



United Nations

Department of
Economic and
Social Affairs

▶ Policy Brief (DRAFT)

**DA2124B: Frontier Technology Policy Experimentation
and Regulatory Sandboxes in Asia and the Pacific**

► UNDESA Policy Brief

DA2124B: Frontier Technology Policy Experimentation and Regulatory Sandboxes in Asia and the Pacific

Acronyms

BB	Bangladesh Bank
BTRC	Bangladesh Telecommunication Regulatory Commission
CGAP	Consultative Group to Assist the Poor
CKYC	Central Know-Your-Customer
CMSME	Cottage, Micro, Small and Medium Enterprise
DFS	Digital Financial Services
DPIDG	Division for Public Institutions and Digital Government
FGDs	Focus Group Discussions
GDP	Gross Domestic Product
GIIN	Global Impact Investing Network
ICT	Information and Communication Technology
IDD	ICT and Disaster Risk Reduction Division
ILO	International Labour Organization
NBFI	Non-Bank Financial Institutions
ONDC	Open Network for Digital Commerce
UBID	Unique Business Identification
UNDESA	United Nations Department of Economic and Social Affairs
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific



► UNDESA Policy Brief

DA2124B: Frontier Technology Policy Experimentation and Regulatory Sandboxes in Asia and the Pacific

Methodology

This project aimed to develop the ability to identify, create, and implement measures for policy experimentation and regulatory sandboxes to support CMSMEs in Bangladesh. To help facilitate this development, the project involved two major stages: Virtual and Physical Workshops, and Focus Group Discussions.

Virtual and Physical Workshops

The project launched with a Virtual Workshop held on 13 June, 2022, where key stakeholders from public and private organizations attended to discuss the role of regulatory sandboxes in Bangladesh. This was followed by a two-day Physical Workshop on 22-23 June, 2022, with representatives from relevant public and private players, to conceptualize six regulatory sandboxes in the four core areas of the project.

