to position Rwanda as a proof-of-concept hub and an international financial centre in order to enable the country to attract ideas, talents, capital and innovations that can scale across the world.

Other issues and challenges regarding policy and regulation for fintechs in Rwanda include the following:

1. **Regulatory sandboxes are underutilized.** Only one start-up is enrolled in the BNR sandbox, and the RURA sandbox is not yet operational. Start-ups shared several reasons for the low interest in the sandboxes, including these:
  - **There is a lack of awareness and clarity on expectations.** Some fintech start-ups were unaware of the regulatory sandbox's launch, even after eight months of operation. There is also a perception that BNR only reached out to established players in announcing the sandbox. In addition, fintech start-ups are unaware of the expectations for participation during and after the sandbox programme.

**“WHAT WILL HAPPEN AFTER I COMPLETE MY PARTICIPATION IN THE SANDBOX? WILL I IMMEDIATELY RECEIVE A LICENCE? WHAT KIND OF A LICENCE WILL I BE ISSUED? OR, HOW LONG WILL BNR TAKE TO MODIFY SOME OF THE REGULATIONS TO ENSURE FINTECHS COMING OUT OF THE SANDBOX ARE REGULATED?”**

**– Fintech interested in the sandbox**

There is a perception that requirements to participate in the sandbox are narrowly defined, limiting it to domestic payment innovations; yet, conversations with BNR indicate that there are other sandboxes designated for start-ups that focus on lending and microinsurance businesses according to the respective regulations.<sup>58</sup> Finally, some start-ups are unclear on the differences between the BNR and RURA sandboxes and the means to determine which sandbox is suitable for them.

To generate excitement in the ecosystem, the regulators would benefit from (1) exploring forums such as Fintech Friday and (2) presenting their visions and plans for the sandboxes to participants and soliciting feedback from start-ups. Doing so would ensure that fintech start-ups, which are the intended beneficiaries, receive the information necessary to make an informed decision regarding whether or not to apply. Additional coordination between BNR and RURA is recommended as well, to consolidate resources and unlock synergies for effective implementation of the sandbox approach.

<sup>57</sup> These are private-sector-led events organized by Rwanda Events Group in partnership with ICT Chamber. The events convene industry players to discuss fintech topics in an open, relaxed environment. Regulators participate in these events mainly as guest speakers and share their perspectives on policy and regulatory developments or initiatives and their implications for fintech start-ups.

<sup>58</sup> Rwanda, National Bank of Rwanda Governing Non-Deposit Taking Lending Financial Institutions and Governing the Organization of Microinsurance Business, Regulation No. 2100/2018 – 00011 [614] of 12 December 2018 and Regulation No. 2100/2018 – 00012 [614] of 12 December 2018, respectively.

- **Many fintech start-ups see minimal value in participating in the sandboxes.** Start-ups are interested in acquiring customers and generating revenue metrics to attract potential investors. Spending six months in a sandbox limits their potential to generate those metrics beyond the 1,000-customer limit that BNR set for participating start-ups. Start-ups are concerned that this number is too small to generate sufficient revenues to meet their operational costs. They would be more willing to participate if the programme was packaged with funding support to meet their operational costs while participating in the sandbox. Besides, regulatory concerns seem to be secondary for many fintech start-ups, as several launched their products without prior consultation with BNR. Hence, there is minimal incentive for newcomers to participate in the sandbox.
- **The sandbox application process is paper-intensive.** BNR requests applicants to submit documentation regarding their technology, value proposition, market assessment, customer segment, signed user consent forms, etc. These submissions are accompanied by considerable back-and-forth communication between the fintech start-ups and BNR. Fintech start-ups spend a significant amount of time fulfilling the requirements, which reduces their testing time. As a result, the designated time is insufficient for participating start-ups to finish all of their enrolment paperwork, conduct product testing and roll out their go-to-market plan by the end of six months.

Additional concerns about sandboxes include the following:

- The approach may be premature given the size and stage of fintech start-ups in Rwanda. Does the market have and generate an adequate number of start-up companies to require the regulatory sandbox approach?
- Does BNR have the capacity to effectively monitor and verify the accuracy of the information submitted as well as support fintech start-ups participating in the sandbox?

2. **Data localization requirements impose enormous costs on start-ups.** Data sovereignty, as articulated in the *National Data Revolution Policy*, requires national data to be hosted locally.<sup>59</sup> With this restriction, companies, including fintech start-ups, are left with a choice: either establish data storage and hosting infrastructure in the country or forego processing and transfer of customers' personal information. This restriction imposes additional costs for start-ups, which would otherwise leverage cloud-based services for their data storage needs. Aside from monetary costs, fintech start-ups struggle to access in-country technical support and locally based data centre facilities, discouraging some global fintech start-ups from choosing Rwanda over Kenya to establish a regional base. Moreover, fintech start-ups are concerned that data localization regimes may affect their ability to leverage big data analytics for extracting insights on their customers and business operations. Effective applications of big data analytics rely on the ability to layer data from different sources and sometimes from multiple jurisdictions. Although some fintech start-ups support the data localization regime, they acknowledge that the in-country capability and infrastructure is inadequate.
3. **Fintech start-ups do not have direct access to the database maintained by the National Identification Agency or the payment switch.** Fintech start-ups in Rwanda would like to query the database directly when they need to verify customer information or comply with know-your-customer requirements; however, they are currently deemed too small or unknown to be granted access to the database. As a result, start-ups rely heavily on telecoms or their

<sup>59</sup> Rwanda, Ministry of Youth and ICT, *National Data Revolution Policy*.

partnering financial institutions to access the know-your-customer infrastructure and to launch their products. Additionally, start-ups have concerns about the charges they are incurring from having to rely on banks to route money for them. They would like to be granted direct access to the national payment system to eliminate bank routing fees. The Rwanda National Digital Payment System project is planning to address this issue by implementing a layer for an open application programming interface that would enable non-traditional payment system participants such as fintech start-ups to interact securely with the platform.<sup>60</sup>

**4. Start-ups are unaware of the risk-proportionate capital requirements for a PSP licence.**

There is a perception that the capital requirements to acquire a PSP licence are prohibitive, only allowing banks and other large institutions to become PSPs. The regulation stipulates a risk-proportionate capital requirement for a PSP other than a bank or microfinance institution for the licence (see table 3).<sup>61</sup> The amounts are lower than in other markets; for instance, the minimum capital requirement to be authorized as an e-money issuer is lower in Rwanda than in Kenya and the United Republic of Tanzania.<sup>62</sup> However, most start-ups still do not have the financial backing to meet these requirements.

