



**United Nations**

Department of  
Economic and  
Social Affairs

# Frontier Technology Policy Experimentation and Digital Sandboxes for Sustainable Development Toolkit



Department of  
Economic and  
Social Affairs



Cabinet  
Division  
Government of the People's  
Republic of Bangladesh



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## Acronyms

API	Application Programming Interface
BIN	Business Identification Number
Bn	Billion
CMSME	Cottage, Micro, Small, and Medium Enterprises
COI	Certificate of Incorporation
e-KYC	Electronic Know Your Customer
FGD	Focus Group Discussion
FI	Financial Institutions
GDP	Gross Domestic Product
MFI	Mobile Financing Institutions
Mn	Million
NBFI	Non-banking Financial Institutions
SBPP	Smart Business Profile Platform
TIN	Tax Identification Number
UN DESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
VAT	Value Added Tax

## Executive Summary

The document provides a comprehensive overview of the implementation plan for a Digital Sandbox tailored to support Cottage, Micro, Small, and Medium Enterprises (CMSMEs) in Bangladesh. This initiative, known as the Smart Business Profile Platform (SBPP), aims to revolutionize access to finance for CMSMEs by leveraging innovative technologies and regulatory frameworks within a controlled environment.

Key components of the SBPP include the aggregation of CMSME data from financial institutions, assigning unique identifiers to CMSMEs, and linking this data to other business identification numbers. Sandbox activities are organized around the pilot execution of the SBPP, involving stakeholder onboarding, facilitating lending through the platform, and ongoing monitoring and assessment.

Stakeholders in the SBPP encompass a diverse range of participants, including banks, Non-Bank Financial Institutions (NBFIs), Microfinance Institutions (MFIs), fintech companies, regulators (the central bank), technology partners, and ecosystem partners. Their roles range from providing data and facilitating loans to regulatory oversight and ecosystem development.

Implementation steps outlined in the document include launching the pilot platform, onboarding stakeholders and CMSMEs, facilitating lending, establishing Key Performance Indicators (KPIs), and conducting ongoing monitoring and assessment. Throughout the process, careful consideration is given to factors influencing timelines, such as regulatory approvals, stakeholder engagement, and data privacy concerns.

Beyond the sandbox period and pilot experimentation, the goal is to achieve large-scale implementation of the SBPP, based on successful use case evidence and regulatory approval. This transition involves regulatory approvals, market entry strategies, scalability considerations, and potential regulatory and policy learnings to inform broader sectoral innovation.

The document highlights the costs, benefits, and risks associated with the sandbox, emphasizing its role in promoting innovation, reducing market entry barriers, and enhancing regulatory understanding. Immediate actions for assessing progress include setting clear objectives, establishing monitoring frameworks, and engaging stakeholders to refine sandbox operations based on feedback and observed outcomes.

In summary, the SBPP presents a strategic approach to fostering innovation in financial services to support CMSMEs in Bangladesh. By providing a structured framework for experimentation and collaboration, the SBPP aims to revolutionize access to finance, drive economic growth, and enhance the overall welfare of society.

# 1. Introduction

In an era defined by rapid technological advancement and digital transformation, policymakers, regulators, and industry stakeholders face unprecedented challenges and opportunities in harnessing frontier technologies to drive sustainable development.

This toolkit serves as a comprehensive guide and resource for policymakers, regulatory authorities, and other stakeholders seeking to leverage frontier technology policy experimentation and digital sandboxes as catalysts for sustainable development. Through a combination of insights, case studies, practical tools, and best practices, this toolkit offers actionable guidance on designing, implementing, and evaluating frontier technology policy experimentation initiatives and digital sandbox programs.

From fostering innovation and entrepreneurship to promoting inclusive growth and addressing societal challenges, the strategic deployment of digital sandboxes holds the potential to unlock new possibilities and create lasting impact.

## 2. Background

### 2.1. Project Overview

Frontier technologies<sup>1</sup> represent an enormous potential to support innovation in policy frameworks and solutions and play a pivotal role in driving a country towards the Sustainable Development Goals (SDGs). Yet, the risks and complexities of digital technologies can present challenges in fully utilizing frontier technologies. Gaps in skills can lead to underutilization of digital technologies, and policy frameworks and regulations for such new technologies may be inefficient unless prepared holistically and comprehensively.

Policy experimentation and Digital Sandboxes have proved successful in numerous countries in harnessing the potential of frontier technologies. Digital Sandboxes can create a controlled environment for governments and stakeholders to safely conduct trials and evaluations with digital technologies, leading to informed policy changes.

With these goals, the United Nations Development Account DA2124B project was formulated to develop the understanding and development of policy experimentation and Digital Sandboxes in Bangladesh toward the 2030 Agenda for Sustainable Development. The Division jointly implements the project for Public Institutions and Digital Government (DPIDG) of the United Nations Department of Economic and Social Affairs (DESA), and the Information and Communications Technology and Disaster Risk Reduction Division (IDD) of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP).

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<sup>1</sup> According to the World Intellectual Property Organization, frontier technologies include: digital technologies, such as the Internet of Things (IoT), blockchain, artificial intelligence (AI), big data, and cloud computing.

## 2.2. Overview of CMSMEs in Bangladesh

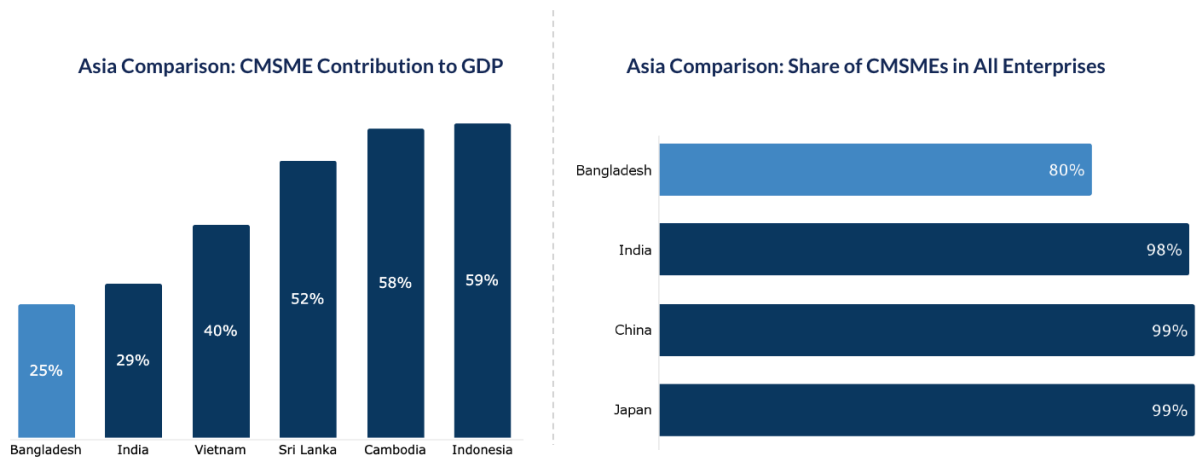
Cottage, Micro, Small, and Medium Enterprises (CMSMEs) form a significant portion of the economy in Bangladesh. According to the Asian Development Bank, Figure 1 elaborates on the contribution of CMSMEs to the Bangladesh economy.<sup>23</sup>