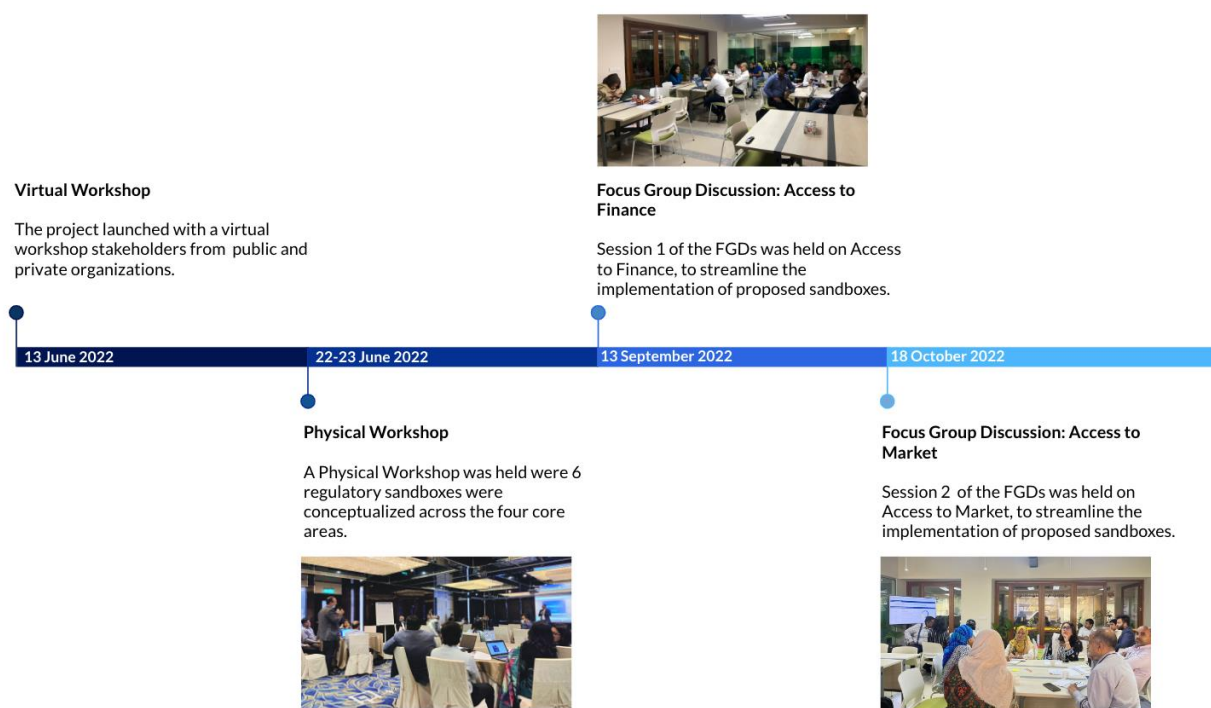
Focus Group Discussions

Following the workshops, two Focus Group Discussions (FGDs) were held to facilitate an elaborate assessment of the regulatory sandboxes conceptualized in the physical workshop.

The first FGD on access to finance, held on 13 September, 2022, involved stakeholders from the biggest fintech players and financial institutions in the country, as well from regulatory bodies, to discuss regulatory sandboxes on a Unique Business Identification (UBID) and Central Know-Your-Customer (CKYC) and Central Credit Database for CMSMEs.

In the second FGD, held on 18 October, 2022, an Open Network for Digital Commerce (ONDC) sandbox to facilitate CMSMEs' access to market was discussed with stakeholders from the largest e-commerce players as well as organizations working to promote CMSMEs in the country.

Figure 1: Timeline of project activities conducted



Despite their significance in the economy, Cottage, Micro, Small and Medium Enterprises (CMSMEs) in Bangladesh are constrained in their potential for growth.

Significant opportunities lie in the potential of frontier technologies and policy experimentation, to alleviate the struggles of CMSMEs by nurturing innovation for greater inclusivity in a safe and controlled environment. A regulatory sandbox is a regulatory approach, typically summarized in writing and published, that allows live, time-bound testing of innovations under a regulator's oversight.

Regulatory sandboxes for a Unique Business Identification (UBID) and a Central Know-Your-Customer (CKYC) and central credit database have the potential to simplify the process of formalization for CMSMEs and reduce the cost of lending to CMSMEs.

A regulatory sandbox for Open Network for Digital Commerce (ONDC) model can help facilitate CMSMEs' access to market by enabling them to sell their products in the wider market, through a single digital entry point

About the Project

Frontier technologies carry a promise to fast track the Sustainable Development Goals (SDGs) by supporting innovative policies and solutions. There are, however, numerous risks and complexities of digital technologies that come along with those opportunities, as well as policy and regulatory challenges. In 2020, the COVID-19 pandemic brought about unprecedented challenges to sustainable development, but also accelerated digital government and digital transformation in many areas. At the same time, the pandemic has exposed harsh fragilities and digital divides especially for countries in special situations.

The United Nations Development Account DA2124B project was formulated to develop the understanding and development of policy

experimentation and regulatory sandboxes in Bangladesh toward the 2030 Agenda for Sustainable Development. The specific focus of the project is to conceptualize, develop and implement policy experimentation and/or regulatory sandboxes on new technologies, as an innovative and catalytic approach to facilitate Cottage, Micro, Small and Medium Enterprises (CMSMEs) in the country.

The Rising Development of Bangladesh

With a population of approximately 166 million (as of March 2022), Bangladesh has shown an impressive average annual GDP growth rate of around 6.5 percent over the past decade. Furthermore, despite the global economic crisis due to the COVID-19 pandemic, Bangladesh recorded an impressive annual GDP growth rate of 4.5 percent in FY 2020-2021¹.