**Table 3: Minimum initial capital requirement for a payment services licence in Rwanda**

PAYMENT SERVICES	MINIMUM INITIAL CAPITAL REQUIREMENT
Services enabling deposits or withdrawals of cash from payment accounts as well as all the operations required for operating payment accounts	RF100,000,000 (US\$109,890)
Services facilitating the execution of payment transactions, including the following: (1) direct debits, (2) payment transactions through a payment card or similar device and (3) credit transfers (including standing orders)	RF100,000,000 (US\$109,890)
Issuance of payment instruments	RF100,000,000 (US\$109,890)
Acquisition of payment transactions such as physical and online merchant acquisition services or payment aggregators	RF100,000,000 (US\$109,890)
Money remittances	RF30,000,000 (US\$32,967)
Payment initiation services	RF50,000,000 (US\$54,945)
Issuance and management of e-money services in compliance with the regulation governing e-money issuers	RF200,000,000 (US\$219,780)

- 5. USSD code and telecom integration fees add to fintech start-ups' operational costs.** For solutions to reach the majority of Rwandans, fintech start-ups rely on USSD. Start-ups need to pay an annual licence fee of RF910,000 (US\$1,000) to RURA. This amount is accompanied by an integration fee, which ranges from RF318,500 to RF455,000 (US\$350–US\$500), per telecom integration. These fees raise start-ups' operational costs and limit their ability to pilot and test products in the market. In addition, the revenue-sharing models most fintech start-ups use with telecoms are only favourable to telecoms. Start-ups that were interviewed complain that telecoms are taking a large percentage of the commissions for transactions generated by the fintech start-ups, making these partnership options unsustainable.

<sup>60</sup> BNR and Access to Finance Rwanda, *Business Plan for the Rwanda National Digital Payment System*.

<sup>61</sup> Rwanda, *Governing Payment Services Providers*, Regulation No. 05/2018, article 2, 5a–5g, and article 11.

<sup>62</sup> Stefan Staschen and Patrick Meagher, 'Basic Regulatory Enablers for Digital Financial Services,' Focus Note, No. 109 (Washington DC, CGAP, 2018).



## VI. CONCLUSION AND RECOMMENDATIONS

The objective of this analysis of the Rwandan fintech landscape is to provide information in three key areas:

- Number, types and stages of operation of fintech start-ups operating in Rwanda.
- Capacity, needs and challenges of fintech start-ups to scale up their operations.
- Experiences of fintech start-ups with the current regulatory framework.

According to the Ernst & Young framework, a fintech ecosystem comprises four attributes: talent, demand, capital, and policy and regulation. In the current Rwandan context, there is some progress in all attributes, but challenges remain.

A report validation workshop with representatives from the government, non-governmental organizations, associations, fintechs, banks and non-bank financial institutions recommended several interventions that ecosystem facilitators can undertake on each of the four attributes to address the existing challenges.

- **Fintech companies need support to match technical expertise with sound business acumen.** A promising pool of talent with technical skills (software developers, data scientists, telecom engineers, etc.) is emerging to serve the fintech community, still there is a need to bridge the gap between technical skills and sound business acumen. As a result, there are only a few fintech companies that have broken through and expanded beyond Rwanda. To address challenges related to the lack of critical skills, stakeholders recommended the following interventions:
  - Conduct a skills gap assessment to map out essential skills that are currently lacking among fintech start-ups. The assessment should first define the essential skills needed for fintech companies and assess the availability of such skills among the different companies profiled in this study.
  - Establish a structured mentorship program for budding fintech talent to be paired with mentors who have demonstrated success in similar areas. The program should target fintech talent in academic institutions and the marketplace for career guidance and helping start-ups build the skills needed to succeed.
- **Product and market research support is needed to ensure fintech products address the market needs.** Stakeholders emphasized the need to support fintechs on the journey toward product-market fit to ensure their value propositions and minimum viable products are guided by customer/market research. This will address the perceived disconnect between some of the solutions with market demand. In addition, stakeholders recommended the following:
  - Facilitate partnership linkages between fintechs and large institutions. This will help fintechs capitalize on the partner's customers for their initial testing and develop product-market fit for potential scale.
  - The Government and other ecosystem supporters should incentivize fintech start-ups to diversify their offerings to segments that are currently underserved. These segments include insurance, lending/credit, and regtech solutions to help start-ups assess their need to comply with specific regulations.
- **There is a considerable funding gap.** As for capital, bootstrapping has been the most common source of funding. The role of angel investors, venture capitalists, and initial public offerings is faint, given the lack of funders in Rwanda. As a result, fintech start-ups without good fundraising skills and/or contacts with foreign funders struggle to raise capital. Besides, foreign investors lack a contextual understanding of the local market, which makes it difficult for them to interpret risks on the ground and make investment decisions. To address the access to capital challenge, stakeholders recommended the following interventions:
  - Establish a fintech innovation hub, a dedicated fintech centre, to foster innovation and develop solutions to shape the future of the fintech landscape in Rwanda. The fintech innovation hub

- should incubate start-ups, facilitate partnerships with larger corporates from financial services and technology industries and connect start-ups to venture capital firms, investors, government agencies, etc. looking to invest in the fintech sector.
- Accelerate the launch of the Rwanda Innovation Fund and provide information on how start-ups can access the fund. Having a local innovation fund will lessen the challenge of relying on foreign investors who lack a contextual understanding of the market in making their investment decisions.
  - **The policy environment is enabling, but it could benefit from comprehensive policy interventions alongside regulatory sandboxes.** The regulatory environment is progressing in the right direction, with regulators championing innovative sandbox approaches to learn alongside fintech innovators. The Government recognizes the importance of fintech, as demonstrated by its call for collaboration between the public and private sectors to support fintech companies to promote innovations in Rwanda. However, policies such as data localization impose high costs to fintech start-ups and create barriers to market entry. To address policy and regulatory issues raised, stakeholders recommended the following:
    - Conduct a cost-benefit analysis of the data localization policy and its economic impact. This would help policymakers consider whether data localization is an effective solution for protecting citizens' personal information when potential losses in economic growth, innovation, and job creation are taken into consideration. Besides, Rwanda is currently drafting a personal data protection law. The law aims to protect personal data from manipulation.<sup>63</sup> With stronger data protection and privacy law, citizens' personal data would be protected, irrespective of the location for data storage or processing. It would give the Government the comfort necessary to allow organizations to store data in the cloud, provided they abide by the law. Alternatively, within the constraints of the data localization regime, research should be conducted to understand other policy options that help to achieve data sovereignty objectives with minimal cost to the market participants.
    - Establish favourable tax policies such as lower tax rates or tax breaks to help fintechs minimize costs during their early stages of growth.
    - Provide tiered access to the national ID database to enable efficient verification of fintechs customers.
    - Improve the public-private partnership (PPP) arrangements to level the playing field, ensure fair access to the market, and create competition.