Sources: Bangladesh Bank, BBS, SME Foundation 2022, with LightCastle Analytics Projection

Figure 1: Key highlights on CMSMEs' contribution to the Bangladesh economy

Despite growth in their contribution to the country's GDP, CMSMEs in Bangladesh remain underdeveloped in their capacities in several aspects. Around one-fourth of Bangladesh's GDP is owed to CMSMEs, which is the lowest compared to Asian peers. Bangladesh also has the lowest share of CMSMEs in all enterprises among comparable countries in Asia. Figure 2 provides a full comparison of CMSMEs' performance in Bangladesh with peer countries in Asia:



Source: Bangladesh Bank, BBS, World Bank, ADB, SME Foundation, Japan Bangladesh Chamber of Commerce and Industry (JBCCI)

Figure 2: Comparison of CMSME share and contributions in Asia

<sup>2</sup> Asian Development Bank

<sup>3</sup> World Bank

### 2.3. Access to Finance in Bangladesh

Obtaining financial support presents a significant challenge for Cottage, Micro, Small, and Medium Enterprises (CMSMEs) in Bangladesh. Furthermore, the pre-existing issue of limited access to finance for CMSMEs has been intensified by the impact of the COVID-19 pandemic.

**USD 3.10 Bn**

Financial gap for CMSMEs in Bangladesh, compared to the rest of South Asia in 2023\*

**52%**

CMSMEs in Bangladesh reported being at least partially financially constrained in 2023\*

**36%**

CMSMEs in Bangladesh reported being fully financially constrained in 2023\*

**USD 800 Mn**

The gap in finance among women-owned CMSMEs in Bangladesh in 2023\*

### 2.4. Factors Restraining CMSMEs' Access to Finance

Several factors curtail the access of Cottage, Micro, Small, and Medium Enterprises (CMSMEs) to financial resources, including demanding documentation prerequisites, the absence of customized financial tools catering to CMSMEs' requirements, and deficiencies in financial and digital knowledge. An overview of these factors can be found in Figure 6.

**Formalized methods of accessing finances are often riddled with paperwork and licenses, which most CMSMEs do not have.**

1. Traditional financial mechanisms and products require banking transactions, credit rating, liaison with banks, properly managed books, and annual financial statements. Furthermore, there is an exhaustive list of licenses, registration documents, VAT Identification Numbers, TAX Identification Numbers (TIN), clearance certificates, and more. This lengthy list of requirements is often too expensive and unattainable for CMSMEs, who have low rates of formalization.
- 

**Traditional financial instruments fail to account for the specific needs and affordability of CMSMEs.**

- 2.<sup>4</sup> Since the majority of CMSMEs rely on seasonal sales rather than monthly cash cycles and payback periods, the 30-day installment period of traditional financing schemes becomes unaffordable to them. This leads to high-interest rates, as well as a mismatch in the ticket sizes demanded by CMSMEs and facilitated by banks and NBFIs. Moreover, CMSMEs often lack assets that can be used as collateral when accessing credit formally. This creates a gap in the lending services that can be accessed by CMSMEs.
- 

**Limited financial and digital literacy holds CMSMEs back from strategically utilizing the full potential of funds.**

3. Due to limited financial and digital literacy, many CMSMEs are unaware of how to access the limited resources available to them or cannot access them. Furthermore, typical small-scale entrepreneurs lack the skills for proper financial planning and strategic fund allocation. These can often lead to inefficient usage of available funds by CMSMEs, and present further hindrances in their access to finance.

## 2.5. Objectives of the Project

The objective of this project is to develop the ability to identify, create, and implement measures for policy experimentation and Digital Sandboxes to support CMSMEs in Bangladesh. To help facilitate this development, the project outlines three specific objectives, summarized in Figure 4.

1. **Conceptualizing and implementing solutions** on operationalizing policy experimentation and Digital Sandboxes in new technologies, in the proposed areas/sectors related to SDG targets, and COVID-19 recovery
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<sup>4</sup> \*World Bank, 2018; with LightCastle Analytics Projections



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2. **Catalyzing and supporting dialogue among key stakeholders** to ensure a comprehensive policy brief on Digital Sandboxes on new technologies to support CMSMEs in Bangladesh
- 
3. **Facilitating good practices** in institutional and public-private coordination for possible adaptation of Digital Sandboxing

### 3. The Nature of a Smart Bangladesh CMSME Digital Sandbox

#### 3.1. The Concept of Sandboxes

A Digital Sandbox is a controlled environment established by regulatory authorities to facilitate the testing of innovative financial products, services, or business models by fintech companies. This environment allows these companies to conduct real-world trials while ensuring compliance with regulatory requirements. By providing a safe space for experimentation, the sandbox enables fintech firms to explore new ideas and solutions without the full burden of regulatory constraints, fostering an environment conducive to innovation and advancement within the financial sector.

In the sandbox, fintech companies can test their offerings under the supervision of regulators, to promote competition, safeguard consumer interests, and maintain the stability of the financial system. This collaborative approach encourages responsible innovation by allowing firms to gather valuable feedback, assess risks, and refine their products or services before broader implementation. By engaging in this process, both regulators and fintech companies work together to strike a balance between encouraging innovation and ensuring regulatory compliance, ultimately benefiting consumers and the financial industry as a whole.

In the framework of a centralized loan platform in Bangladesh dedicated to supporting MSME financing, the establishment of a sandbox serves as a controlled environment to test and refine innovative financial products and services. The primary objective is to improve access to growth capital for MSMEs, thus fostering widespread employment opportunities across the nation while ensuring favorable financial outcomes for all involved stakeholders. Within this sandbox framework, various investment models are explored across four distinct categories: Direct Investments, Wholesale Investments, Strategic Investments, and Green Investments. These investments are geared towards pioneering novel approaches to MSME financing, pinpointing emerging investment avenues, and furnishing valuable insights for commercial capital providers.

Engaging within this sandbox environment allows stakeholders within Bangladesh's centralized loan platform to experiment with diverse strategies, measure associated risks, and fine-tune their approaches before expanding their scope for broader implementation. Facilitating collaboration and knowledge exchange among industry participants, the sandbox effectively drives innovation and growth within the

financial sector, consequently benefiting MSMEs and bolstering the overall economic landscape of Bangladesh.