¹Bangladesh Bank, 2022

► UNDESA Policy Brief

DA2124B: Frontier Technology Policy Experimentation and Regulatory Sandboxes in Asia and the Pacific

The economy is on track to graduate from the LDC status in 2026 and has made impressive strides in human development. According to a report by the Centre for Economics and Business Research (CEBR), Bangladesh is expected to become the 25th largest economy in the world by 2035². While Bangladesh is on pace to achieve 'Developing Country' status, it intends to become a high-income country by 2041 and achieve a consistent economic growth rate of 9.9 percent per year.

² Annual World Economic League Table Report (WELT 2022)

► UNDESA Policy Brief

DA2124B: Frontier Technology Policy Experimentation and Regulatory Sandboxes in Asia and the Pacific

Positioning Cottage, Micro, Small and Medium Enterprises (CMSMEs) in Bangladesh

Cottage, Micro, Small, and Medium Enterprises (CMSMEs) form a significant portion of the economy in Bangladesh. There are over 8 Mn CMSMEs in Bangladesh, employing close to 8 Mn people in the country.

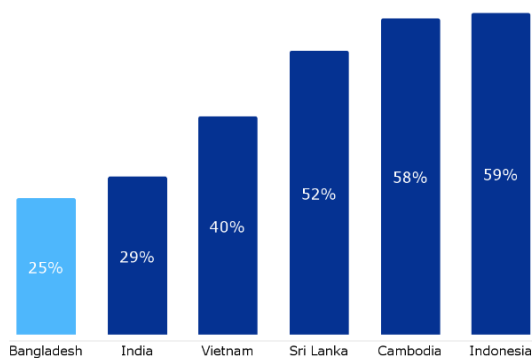
Figure 2: Key highlights on CMSMEs' contribution in the Bangladesh economy



Source: Bangladesh Bank, BBS, SME Foundation

Despite a growth in their contribution to the country's GDP over time, 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.

Figure 3: Comparison of CMSMEs' contribution to GDP in Asian countries



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

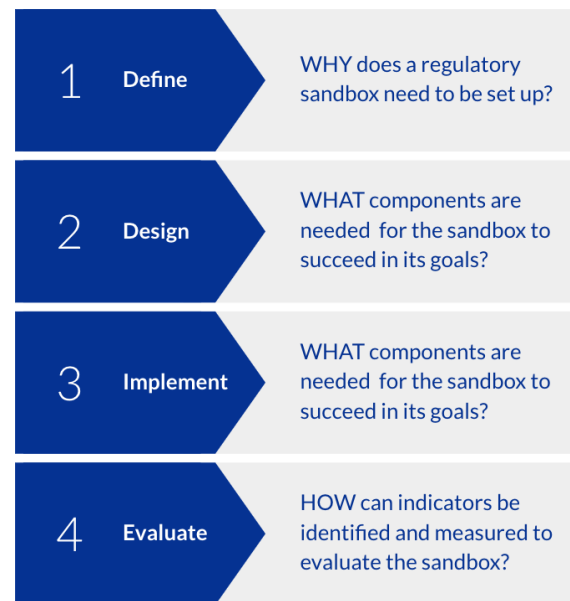
What is a Regulatory Sandbox?

A regulatory sandbox is a regulatory approach that allows live, time-bound testing of

innovations under a regulator's oversight. New digital products, technologies, and business models can be tested under a set of rules, supervision requirements, and appropriate safeguards.

In order to maximize the intended impacts of regulatory sandboxes, the objectives, design elements, and evaluation criteria must be carefully considered by all stakeholders involved. This can be divided into four main phases: Define, Design, Implement, and Evaluate.³