While BNR has already established clear steps for promoting fintech start-ups, a collaborative approach among the critical public- and private-sector stakeholders is needed to overcome existing gaps and strengthen the ecosystem.

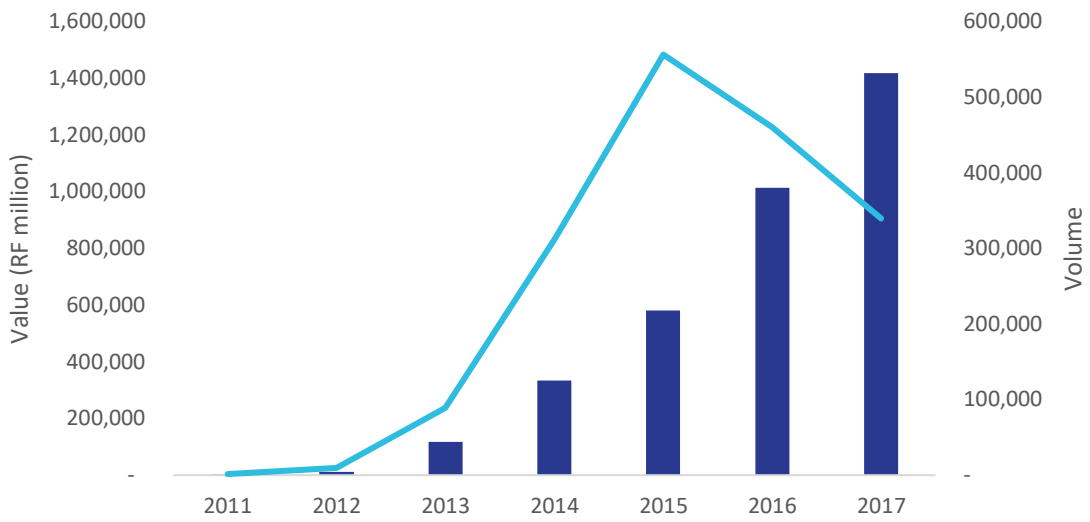
<sup>63</sup> Daniel Sabiiti, 'Rwanda Working on a Personal Data Protection Law,' 3 July 2019. Available from <https://ktpress.rw/2019/07/rwanda-working-on-a-personal-data-protection-law/>

## ANNEX A: STAKEHOLDERS MET

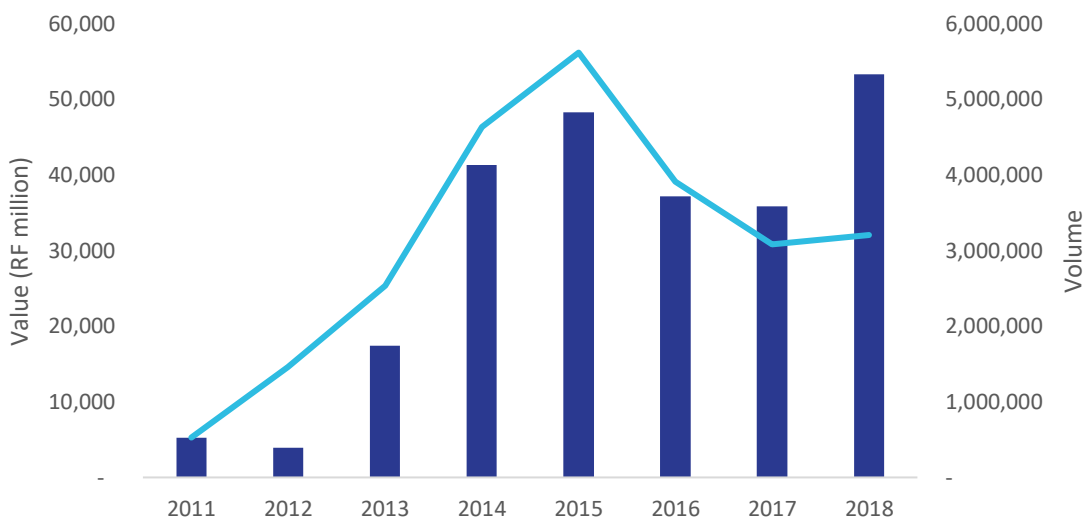
ORGANIZATION	PERSON INTERVIEWED	TITLE	MEETING DATE
<b>ADFinance</b>	Olivier Mugabonake	Managing Director	28 May 2019
<b>AgriGO</b>	Shikama Dioscore	Founder and CEO	7 June 2019
<b>Computer Geek Technology</b>	Jeanne Bovine Ishemaryayo	Founder and CEO	21 June 2019
<b>Exuus</b>	Steve Shema	Founder and CEO	17 May 2019
<b>Fintech Association</b>	Olivier Mugabonake	Association Chairperson	5 June 2019
<b>Gahima Communication</b>	Marco Schena	Founder and CEO	10 June 2019
	Christian Kizito	COO	10 June 2019
<b>ICT Chamber</b>	Yeetah Kamikazi	Communications and Market Access Manager	5 June 2019
	Alex Ntale	CEO	21 June 2019
<b>Inclusivity Solutions</b>	Sam Ndori	General Manager, Country Operations	15 May 2019
	Roy Lai	Founder and CEO	13 June 2019 11 July 2019
<b>InfoCorp</b>	Nuru Hassan Busigo	Managing Director	13 June 2019 11 July 2019
	Ntoudi Mouyelo	Non-Executive Director	13 June 2019 18 June 2019
	Richard Migambi	Founder and CEO	7 June 2019
<b>JQuicker Systems</b>	Jobs Shumbusho	Managing Director	5 June 2019
<b>Leaf Global Fintech</b>	Nat Robinson	Co-Founder and CEO	22 May 2019
	Tori Samples	Co-Founder and CTO	22 May 2019
	Eric Rwigamba	Director-General, Financial Sector Development	13 May 2019
<b>Ministry of Finance and Economic Planning</b>	Ntoudi Mouyelo	Lead Consultant and Coordinator, Kigali International Financial Centre	13 June 2019
	Adelit Nsabimana	Technical Advisor, Kigali International Financial Centre	13 June 2019
<b>Ministry of ICT and Innovation</b>	Claudette Irere	Permanent Secretary	9 July 2019
<b>MobiCash</b>	Emile Kinuma	CEO	5 June 2019
<b>MVend</b>	Vanessa Rukundo	Operations Manager	5 June 2019
	Jimmy Rutabingwa	Executive Director	12 June 2019
<b>National Bank of Rwanda</b>	John Karamuka	Director, Payments Department	13 May 2019 22 July 2019
	Davis Nteziryayo	Co-Founder and CEO	7 June 2019
<b>Riha Payment System</b>	Alain Ndayishimiye	Founder and CEO	7 June 2019
	George Kwizera	Director, ICT Scarce Resources Management and Monitoring	24 July 2019
<b>Rwanda Utilities Regulatory Authority</b>	Fiacre Mushimire	Senior Manager – Technology Innovation	29 July 2019
<b>Secure Payment Solutions</b>	Robert Kayitani	Managing Director	6 June 2019
<b>TorQue</b>	Jean Niyotwagira	Co-Founder and CEO	6 June 2019
<b>Uplus</b>	Clement Muhirwa	Co-Founder and CEO	24 May 2019
	Dianne Dusaidi	Co-Founder	10 June 2019
<b>VugaPay</b>	Patrick Muhire	Co-Founder	5 June 2019
<b>WiredIn</b>	Alain Kajangwe	Co-Founder and CEO	7 June 2019
<b>Yego Innovision</b>	Mahesh Kumar	Director	6 June 2019