The four phases are elaborated in Figure 3.<sup>5</sup>

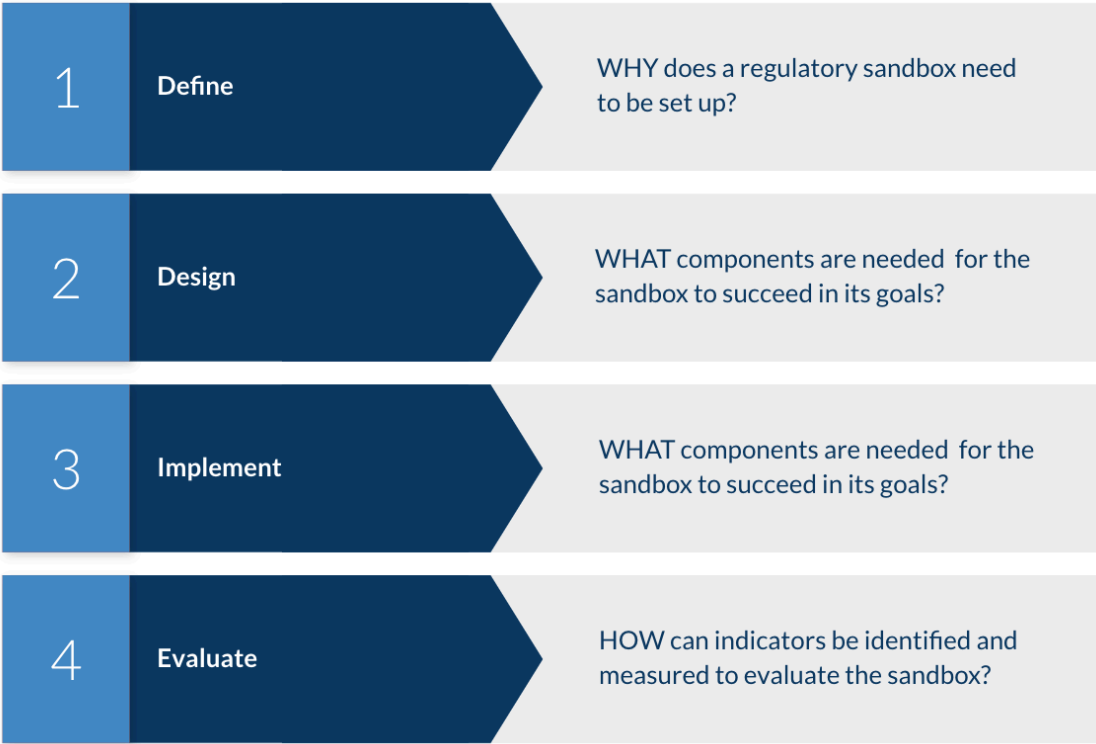


Figure 3: A four-step framework for creating a Digital Sandbox

<sup>5</sup> CGAP. 2020. How to Build a Digital Sandbox.

What is a Digital Sandbox?	
<ul style="list-style-type: none"> <li>• A framework that allows for the <b>live testing of technologies, services and business models</b> in the real market with real consumers.</li> <li>• It is shielded from strict regulation, policy, or process, where <b>technology act as an enabler</b> to improve and scale the new products</li> </ul>	
Why is a Digital Sandbox Necessary?	
<ul style="list-style-type: none"> <li>• Using tech and easing regulatory barriers allows the exploration of new financial products <b>without compromising consumer protection</b>.</li> <li>• It also allows to gauge <b>real-market responses</b>, <b>assess product viability</b>, and <b>refine offerings</b> based on consumer feedback and usage patterns.</li> </ul>	
What are the factors to consider when designing a regulatory sandbox?	
WHAT	What is the problem? What are the objectives?
WHY	Why did this happen?
WHO	Who are the beneficiaries? Who is the regulator? Who is the implementer?
WHEN	1) Short-Term 2) Mid-Term 3) Long-Term
WHERE	Geographical or sectoral pilot group?
HOW	Resources, capacities, and partners? Boundaries, and safeguards?

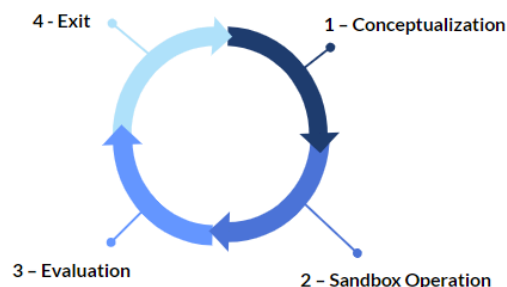
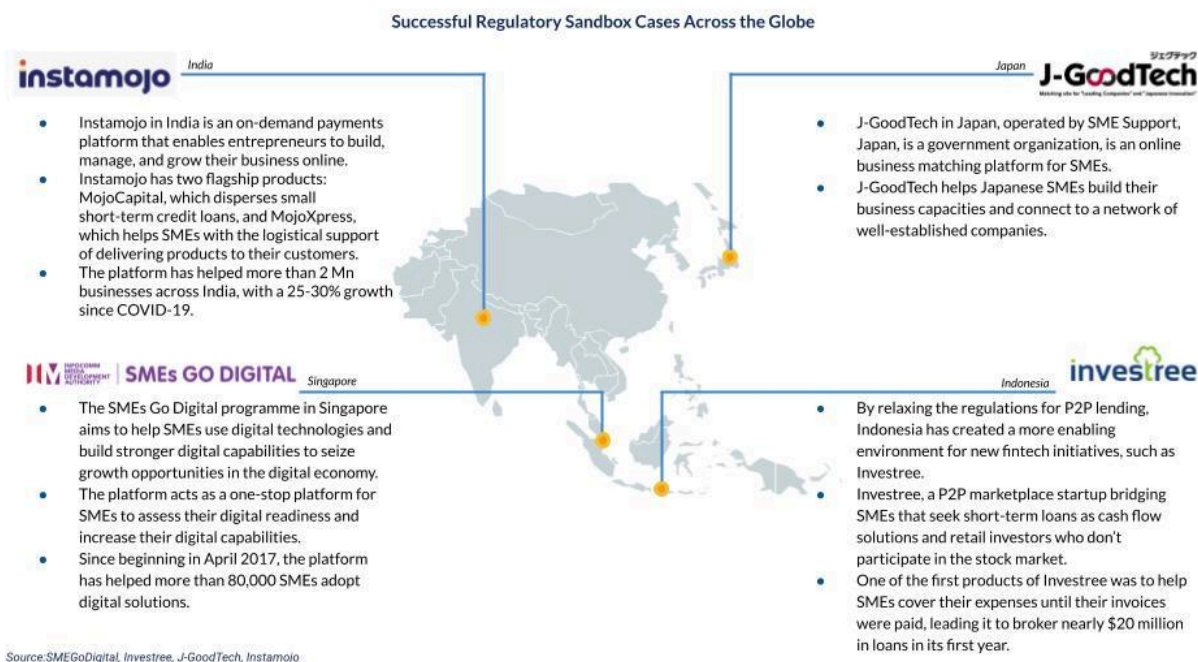


Figure 4: Introduction to Digital Sandbox  
 Source: CGAP, The Legal Executive Institute, The World Bank, MAS, HKTDC, Bank of Thailand

### 3.2. How Digital Sandboxes Have Been Used



#### 3.2.1. India

In 2021, the Reserve Bank of India (RBI) opened the fourth cohort on the prevention and mitigation of financial fraud under the digital sandbox. The central bank has so far introduced three cohorts. Six entities have successfully exited the first cohort on 'Retail Payments' while under the second cohort on 'Cross

Border Payments', eight entities are undertaking tests. The application window for the third cohort of 'MSME lending' is under process.

Based on the experience gained and the feedback received from stakeholders, RBI will facilitate the application for themes of cohorts earlier closed.

Instamojo is an on-demand payments platform that enables entrepreneurs to build, manage, and grow their businesses online. Instamojo has two flagship products: MojoCapital, which dispenses small short-term credit loans, and MojoXpress, which helps SMEs with the logistical support of delivering products to their customers.

### **3.2.2. Korea**

The Korean Digital Sandbox program was specially designed to cover four comprehensively categorized sectors:

1. Information and communication technology (ICT) convergence
2. Industrial convergence
3. Innovative finance
4. Regional innovation

The program was later expanded to the Smart City, and Research and Development (R&D) Innovation Cluster sectors to guarantee enhanced social safety and to further foster the development of innovative technologies in a wider range of sectors.

As a part of this, the South Korean Financial Services Commission (FSC) has announced plans to launch a digital sandbox to test new fintech products and services under development.

### **3.2.3. Singapore**

The MAS FinTech Digital Sandbox allows businesses to experiment with innovative financial products or services in the financial sector, but within a well-defined space and duration. MAS supports such businesses by relaxing certain legal and regulatory requirements for the duration of the Sandbox, which is at least 6 months.

The Sandbox will also include appropriate safeguards to contain the potential consequences of business failure and minimize their impact on Singapore's financial system. For instance, a Sandbox Express entity is required to explain to its customers how outstanding trades will be managed should the business cease to operate.

As a part of this, "The SMEs Go Digital" program was launched, which aims to help SMEs use digital technologies and build stronger digital capabilities to seize growth opportunities in the digital economy

### **3.2.4. Vietnam**

In 2021, the State Bank of Vietnam (SBV) released the second draft of a decree on Digital Sandbox for financial technology (Fintech) operations in the field of banking which is expected to foster innovation, creativity, and modernization of the sector.

The SBV, which will 'coordinate with relevant ministries and agencies' to gather input and provide a report to the government in the fourth quarter of this year, already released a draft decree in June 2020 proposing a

fintech sandbox framework for public comment. After an initial SBV assessment, eligible entities would receive a registration certificate issued by the prime minister, according to the draft.

Accordingly, six Fintech solutions would be applied on a pilot basis in the banking sector, including a grant of credit on technology platforms; credit scoring; application programming interface (API) data sharing; peer-to-peer (P2P) lending; application of blockchain and distributed ledger technology (DLT) in banking activities; and other technologies in banking operations and innovative business cooperation models in line with objectives of the sandbox.

### **3.2.5. Indonesia**

By relaxing the regulations for P2P lending, Indonesia has created a more enabling environment for new fintech initiatives, such as Investree.

Investree is a P2P marketplace startup bridging SMEs that seek short-term loans as cash flow solutions and retail investors who don't participate in the stock market. One of the first products of Investree was to help SMEs cover their expenses until their invoices were paid, leading it to broker nearly \$20 million in loans in its first year.

### **3.2.6. Japan**

J-GoodTech in Japan, operated by SME Support, Japan, is a government organization and is an online business matching platform for SMEs. J-GoodTech helps Japanese SMEs build their business capacities and connect to a network of well-established companies. J-GoodTech provides a robust business matching mechanism, enabling SMEs to identify potential partners, suppliers, customers, and investors based on their specific needs and preferences.

Through J-GoodTech, SMEs gain access to a diverse network of well-established companies, industry experts, and stakeholders, fostering opportunities for knowledge exchange, collaboration, and growth.

## **3.3. Objectives and Scope for a CMSME Digital Sandbox**

The Digital Sandbox serves as a crucial mechanism aimed at fostering innovation within the financial services sector. By granting businesses the opportunity to test novel products, services, or business models with actual customers in a controlled environment under regulatory oversight, it facilitates the exploration and refinement of groundbreaking ideas. Central to its objectives is the reduction of time-to-market for innovative solutions, enabling faster implementation and adaptation to evolving market demands. Furthermore, the Sandbox is designed to enhance customer access to financial services by providing a platform for the development of products that cater to diverse consumer needs and preferences while ensuring compliance with regulatory standards.

In essence, the Digital Sandbox functions as a catalyst for innovation within the financial sector, offering a structured framework for the live testing of pioneering concepts. Creating an environment conducive to experimentation and learning, it enables startups and established businesses alike to overcome regulatory barriers and bring innovative solutions to market more swiftly. Moreover, the Sandbox aims to democratize access to financial services by encouraging the development of products that address issues of financial inclusion, thereby expanding the reach of banking and financial services to underserved populations. This inclusive approach not only benefits consumers by providing them with greater options and convenience but also fosters a more dynamic and competitive financial ecosystem.

The scope of the Digital Sandbox encompasses fintech solutions that exhibit genuine innovation, possess the potential to advance financial inclusion initiatives, and offer tangible benefits to consumers. Through rigorous evaluation and supervision, the Sandbox ensures that participating businesses adhere to regulatory standards while encouraging experimentation and creativity. Ultimately, by facilitating the development and adoption of innovative financial products and services, the Sandbox contributes to the evolution of the financial services sector, driving growth, and enhancing the overall welfare of society.

### 3.4. Application, eligibility, and exit processes

The application process for the Digital Sandbox entails submitting a detailed proposal to the regulatory authority, outlining the innovative solution, its anticipated benefits, and its alignment with the Sandbox criteria. Eligibility criteria typically include the novelty of the innovation, its potential benefits to consumers, its readiness for testing, and the company's capacity to conduct the trial responsibly. Successful completion of the testing phase, regulatory assessment, and fulfillment of exit requirements determine the transition to a full market launch or cessation of the tested product.