## ANNEX B: PAYMENT AND DIGITIZATION DATA

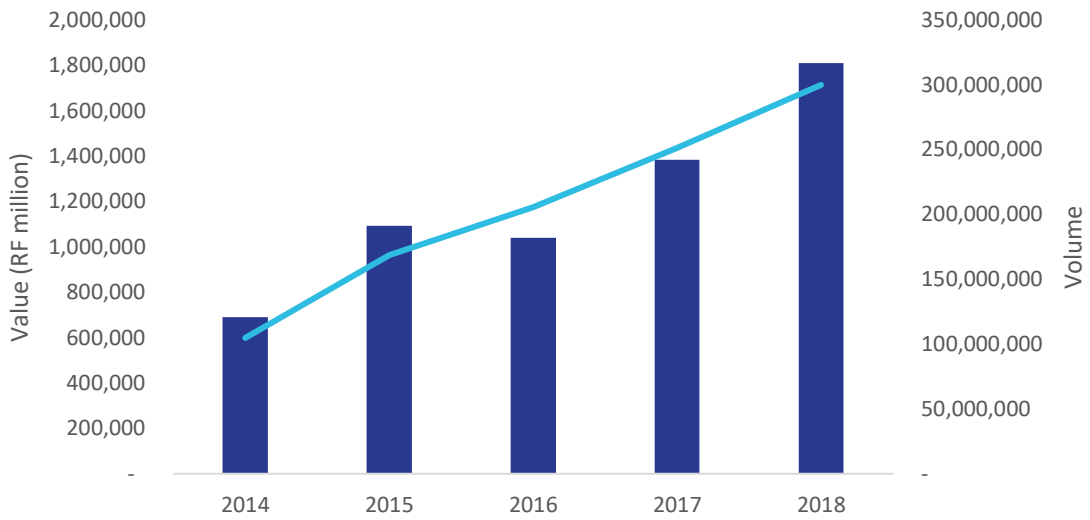
Volume and value of Internet banking transactions



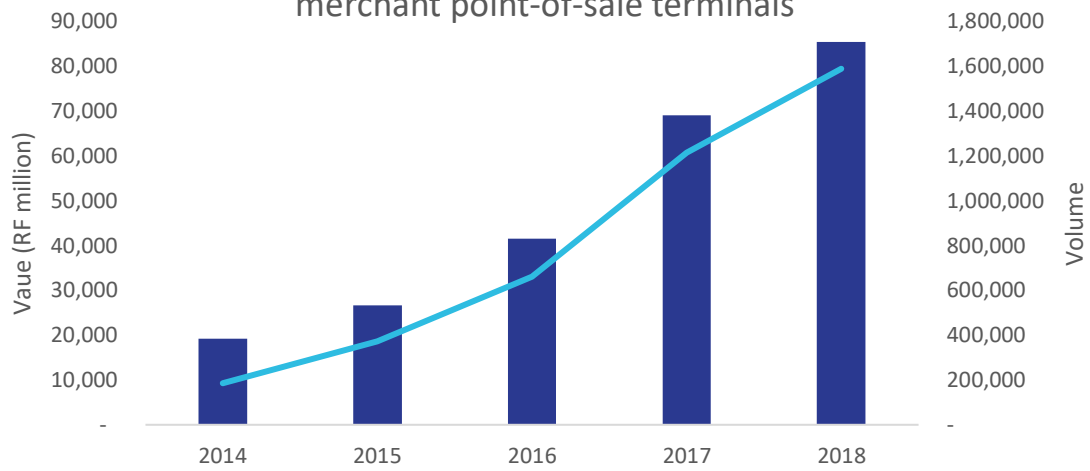
Volume and value of mobile banking transactions