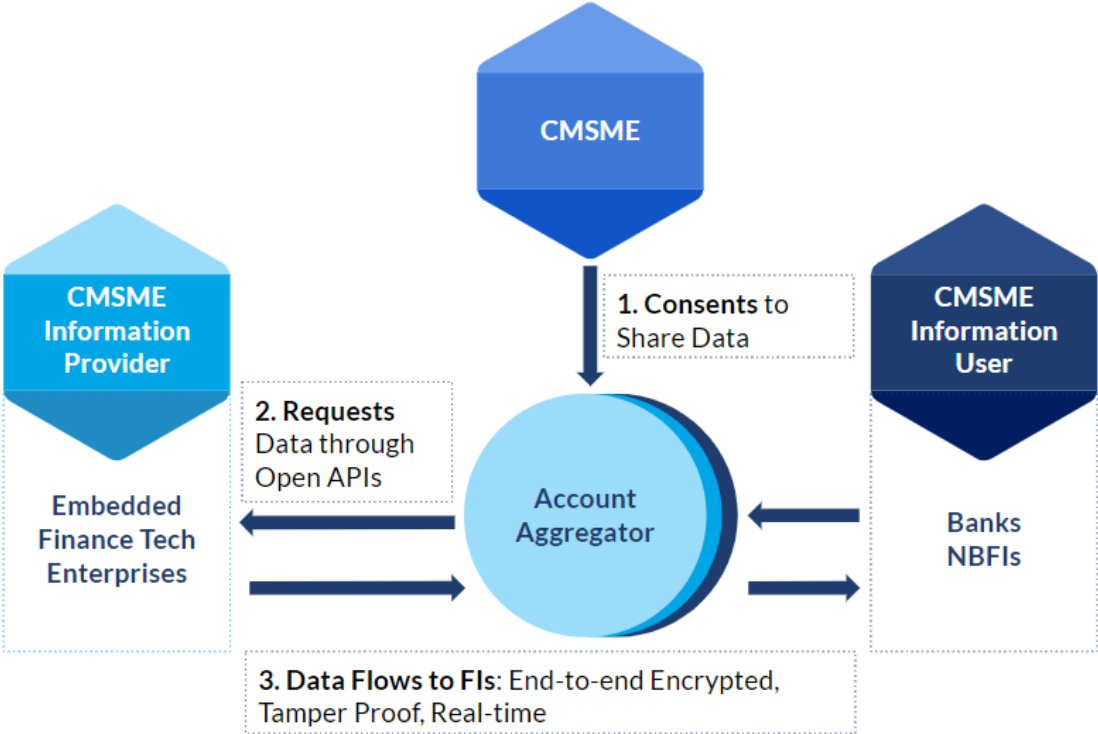


Figure 5: Overview of the Smart Business Profile Platform

Eligibility for participation in the Digital Sandbox hinges on meeting specific criteria aimed at assessing the suitability of the proposed innovation for testing within the controlled environment of the Sandbox. These criteria focus on the readiness of the innovation for testing, its potential to deliver meaningful benefits to consumers, and its alignment with the overarching objectives of the Sandbox. Additionally, applicants are evaluated based on their ability to conduct the trial responsibly and mitigate associated risks effectively.

This rigorous evaluation process ensures that participating businesses possess the requisite capabilities and resources to contribute meaningfully to the Sandbox's objectives.

Exiting the Digital Sandbox follows the successful completion of the testing phase, regulatory assessment, and compliance with exit requirements. Participating businesses undergo an evaluation of the outcomes of their trial within the Sandbox, with initiatives demonstrating successful outcomes and compliance with regulatory standards poised to transition towards full-scale operation in the market. Conversely, initiatives that fail to meet the required criteria or demonstrate unsatisfactory results may lead to the cessation of the tested product or service. Through this structured exit process, Sandbox maintains the integrity of the financial ecosystem by ensuring that only innovations that have proven their viability and compliance with regulatory standards are permitted to progress to full market launch.

### **3.5. Key questions about CMSME Digital Sandbox**

Key questions revolve around the sandbox's capability to balance innovation with consumer protection, the criteria for admission and exit, the regulatory flexibility offered, the duration of the testing phase, and the support provided to participants throughout the process.

These include how it supports financial inclusion, the type of innovations eligible, the regulatory flexibilities offered, and the mechanisms for consumer protection during testing.

- How can we effectively address the trust deficit between financial institutions and CMSMEs to ensure their active participation in the digital sandbox?
- What specific measures can be implemented to promote public-private coordination within the sandbox, considering the challenges demonstrated by other sandbox initiatives?
- How can we leverage technology and data utilization initiatives to enhance public trust in the private sector's handling of personal data within the sandbox framework?
- What strategies should be employed to ensure the successful integration of CMSMEs into the sandbox, considering their unique needs, constraints, and capabilities?
- What mechanisms can be put in place to measure and evaluate the effectiveness of the sandbox in facilitating access to finance for CMSMEs, promoting innovation, and fostering sustainable development?

### **3.6. Monitoring and Control CMSME Digital Sandbox**

The sandbox entails close supervision and oversight by the Bangladesh Bank in collaboration with a2i. Their primary objective is to ensure that activities within the sandbox adhere to pre-established parameters and regulatory guidelines. This involves ongoing monitoring of sandbox activities to detect any deviations from agreed-upon standards and to address them promptly. Additionally, Bangladesh Bank and a2i are responsible for assessing the risks and benefits associated with the innovations being tested within the sandbox. This evaluation helps inform decision-making regarding the suitability and viability of the innovations, ultimately contributing to the protection of consumer interests and the integrity of the financial system.

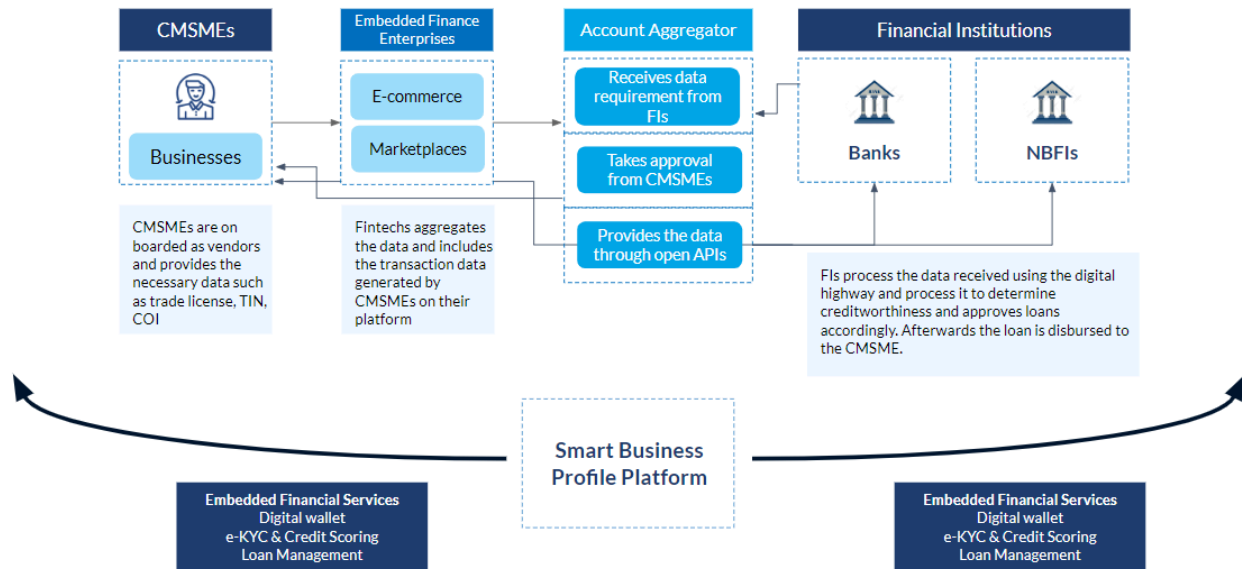


Figure 6: The operational mechanism of the Smart Business Profile Platform

Central to the monitoring and control process is the provision of support to sandbox participants in navigating regulatory requirements. This support may take various forms, including guidance on compliance procedures, assistance with regulatory paperwork, and clarification of regulatory expectations. By offering this support, Bangladesh Bank and a2i aim to facilitate a smooth and efficient testing process for participants, ensuring that regulatory requirements are met and potential regulatory hurdles are addressed on time.

Regular reporting by sandbox participants is a critical component of the monitoring and control process. Through regular reporting, participants provide updates on the progress and outcomes of their sandbox activities, enabling the Bangladesh Bank and a2i to track the implementation of innovative solutions and assess their effectiveness. Additionally, Bangladesh Bank and a2i may implement oversight mechanisms to monitor sandbox activities more closely and to identify any emerging issues or concerns. This proactive approach to monitoring and control, coupled with direct engagement with participants, helps ensure the integrity and effectiveness of the Digital Sandbox, ultimately benefiting both industry stakeholders and consumers alike.

### 3.7. Risk management for CMSME Digital Sandbox

Risk management strategies include setting clear boundaries for sandbox tests, requiring robust consumer protection measures, ensuring participants have adequate financial resources, and establishing mechanisms to intervene or terminate experiments if consumer risks are identified. It also involves continuous monitoring and evaluation of the tests.

Involves identifying, assessing, and mitigating potential risks associated with sandbox activities. This includes risks to consumers, financial stability, and the integrity of the financial system. Participants are required to have clear risk management frameworks in place.



### **3.8. Success Criteria**

Success is measured by the ability of the sandbox to facilitate innovative financial solutions that can enhance financial inclusion, consumer benefit, and market efficiency. This includes the successful transition of tested innovations to the broader market, regulatory adaptations informed by sandbox findings, and contributions to the financial ecosystem's resilience and inclusivity.

Success in a Digital Sandbox is measured by the ability to safely bring innovative financial products or services to market, demonstrating benefits to consumers, and enhancing the efficiency and inclusiveness of the financial system. Success also includes valuable learnings for regulators in formulating appropriate policies and regulations to facilitate innovation while ensuring financial stability and consumer protection.

## **4. Implementation Considerations**

### **4.1. Participants' readiness – risks and challenges**

Participants' readiness involves aggregating CMSME data from banks and NBFIs and assigning a unique identifier, the Smart Bangladesh Business Number (SBBN) to each CMSME. The readiness challenges might include data aggregation, ensuring data privacy, and integrating various identifiers.

It outlines that participants must be technologically and operationally ready to engage in the sandbox environment, with specific attention to mitigating potential risks and addressing challenges related to regulatory compliance, customer protection, and data security.

These include a general resistance to change, external stakeholder criticism, lack of trust, inadequate institutional capacity, unclear or ill-communicated vision and goals, legislative challenges, and privacy concerns. In addition, at the technical level, challenges also arise when trying to resolve data conflicts from multiple information sources that may be considered authoritative (for example, tax and business registries).

### **4.2. Capacity development and awareness training for stakeholders**

Training and capacity building is important for all stakeholders involved, including regulatory bodies, participants, and potentially the customers, to ensure a comprehensive understanding of the sandbox's objectives, processes, and risk management practices. The capacity development and awareness training are aimed at stakeholders involved in the pilot execution of the SBPP. This includes banks, NBFIs, MFIs, fintech companies, regulators, and technology partners.

### **4.3. Development of data center infrastructure for a sandbox**

The implementation of the SBPP as a centralized platform for sharing CMSME data implies significant IT infrastructure and data management capabilities. A robust data center infrastructure will be used to

support the sandbox's operational needs, ensuring secure and efficient handling of data, with scalability to accommodate different testing scenarios and data volumes.

#### **4.4. Requirements for different aspects of sandbox activity**

There are requirements across various dimensions, including technical, regulatory, and operational, to ensure that sandbox activities are conducted within a framework that supports innovation while safeguarding systemic integrity and consumer interests. Requirements include creating the pilot platform with aggregated CMSME data, assigning unique identifiers (SBBN) to CMSMEs, and linking this to other business identification numbers. The success criteria focus on providing sufficient use case evidence for large-scale implementation.

#### **4.5. Organization of sandbox activities**

Sandbox activities are organized around the pilot execution of the SBPP, involving the onboarding of stakeholders and CMSMEs onto the platform and facilitating lending through the platform for 6 months, with ongoing monitoring and assessment.

It describes the structured approach to organizing sandbox activities, from the application and selection process to testing phases and evaluation, ensuring a systematic and transparent approach to innovation testing.

#### **4.6. Selection of sandbox participants and their role**

Criteria for participant selection are detailed, focusing on the innovativeness, potential impact, and readiness of the proposal. The role of participants is to conduct tests under defined conditions while adhering to the sandbox's regulatory and operational guidelines.

Participants include banks, NBFIs, MFIs, fintech players, regulators (Bangladesh Bank), technology partners (a2i), and ecosystem partners (SME Foundation). Their roles range from providing data, facilitating loans, regulatory oversight, and technological support, to ecosystem development.

#### **4.7. Outline of implementation steps**

Implementation steps involve launching the pilot platform, onboarding stakeholders and CMSMEs, facilitating lending, establishing KPIs, conducting monitoring, and assessing the platform's performance.

The report provides a step-by-step outline for implementing the sandbox, from the initial concept and stakeholder engagement to the launch, operation, and post-experiment evaluation phases.

#### **4.8. Resources and key decisions needed**

Identifies the critical resources (such as technological, human, and financial) and key decision points throughout the sandbox lifecycle, ensuring that necessary support and guidance are available for successful implementation.

Key resources include technological infrastructure for the SBPP, data from financial institutions, and cooperation from all stakeholders. Decisions needed involve the final selection of stakeholders based on their engagement in Phase 1, alignment with project objectives, and bilateral discussions.

#### **4.9. Activities, roles of the parties, and responsibilities**

Activities encompass data aggregation, platform development, and loan facilitation. Roles of parties include data provision (financial institutions), regulatory oversight (Bangladesh Bank), technological support (a2i), and capacity building (SME Foundation).

It delineates the specific activities, roles, and responsibilities of various parties involved, including the regulatory authority, participants, and potentially third-party service providers, to facilitate clear coordination and accountability.

#### **4.10. The factors affecting possible timelines**

There are factors that may influence the sandbox's timelines, including the complexity of the tested innovations, regulatory considerations, and the need for iterative testing phases to refine the innovations. Factors could include the readiness of IT infrastructure, stakeholder engagement level, data privacy and security measures, and regulatory approvals.

#### **4.11. What lies beyond the Sandbox period and Pilot experimentation?**

Beyond the sandbox period and pilot experimentation, the goal is large-scale implementation of the SBPP for broader impacts on CMSMEs in Bangladesh, based on the successful provision of use case evidence and regulatory approval.

There are transition mechanisms for successful sandbox projects to move into full-scale operational deployment, including regulatory approvals, market entry strategies, and scalability considerations, as well as the potential for regulatory and policy learnings to inform broader sectoral innovation. As we scale it up, we will be facilitating a wider network of stakeholders. With a wider network of financial institutions, CMSMEs gain more options for financing, while an expanded pool of CMSMEs attracts greater participation from financial institutions. This results in reducing the time for CMSMEs to access essential funds, facilitating business purposes such as expansion, investment, working capital, and innovation. In essence,

the SBPP aims to provide a greater volume of financing to businesses, fostering economic growth and development.