### Volume and value of mobile money transactions








### Volume and value of card payments at merchant point-of-sale terminals








## ANNEX C: FINTECH COMPANY PROFILES

LAUNCH	COMPANY	DESCRIPTION
2005		<p>ESICIA is a software development company. ESICIA provides “outsourcing solutions including internet banking, mobile banking, e-commerce platform, bill pay platform, e-tax, support system, mailing system, network security and VPN setup.”</p> <p>Source: ESICIA, ‘About.’ Available from <a href="https://esicia.com/financial.php">https://esicia.com/financial.php</a> (accessed August 2019).</p>
2007		<p>ADFinance is a software development company that provides a core banking system to microfinance institutions and savings and credit cooperatives in about seven African countries. ADFinance is moving from being only a technology provider to a financial services provider with plans to launch a mobile lending solution in collaboration with its licensed MFIs. ADFinance has also started to provide a USSD-based mobile banking app.</p>
2007		<p>Pivot Access is a software development company for financial institutions and payment solutions. It provides integration systems to switches like RSwitch and others outside the country such as EMP and NI for some banks. Pivot Access also provides solutions to “banks and payment systems to facilitate third party integrations and enable provision of products and services to financial institutions customers.”</p> <p>Source: Pivot Access, ‘About.’ Available from <a href="https://www.pivotaccess.com/">https://www.pivotaccess.com/</a> (accessed August 2019).</p>
2009	ITS LTD	<p>ITS LTD provides software product development, IT system consulting and re-engineering, maintenance and support to financial institutions in Rwanda.</p>
2011		<p>Secure Payment Solutions is a software development company providing technology solutions, including point-of-sale apps, mobile banking apps, switches, automated teller machines and customized apps, among others, in Rwanda.</p>
2013		<p>Azuri combines solar and mobile phone technology to bring clean energy to isolated communities in Rwanda. “The PAYGO solar home system provides eight hours of emission-free lighting each day and enough power to charge mobile phones. After paying a small one-time installation fee, the user then purchases a scratch card, or uses an integrated mobile money service to top-up their unit. Azuri’s innovative financing mechanism helps customers self-finance their access to clean solar power, without having to pay high upfront fees, but instead by paying small, regular amounts via mobile phone technology.”</p> <p>Source: United Nations Climate Change, ‘Azuri PayGo Energy   Africa.’ Available from <a href="https://unfccc.int/climate-action/momentum-for-change/financing-for-climate-friendly/azuri-paygo-energy">https://unfccc.int/climate-action/momentum-for-change/financing-for-climate-friendly/azuri-paygo-energy</a> (accessed August 2019).</p>
2013		<p>Khenz is a software company that provides a digital ticketing platform for long-distance public transportation. “The platform is available on different sales channels such as mobile (USSD, iOS and Android), online and from bus premises.” Khenz is digitizing payments in the transport sector.</p> <p>Source: Khenz, ‘About.’ Available from <a href="https://khenzlive.com/">https://khenzlive.com/</a> (accessed August 2019).</p>
2013		<p>MVend is a payment aggregator that specializes in building last-mile apps to encourage the adoption and usage of e-commerce and payment systems. Initially, the company focused on providing a solution for merchant payments but expanded to the digitization of savings groups. In 2017, MVend partnered with Access to Finance Rwanda and piloted the USSD-based group mobile wallet solution, Gwiza. It was piloted with over 200 savings groups. MVend currently only operates in Rwanda.</p>








LAUNCH	COMPANY	DESCRIPTION
2013		<p>Pascal Technology started testing Pascal Moto, a motorbike hailing and on-demand services platform, in 2018. The company provides devices to motorcycle riders to help them connect with customers. A customer can download an app on Google Play and hail a motorcycle rider at any time. Customers are able to pay for the ride using mobile money, cards or other cashless methods.</p>
2013		<p>TorQue is a software development company that creates solutions addressing the needs of wholesale distributors in Rwanda. TorQue launched a distribution management system in order to digitize payments in the beverage value chain. In 2018, TorQue pre-launched LightPos, a last-mile distribution channel monitoring system to be used at the cashier level of any small retailer. LightPos provides distribution outlets with a real-time payment and reporting solution.</p>
2014		<p>BBOX provides PAYGO solar energy services. Recently, it integrated PAYGO solar solutions with PAYGO cooking solutions. The company is also planning an August 2019 launch of an online payment solution for electricity from anywhere in the world. It will allow payments via credit/debit card, with zero transfer fees and discounts of up to US\$200 for upfront sales. BBOX operates in 14 African countries, including Rwanda.</p>
2014		<p>Exuus, which currently only operates in Rwanda, offers a wallet service and lending platform for unbanked communities in rural areas, called SAVE. SAVE has three key components:</p> <ul style="list-style-type: none"> <li>• “SAVE Collector. This functionality is used by SAVE Village Agents. It consists of an Android app that they use to sign up new savings groups and to collect data on them for the platform.”</li> <li>• “SAVE USSD. Savings group members use the SAVE USSD menu to perform their mobile money payments to their savings group and to request loan disbursements from their savings group.”</li> <li>• “SAVE Web. Savings group managers, savings group founders (non-governmental organizations) and other financial-sector stakeholders, such as commercial financial service providers and the Government, get access to a web dashboard.”</li> </ul> <p><i>Source: Renée Hunter, ‘Exuus: Using data to demystify savings groups’ black boxes’ (Kigali, DataHack4FI, 2018).</i></p>
2014		<p>Gahima Communication (gCom) specializes in solutions for e-sales transactions and mobile wallet payments in Rwanda. Since incorporation, the company has developed a platform to interface with DStv, Energy Utility Corporation, MTN, StarTimes TV and Tigo. The company has two products:</p> <ul style="list-style-type: none"> <li>• “gCom Pay: It is a mobile payment gateway service/link used to make and receive payments via MTN Mobile Money and Airtel Money. gCom Pay can be integrated with a web platform, software, e-shop, point-of-sale terminal, ATM [automated teller machine], ticketing solution, etc.”</li> <li>• “gCom eWallet: It is a digital wallet used for bill payments and money transfers. The wallet can be loaded via MTN Mobile Money and Airtel Money. The wallet allows users to send and receive money between the different telecoms. It works through the gCom mobile app, USSD menu and web portal.”</li> </ul> <p><i>Source: Gahima Communication, 'Home.' Available from <a href="https://gcom.rw/#1560337367520-682ca9c0-1d80">https://gcom.rw/#1560337367520-682ca9c0-1d80</a> (accessed August 2019).</i></p>




LAUNCH	COMPANY	DESCRIPTION
2014		<p>Mobisol supplies affordable, high-quality solar home systems with a PAYGO scheme. Similar to all solar energy companies operating in Rwanda, Mobisol leverages microleasing solar platforms and mobile money payments to make rent-to-own systems a possibility. Mobisol eliminates the need for customers to travel to purchase power or pay electricity bills and gives them an opportunity to access clean energy for home use. Mobisol operates in other countries, including Kenya and the United Republic of Tanzania.</p>
2014		<p>Orions Systems is a software development company that provides solutions for banking system implementation and development. It offers products and services that include USSD mobile banking, clearing and payment solutions, microlending platforms, e-wallet integration solutions, ATM [automated teller machine] bridge systems and Internet banking, among others.</p>
2014		<p>WakaWaka provides a virtual grid through high-tech low-cost solar-powered lamps and chargers. It uses “prepaid technology to overcome the high upfront costs of solar-powered energy, similar to the payment system already proven by mobile phones.”<sup>a</sup> “After a one-time deposit on WakaWaka Power, users buy weekly scratch cards to activate the unit on a PAYGO basis. Gradually they pay off the cost of the WakaWaka Power unit through the purchase of the scratch cards and it becomes theirs to own.”<sup>b</sup></p> <p><small>a WakaWaka, 'New Energy Venture in Rwanda: The Virtual Grid,' 28 May 2014. Available from <a href="https://waka-waka.com/en/2014/05/wakawaka-sets-first-steps-towards-new-energy-ventu">https://waka-waka.com/en/2014/05/wakawaka-sets-first-steps-towards-new-energy-ventu</a>  b Jo Pratt, 'WakaWaka, Rwanda – tracks distribution &amp; sales of solar lights &amp; chargers,' 2 June 2015. Available from <a href="https://akvo.org/blog/wakawaka-rwanda-tracks-distribution-sales-of-solar-lights-chargers/">https://akvo.org/blog/wakawaka-rwanda-tracks-distribution-sales-of-solar-lights-chargers/</a></small></p>
2015		<p>AC Group provides smart transport solutions, including the contactless Tap &amp; Go bus fare system for public transportation in Kigali. In 2017, AC Group expanded its operations to Yaoundé, Cameroon. Currently, it is in conversation with the Governments of Angola, Kenya and the United Republic of Tanzania to replicate its solutions.</p>
2015		<p>Direct Pay Online provides a payment platform that simplifies payment processing “by allowing businesses to accept credit cards, mobile payments and cross-border payments.” It operates in a number of African markets, including Botswana, Ethiopia, Ghana, Kenya, Malawi, Mauritius, Namibia, Nigeria, South Africa, United Republic of Tanzania and Zambia.</p> <p><small>Source: DPO, 'Be Free! Payments Made Easy.' Available from <a href="https://www.directpay.online/">https://www.directpay.online/</a> (accessed August 2019).</small></p>
2015		<p>Jumo is a multisided platform for mobile network operators and banks. It combines behavioural data from mobile usage and predictive technology to deliver financial products to low-income consumers and “those who own micro, small and medium enterprises who have previously been excluded from traditional banking services.” Its main markets are Ghana, Kenya, Pakistan, Rwanda, Uganda, United Republic of Tanzania and Zambia.</p> <p><small>Source: Finnfund, 'Finnfund invests in financial services technology platform Jumo,' 1 November 2017. Available from <a href="https://www.finnfund.fi/en/news/finnfund-invests-in-financial-services-technology-platform-jumo/">https://www.finnfund.fi/en/news/finnfund-invests-in-financial-services-technology-platform-jumo/</a></small></p>
2015		<p>Kountable is an end-to-end trade platform that uses data to vet entrepreneurs, provides transparency to the supply chain and improves accessibility to top-quality goods and equipment. It connects entrepreneurs that need business financing for trade deals with investors and helps them scale up. Kountable operates in Kenya and Rwanda, with headquarters in San Francisco.</p>



LAUNCH	COMPANY	DESCRIPTION
2015		<p>MobiCash provides a payment-processing platform that offers a variety of products. The company was established in 2013, but it started operating in 2015. MobiCash offers apps for the web and Android devices. It has over 2,000 agents, translating to about 4,000 points of presence across the country. MobiCash has partnered with a number of key entities in Rwanda to help collect payments, including Irembo (a portal for e-government services), Rwanda Revenue Authority and Rwanda Social Security Board. Although Rwanda is its biggest market, MobiCash operates in other markets including Burundi and South Africa.</p>
2015		<p>“Pula uses satellite data and farm yield measurements to understand how weather patterns affect a smallholder farmer’s yield, and [it] uses this information to automate compensation in case of loss. The company also provides farmers with targeted agronomic advice via SMS messaging, helping them grow more from their existing landholdings.”<sup>a</sup> “The policy is free for the farmer and the premium is paid by input companies or farm aggregators, whose business interests are served by protecting farmers’ incomes. This arrangement addresses a key barrier that prevents traditional insurance products from scaling [up]: premium costs that are usually beyond the purchasing power of smallholder farmers.”<sup>b</sup> Pula operates in a number of markets, including Ethiopia, Kenya, Malawi, Nigeria, Rwanda and Uganda.</p> <p><sup>a</sup> Accion International, 'Pula Secures Funding from Global Investors to Support Smallholder Farmers in Africa and South Asia,' press release, 17 April 2018. Available from <a href="https://www.accion.org/pula-secures-funding-from-global-investors-to-support-smallholder-farmers-in-africa-and-south-asia">https://www.accion.org/pula-secures-funding-from-global-investors-to-support-smallholder-farmers-in-africa-and-south-asia</a></p> <p><sup>b</sup> Yaw Mante, 'Bringing Insurance to Smallhold Farmers,' 25 April 2018. Available from <a href="https://medium.com/positive-returns/bringing-insurance-to-smallhold-farmers-2fe1ca21ffb">https://medium.com/positive-returns/bringing-insurance-to-smallhold-farmers-2fe1ca21ffb</a></p>
2015		<p>SafeMotos offers a motorcycle-hailing app that makes motorcycles safer and more convenient. “Customers can easily pay from their SafeMotos wallet, which can be connected to mobile money, cash and credit cards.” In 2019, SafeMotos is expanding its service to the Democratic Republic of the Congo.</p> <p>Source: Google Play, 'SafeMotos.' Available from <a href="https://play.google.com/store/apps/details?hl=en&amp;id=com.safemotosltd.safemotos">https://play.google.com/store/apps/details?hl=en&amp;id=com.safemotosltd.safemotos</a> (accessed August 2019).</p>
2016		<p>AgriGO, from GO Ltd, wants to empower smallholders with farming data and information to maximize their harvests. It uses SMS and USSD to deliver tips and answer questions in order to do the following:</p> <ul style="list-style-type: none"> <li>• Support farmers to increase yield.</li> <li>• Provide personalized advisory services (e.g., extension content related to best practices, customized to land size).</li> <li>• Offer an app to help farmers track their expenses during production and use the information as a benchmark to negotiate a profitable price in the market.</li> <li>• Provide an advance for farmers’ yields, called ‘farmer salary’ (i.e., credit against projected sales).</li> </ul> <p>It is currently testing in Rwanda only.</p>
2016		<p>Ignite Power enables access to clean energy through a rent-to-own model for a solar system that can power some devices. It partnered with the Rwandan Government to provide rooftop solar systems to 250,000 households by 2018. Ignite Power operates in other African markets, including Benin, Mozambique, Nigeria and Sierra Leone.</p>