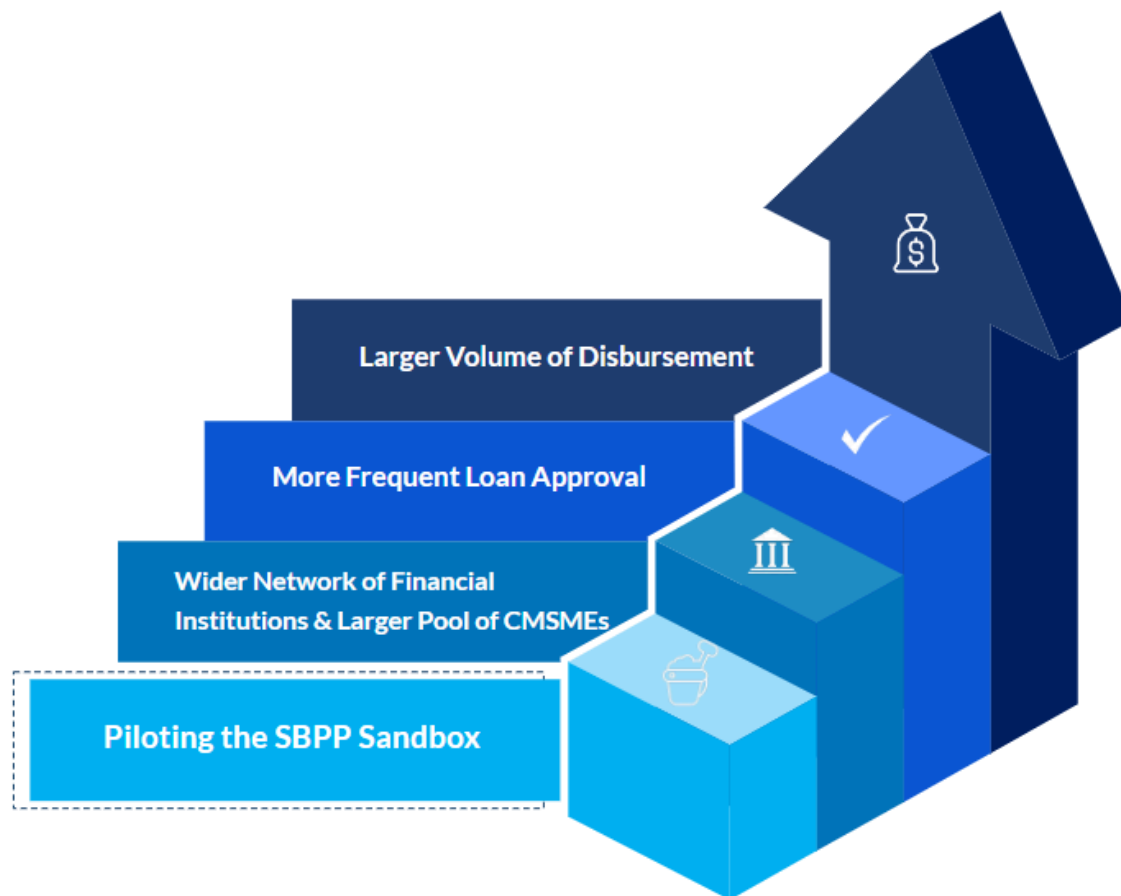


Figure 7: Plan for the Smart Business Profile Platform

## 5. Conclusion

### 5.1. Costs, benefits, and risks of the sandbox

These include a general resistance to change, external stakeholder criticism, lack of trust, inadequate institutional capacity, unclear or ill-communicated vision and goals, legislative challenges, and privacy concerns. In addition, at the technical level, challenges also arise when trying to resolve data conflicts from multiple information sources that may be considered authoritative (for example, tax and business registries).

The sandbox aims to promote innovation through a controlled environment, reducing market entry barriers for new entrants, and enhancing regulatory understanding of emerging technologies. Costs involve operational expenses and regulatory oversight, while risks include potential consumer harm and data security issues.

Benefits include facilitating greater access to finance for CMSMEs in Bangladesh through the Smart Business Profile Platform (SBPP). This centralized platform aims to share CMSME data, reducing the cost of

lending to smallholder businesses. The primary risks could involve data privacy concerns, system interoperability, and the potential for operational disruptions. Success criteria include providing sufficient use case evidence to regulators for large-scale implementation.

## **5.2. Circumstances where this sandbox is needed**

It's particularly beneficial in contexts where financial markets are rapidly evolving, and there's a need to test and adapt regulatory frameworks to new technologies and business models without stifling innovation or compromising consumer protection.

The sandbox is particularly needed in environments where there are significant hurdles to information sharing among corporate regulators, as seen in the increasingly digitized global landscape. It addresses the need for streamlined business start-ups, improved tax compliance, and enhanced public service delivery. Countries like New Zealand, Jordan, the Philippines, and Rwanda have embraced similar initiatives, indicating a global trend toward utilizing Unique Business Identifiers (UBIs) and Digital Sandboxes to foster innovation and support small and medium-sized enterprises (SMEs).

## **5.3. Immediate actions for a country to assess the progress of a sandbox implementation**

Immediate actions involve launching the pilot platform, onboarding stakeholders and CMSMEs, facilitating lending through the platform, and establishing Key Performance Indicators (KPIs) for assessing success. The pilot phase includes a 6-month duration of active monitoring and performance assessment, concluding with an evaluation and the compilation of an outcome report to gauge the project's impact and scalability.

These include setting clear objectives and key performance indicators (KPIs) for the sandbox, establishing robust monitoring and evaluation frameworks, and engaging in continuous dialogue with stakeholders to refine and adjust the sandbox's operation based on feedback and observed outcomes.

## Annexure

### Annex 1: List of Organizations in FGD Session 1 [Access to Finance]

Organization	Description
1. International Labour Organization (ILO)	A United Nations agency dedicated to social and economic justice through international labor standards
2. Bangladesh Bank	The central bank of Bangladesh
3. IDLC Finance	The largest Non-Banking Financial Institution in Bangladesh, reaching 24 cities through 40 touch-points
4. Sheba.xyz	Sheba.xyz is the first and the largest service platform in Bangladesh for all urban home and office services, receiving services from more than 15,000 MSMEs
5. Tallykhata	A leading digital MSME platform in Bangladesh helping 11 Mn small businesses to maintain transaction records, accept digital payments, and access quick and simple working capital loans
6. Wagely	A financial wellness platform that gives employees visibility into their daily earnings, and instant access to earned wages
7. Pathao	A Bangladeshi on-demand digital platform company headquartered in Dhaka, and the largest logistics and mobility platform in the country
8. SME Foundation	A Bangladesh government-owned organization that provides training and financing to small entrepreneurs
9. BRAC	The largest international development organization based in Bangladesh

## Annex 2: List of Organizations in FGD Session 2 [Access to Market]

Organization	Description
1. Palli Karma Sahayak Foundation	A financial institution founded by the Government of Bangladesh, to provide finance and training for rural development, reaching nearly 16 Mn households
2. Foodpanda Bangladesh	The leading food delivery service in the country with over 3200 restaurants on its platform
3. E-Commerce Association of Bangladesh (E-Cab)	An association with more than 1500 members across Bangladesh
4. Pickaboo	A fast-growing e-commerce platform for electronic appliances with 11 outlets across the country
5. Daraz	An all-in-one e-commerce giant boasting nearly 20 million products on its platform
6. Pirdhan	An e-commerce platform based in Bangladesh
7. Shapno Choa Traders	An e-commerce platform based in Bangladesh
8. UNDP	A United Nations agency tasked with helping countries eliminate poverty and achieve sustainable economic development
9. Steadfast Courier Ltd	A leading courier service in Bangladesh
10. Leisfita Ltd	An e-commerce platform based in Bangladesh