LAUNCH	COMPANY	DESCRIPTION
2016	 N-Frnnds	N-Frnnds is a cloud-based software-as-a-service platform that enables enterprises to digitize financial and business processes across their customer and supplier networks, throughout the global emerging markets. It is digitizing financial/business ecosystems by creating digital networks across sectors, driving and delivering solutions such as branchless banking, supply chain automation, loyalty solutions and digital government services to all citizens.
2016	 PesaChoice	PesaChoice was established to provide payment solutions. Initially, it created a remittance platform to facilitate cross-border payments (i.e., enable diaspora to send money and pay for water, electricity and other types of bills directly). The company pivoted in 2017/2018 to focus on building technology solutions for other customers. PesaChoice developed a solution to track coffee and provide a certificate of origination in the coffee value chain. With the coffee traceability platform, PesaChoice plans to offer credit to coffee farmers or provide farmers' data to banks to facilitate farmers' access to formal credit.
2016	 ZOLA	ZOLA Electric provides clean energy to homes and businesses across Côte d'Ivoire, Ghana, Rwanda and the United Republic of Tanzania. Customers purchase the ZOLA Electric rooftop solar systems over time, using PAYGO leasing and paying through mobile money.
2017	 afflixfinance	Afflix provides a platform to solve complexities in the offering of financial services at scale to low-income people. It has two platforms to offer savings and credit: <ul style="list-style-type: none"> <li>• "Us+ is a digital platform with [a] focus on peer-to-peer savings and credit within networks of users."</li> <li>• "Kwigira is a suite of Financial Products that brings together loan originators (savings and credit cooperatives) [and] their borrowers and exposes them to a portfolio of loan products offered by ... Banks and other Institutional Investors."</li> </ul> It also has a bill payment platform and credit assessment tools. Afflix operates in Benin, Burundi, Ghana, Kenya, Rwanda and Uganda. Source: Afflix, 'Home.' Available from <a href="http://afflix.tech/">http://afflix.tech/</a> (accessed August 2019).
2017	 BENEFACTORS LTD.	BeneFactors is a factoring company that provides tailored unsecured working capital solutions to SMEs in Rwanda. The firm works with pending invoices and purchase orders for delivery and enables businesses to continue working when payments are delayed.
2017	 Computer Geek Technologies	Computer Geek Technologies is a software development company that leverages technology to address community problems. It developed software for e-savings, digitizing women's savings groups and cooperatives. The company piloted the solution with Kirinya savings and credit cooperatives, and now it is working with a cooperative in Kayonza district. In addition to the e-savings software, it developed a patient recording system, Evuse, which aims to centralize medical records. It also developed an e-farming solution in partnership with Seed Co International Rwanda.
2017	 EWawe	EWawe connects home seekers with banks to facilitate mortgage applications and follow-up. Through a mortgage calculator, users can choose the best loan offer from a specific bank in Rwanda. Applicants receive the loan in a short period, and the banks benefit from more customers due to the quick provision of the loan.

LAUNCH	COMPANY	DESCRIPTION
2017	 InsureMe	InsureMe aims to make finding insurance coverage quick, easy and transparent. Using an online portal and a USSD app, InsureMe enables customers to compare prices before purchasing insurance. This price-comparison attribute could help spread insurance to more people by eliminating the hassle involved and shaking up the brokerage industry. It is currently testing in Rwanda only.
2017	 OffGridBox	<p>“OffGridBox is a modular and compact unit that use[s a] PAYGO set-up to provide affordable renewable energy and treated water in off-the-grid areas.” OffGridBox has implemented solutions in Colombia, Italy, Madagascar, Nigeria, the Philippines, Rwanda, South Africa and the United States of America.</p> <p><i>Source:</i> Global Innovation Challenge, 'OffGridBox,' 28 March 2019. Available from <a href="https://www.globalinnovationexchange.org/innovation/offgridbox">https://www.globalinnovationexchange.org/innovation/offgridbox</a></p>
2017	 RIHA PAYMENT SYSTEM	Riha Payment System is an engine for all financial institutions to connect in order to facilitate seamless payments. It is building other products on top of the payment engine, including a mobile wallet, e-commerce platform, payment gateway and payroll system. Riha was the first fintech start-up to join the BNR regulatory sandbox. It started testing the product in 2018 and requested an extension to participate in the sandbox until the end of 2019.
2017	 Uplus	Uplus Mutual Partners is a fintech company which connects people financially. It created a platform, which allows people to pool money together and use it for a common purpose (e.g., savings groups, weddings, funerals or any other social event). Its mobile app is available on Android and iOS. Uplus is currently integrated with MTN, Airtel, Bank of Kigali, Visa and MasterCard; hence it can be used by the diaspora market. Uplus had a soft launch in 2018.
2017	 YEGOMOTO	YEGOMOTO is a smart transport company addressing challenges in the moto-taxi industry (safety, security, informality, etc.). It is a cloud-based, Internet-of-things platform connecting all of its meters to a centralized monitoring and management system. YEGOMOTO helps digitize payments by enabling customers to pay through mobile money and tap-and-pay solutions.
2018	 AICOS DIGITAL SOLUTIONS	AICOS is a web platform that leverages machine learning and data analytics to address financial inclusion challenges in Rwanda. The company Extra Tech developed the platform and offers services that include (1) membership management, (2) accounting and budgeting, (3) stock management, (4) data analysis and sharing, (5) monitoring and evaluation, and (6) automatic report generation.
2018	 BLOCKBONDS	Blockbonds launched the first blockchain-based platform, SPENN, alongside I&M Bank Rwanda. SPENN is a mobile banking app powered by I&M Bank for both personal and business accounts. SPENN offers cost-free “money transfers, payments in stores, cash-out and deposit at any I&M Bank Rwanda throughout the country.” It also offers a cost-free point-of-sale solution to merchants that upgrade to being a SPENN+ user. The SPENN app is available to smartphone users. Customers register by providing their name, phone number and national identification number. <p><i>Source:</i> Gadiosa Lamtey, 'I&amp;M Bank, Blockbonds launch digital platform,' 19 February 2019. Available from <a href="https://www.thecitizen.co.tz/news/business/-I-M-Bank--Blockbonds-launch-digital-platform/1840414-4989458-s5y1xu/index.html">https://www.thecitizen.co.tz/news/business/-I-M-Bank--Blockbonds-launch-digital-platform/1840414-4989458-s5y1xu/index.html</a></p>