### Annex 3: Workshops' Participants Overview

Group Name	Organization	Name	Designation
Access to Finance	Bangladesh Bank	Suman Chandra Roy	Deputy Director
	BRAC Bank Limited	Azizul Hoq	Head of Business Transformation & Products-SME Banking
	BRAC	Deep Majumder,	Manager, Product Development Team
	BRAC	Rajib Kundu	Manager, Product Development Team
	BRAC	Taposi Roy	Lead, Gender Diversity, and Inclusion Unit, Microfinance
	IDLC Finance	Abdullah Al Mamun	AGM & Head of Regional Business
Access to Skills	DCCI	Dilip Kumar Roy	Deputy Executive Secretary
	BSCIC	Shafiqul Alam	Principal, SCITTI
	NASCIB	Mahmudur Rifat Khan	Executive Officer
	BIDA	Golam Mohammad Bhuiyan	Director, Deputy Secretary
Access to Service	Ministry of Commerce	Nahid Afroz	Deputy Secretary
	Light Engineering Owners Association.	Ashraf-Ibn-Noor	Director
	Youth and Sports Ministry	Kazi Nazrul Islam	Deputy Secretary
	Ministry of Industries	Mohammad Salim Ullah	Senior Assistant Secretary
	SMEF	Moinul Islam	Deputy Manager
Access to Market	e-Cab	Arnob Mustafa	Co-Founder, Leisfita
	Daraz	Akib Islam	Sr. Executive
	Chaldal	Lusbun Udit	Director
	PKSF	Sajal Dhali	ICT Specialist
	MinCom	Sayed Ali	
	UNCDF	Tahsin Sayeed	Programme Officer
Knowledge Sharing Session	BRAC Bank Limited	Syed Abdul Momen	Deputy Managing Director & Head of SME Banking
	IDLC Finance	Javed Noor	Deputy Managing Director



	Sheba	Adnan Imtiaz Halim	CEO and Co-founder
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#### Annex 4: Incubation Participants Overview

#	Name	Organization	Designation
1	Md. Abdullah Al Amin	a2i	Programme Associate, DFS
2	Nahid Sharmin	a2i	Gender Specialist, DFS, A2i Programme
3	Rakibul Islam	a2i	
4	Mohammad Ashiqur Rahman	Bangladesh Bank	Director, SME and Special Programs
5	Muhammad Mustafizur Rahman	Bangladesh Bank	Additional Director, SME and Special Programs Department
6	Raka Adhikary	Bangladesh Bank	Deputy Director, SME and Special Programs Department
7	Taposi Roy	BRAC	Lead, Gender Diversity and Inclusion Unit, Microfinance
8	Kayser Hasan	BRAC	Senior Manager- Business Transformation & Product SME
9	Azizul Hoq	BRAC Bank Limited	Head of Business Transformation & Products-SME Banking
10	Md. Abu Nawim	Dhaka Chamber of Commerce & Industry	Assistant Executive Secretary
11	Javed Noor	IDLC Finance Limited	Deputy Managing Director
12	Abdullah Al Mamun	IDLC Finance Limited	AGM & Head of Regional Business
13	Khandoker Maruf Momin	IDLC Finance Limited	AGM & Head of Regional Business, SME Division
14	Md. Rukunuzzaman	Joyeeta Foundation	
15	Anusha Din	LightCastle Partners	Business Consultant
16	Raidah Morshed	LightCastle Partners	Business Analyst
17	Md. Muslah Uddin Dipu	National Association of Small and Cottage Industries of Bangladesh (NASCIB)	Program Officer
18	Kazi Mahmudul Karim	Palli Karma-Sahayak Foundation (PKSF)	Manager

19	Fahim Ahmed	Pathao	CEO
20	Adnan Imtiaz Halim	Sheba.xyz	CEO and Co-founder
21	Scion Zaman	Sheba.xyz	Business Analyst
22	Syed Mosayeb Alam	ShopUp	Chief of Staff for Fintech
23	Suman Chandra Saha	SME Foundation	Deputy General Manager
24	Mr. Abu Syed	SME Foundation	Deputy Manager (Research)
25	Sazu Barua	SME Foundation	Deputy Manager (Finance)

### Annex 5: Singapore Study Tour: Participants Overview

#	Name	Organization	Designation
1	Md. Kamrul Islam	Sheba	Joint Director
2	Salahuddin Mahmud	Regulatory FinTech Facilitation Office (RFFO), BBK	Joint Director
3	Md. Masum Billah	SME & Special Programmes Department, BBK	Joint Director
4	Shafee Bin Kabir	SME & Special Programmes Department, BBK	Deputy Director
5	Nahid Sharmin	a2i	Gender Analyst
6	Suman Chandra Saha	SME Foundation	Deputy General Manager
7	Adnan Imtiaz Halim	Sheba	CEO and Co-founder
8	Bijon Islam	LightCastle Partners	CEO; UN DESA Senior Consultant
9	Zahedul Amin	LightCastle Partners	Co-Founder & Director; UN ESCAP Senior Consultant
10	Khan Muhammad Saqiful Alam	LightCastle Partners	Senior Expert

## Annex 6: Validation Workshop: Stakeholder Overview

#	Name	Organization	Designation
1	Adnan Imtiaz Halim	Sheba	CEO and Co-founder
2	Anusha Din	LightCastle Partners	Business Consultant
3	Bijon Islam	LightCastle Partners	Co-founder and CEO
4	Fariha Kabir	LightCastle Partners	Sr.Business Consultant and Project Manager
5	Hasnat Ahsan	Regulatory FinTech Facilitation Office (RFFO), Bangladesh Bank	Deputy Director (RFFO)
6	Kayser Hasan	BRAC Bank Limited	Senior Manager-Business Transformation & Product, SME
7	Khandoker Maruf Momin	IDLC Finance Limited	AGM & Head of Regional Business, SME Division
8	Mainul Islam	SME Foundation	Deputy Manager
9	Md. Nazeem Hassan Satter	SME Foundation	General Manager
10	Mr. Muhammad Mustafizur Rahman	Bangladesh Bank, SME and Special Programs Department	Additional Director
11	Nowshin Nawal	IDLC Finance Limited	Assistant Manager, Corporate Division
12	Raidah Morshed	LightCastle Partners	Business Analyst
13	Raka Adhikary	Bangladesh Bank, SME and Special Programs Department	Deputy Director
14	Sanjida Tanny	Wagely	Communications and Community Lead
15	Suman Chandra Saha	SME Foundation	Deputy General Manager

## Annex 7: Contact Information

We strive to constantly update our data to maintain the accuracy of the report. If you spot any inaccuracy or have any suggestions, please contact -

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