LAUNCH	COMPANY	DESCRIPTION
2018		<p>Inclusivity Solutions delivers insurance solutions that meet the needs of emerging consumers and leverage the ubiquity of digital channels such as mobile phones to reach the greatest number of people. In partnership with Airtel-Tigo, it launched Ingoboka Cash, which comprises two insurance products that help protect customers against lost income when admitted to the hospital for three nights or more in a row. The two options, which were developed to meet specific medical support needs, are Ingoboka Cash y'ubuntu and Ingoboka Cash yishyuwe.</p>
2019	JQUICKER SYSTEMS LTD	<p>JQuicker Systems is an IT company that provides services such as system administration, computer programming, e-data collection, tracking systems, and monitoring and evaluation systems. In 2019, it launched a tap-and-go and metering solution, Etrack, for motorcycle riders. Etrack allows riders to pay for services digitally through mobile money and cards.</p>
2019*		<p>InfoCorp Technologies is collaborating with the Ministry of Agriculture and Animal Resources to pilot a platform, FarmTrek, for the integration of agriculture and the financial ecosystem. FarmTrek enables cattle farmers to use their cattle as collateral for loans and facilitates access to livestock insurance. *At the time of this analysis, InfoCorp was planning to launch the pilot in July 2019.</p>
2019*		<p>Leaf Global Fintech is an integrated financial services provider whose mobile platform enables the conversion of physical to digital fiat currency through blockchain technology. The solution targets refugees by allowing them to deposit cash with a mobile money agent in their home country and then send that money to a Leaf account. The company stores the transaction on the blockchain and works in partnership with regional banks to safeguard the currency. Leaf makes money by investing customers' savings, charging small transaction fees, and creating a favourable foreign exchange spread without the high costs of physical infrastructure. *At the time of this analysis, Leaf was planning to launch in Rwanda in July 2019.</p>

## ANNEX D: ECOSYSTEM FACILITATOR PROFILES

ORGANIZATION	DESCRIPTION
	<p>250Startups is a multi-partner incubation programme that accelerates the ability of start-ups to be fundable for the period of six months per cohort. After launching in 2018, it plans to nurture 100 companies with US\$50 million valuations by 2025. The programme fosters technology start-ups from incubation to expansion phase through financial, technical and mentorship support, among others.</p>
	<p>African Entrepreneur Collective accelerates innovation by supporting entrepreneurs to build their skills and expand their networks, as well as by providing low-cost financing to grow their businesses. Its financing is catalytic as it enables entrepreneurs to grow their revenue and support job creation in the six months post-investment.</p>
	<p>The DataHack4FI Innovation competition is an initiative of Insight2Impact that “promotes the use of data and data analytics to solve challenges experienced by individuals or communities.”<sup>a</sup> “The competition encourages Pan-African collaboration by creating opportunities for data enthusiasts and emerging tech companies to partner in developing solutions that address local financial and economic inclusion-related challenges.”<sup>b</sup> In Rwanda, ICT Chamber collaborates with Insight2Impact in partnership with kLab, LeapRLabs, Liquid Telecom and Mastercard Foundation to facilitate the DataHack4FI competitions, which have birthed some of the fintech start-ups now operating in Rwanda.</p> <p><sup>a</sup> DataHack4FI, 'Data Fest 2019.' Available from <a href="https://www.datahack4fi.org/">https://www.datahack4fi.org/</a> (accessed August 2019).</p> <p><sup>b</sup> Nairobi Garage, 'DATAHACK4FI SEASON 3 IS BACK!' Available from <a href="https://nairobigarage.com/datahack4fi-is-back/">https://nairobigarage.com/datahack4fi-is-back/</a> (accessed August 2019).</p>
	<p>FabLab was established in 2016 through the collaboration of Gasabo 3D, ICT Chamber, Japan International Cooperation Agency, Ministry of Education, Rwanda Development Board and SolidWorks Corporation MIT-CBA. It aims to support hardware innovators in Rwanda by providing capacity-building services and integration of hardware skills with software knowledge.</p>
	<p>ICT Chamber is one of the most active chambers of the Private Sector Federation. “The mission is to make Rwanda the leading ICT-driven society in the region.” Specifically, “ICT Chamber manages associations of different players in the Rwandan ICT sector.” For the fintech sector, it hosts the Fintech Association, a fee-based association that brings together fintech companies in Rwanda. The Association aims to catalyse the efforts of its members towards achieving a cashless economy through advocacy and policy, financing opportunity, mobilization and capacity-building initiatives. Members include tech and non-tech companies that provide digital payments and financial service solutions. Members receive the following benefits: (1) priority subscription to ICT Chamber initiated trade missions, (2) introductions for business partnerships (local and international), (3) priority space allocation to ICT Chamber exhibition spaces and opportunities, (4) product launch at kLab premises, and (5) access to kLab/FabLab co-working spaces, among others. The Fintech Association has been collaborating with the Japan International Cooperation Agency to organize fintech companies’ bilateral visits between Japan and Rwanda. At the time of this analysis, the Agency was working with the Association to conduct investment readiness assessments for the fintech companies in Rwanda.</p> <p><i>Source:</i> ICT Chamber, ‘About Us.’ Available from <a href="https://ictchamber.rw/abouts/">https://ictchamber.rw/abouts/</a> (accessed July 2019).</p>

ORGANIZATION	DESCRIPTION
	<p>A co-working space that opened its doors in Kigali in 2015, Impact Hub Kigali is part of a global Impact Hub network of over 70 local innovation labs, business incubators and social enterprise community centres across the world. It provides local entrepreneurs with skills, expertise and linkages to international entrepreneurs.</p>
	<p>Started in 2012, kLab is the first innovation and technopreneur co-working space in Rwanda. kLab is “where students, fresh graduates, entrepreneurs and innovators come to work on their ideas/projects to turn them into viable business models.” kLab has enabled the establishment of over 65 companies in Rwanda since its inception and welcomed about 2,000 members as of December 2018. kLab provides facilities as well as mentorship and training programmes and “hosts events, workshops, boot camps, hackathons and networking sessions to promote collaboration/partnerships, investment and financing.” Namely, kLab helps to link members to investment and financing opportunities.</p> <p><i>Source:</i> kLab, ‘About.’ Available from <a href="https://klab.rw/public/about">https://klab.rw/public/about</a> (accessed August 2019).</p>
	<p>Established in 2017, LeaprLabs provides training, facilitates boot camps and offers subject matter research fellowships to young technologists and scientists interested in translating scientific research into societal solutions. LeaprLabs also incubates start-ups in different sectors, including fintech.</p>
	<p>Norrskén plans to launch in Rwanda as a secondary market after three years of operation in Stockholm, Sweden. It plans to offer entrepreneurs training, capital, business advice and partnership opportunities with other incubators and accelerators. Its goal for the launch in Rwanda is “to accelerate the rapid development of entrepreneurship in East Africa by increasing access to international capital, talent and network.”</p> <p><i>Source:</i> Norrskén, ‘Norrskén to Open in Rwanda.’ Available from <a href="https://www.norrskénhouse.org/kigali/">https://www.norrskénhouse.org/kigali/</a> (accessed August 2019).</p>
	<p>Westerwelle Startup Haus is a new co-working space/hub that opened in October 2018. It offers co-working space for entrepreneurs and a makers’ space with a focus on product design and innovation. It also facilitates networking events and provides access to private offices, training services, advisory services and international networking opportunities to local entrepreneurs.</p>