Figure 4: A four-step framework for stepping up an effective regulatory sandbox



Access to Finance for CMSMEs in Bangladesh Landscape Assessment

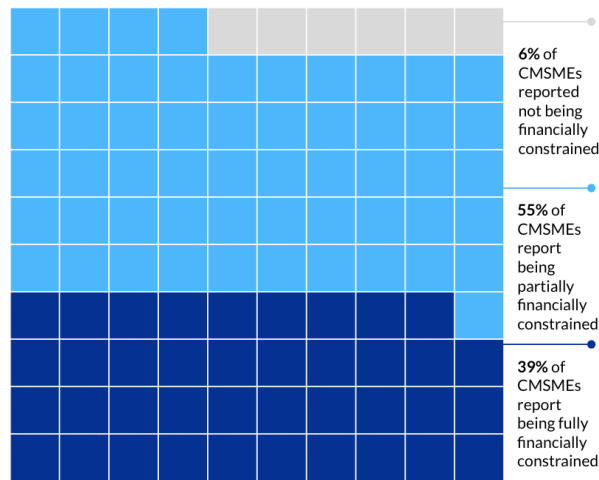
Access to finance is one of the major hurdles faced by CMSMEs in Bangladesh. While CMSMEs have always grappled with limited access to finance, this has been exacerbated further by the COVID-19 pandemic.

In 2017, CMSMEs in Bangladesh faced a USD 2.80 Bn financial gap compared to the rest of South Asia. The constraints were faced disproportionately by women and marginalized groups, with a USD 780 Mn gap in the finance

³ CGAP. 2020. How to Build a Regulatory Sandbox.

among women-owned CMSMEs in Bangladesh in 2016.⁴

Figure 5: Breakdown of CMSMEs facing financial constraints



Source: World Bank, 2019. *Financing Solutions For Micro, Small And Medium Enterprises In Bangladesh*

CMSMEs' challenges in access to finance are owed to extensive documentation requirements, limited scope of financial instruments, and low financial and digital literacy:

- Formalized methods of accessing finances are often riddled with paperwork and licenses, which is absent or too expensive for most CMSMEs.
- Traditional financial instruments take limited account of the specific needs and affordability of CMSMEs.
- Low financial and digital literacy leads to improper fund management by CMSMEs.

Potential for improvement in this area lies in increased digitization, improved information on CMSMEs, and alternative financing methods:

- The adoption of digitized payment systems and the growing outreach of mobile money holds promises in expanding access to finance to CMSMEs.

- Greater access to information of CMSMEs can reduce the cost of lending to them for banks and financial institutions.⁵
- Alternative financing can provide more efficient methods to finance CMSMEs.⁶

Regulatory Sandbox Potential: Unique Business Identification (UBID)

Documentation is recognized as one of the largest challenges for CMSMEs' access to finance. Currently, there are 33 business documents required for an entrepreneur in Bangladesh to register their company.⁷ Moreover, many of these documents also need to be updated on an annual basis.

A Unique Business Identification Number (UBID) can simplify the documentation process.

A UBID would serve as a singular identification number which can be used for a variety of business purposes. The objective of this is to simplify the process of formalization for CMSMEs and reduce the number of documents needed. A UBID can significantly reduce the strains of documentation requirements for CMSMEs and provide them with greater opportunities for access to formal forms of financing.

The UBID must replace existing document requirements in order to be effective.

The UBID must replace a significant number of existing license and registration numbers required for formalization, and be valid for a considerable period of time to mitigate complications and expenses for CMSMEs. By replacing at least a significant portion of the currently required registration and license numbers, with a reasonable period of validity, efficiency and affordability can be ensured.

⁴ World Bank, 2017

⁵ Asian Development Bank, 2009

⁶ OECD, 2018

⁷ Bangladesh Bank, 2022

► UNDESA Policy Brief

DA2124B: Frontier Technology Policy Experimentation and Regulatory Sandboxes in Asia and the Pacific

Infrastructural development is crucial for implementation.

The UBID needs to be complemented with infrastructural developments and capacity building support to CMSMEs. CMSMEs require infrastructural support in order to fully utilize a UBID model. The implementation of a UBID model would also require policymakers to train CMSMEs in digital literacy in order to facilitate their onboarding onto the platform.

The adoption of UBID and the improvement of CMSMEs' access to finance are both important.

Alongside measuring the user penetration of UBID, the financial inclusion of CMSMEs by measuring the total number and average volume of loan disbursement to CMSMEs by financial institutions.

Regulatory Sandbox Potential: Central Know-Your-Customer (CKYC) and Central Database

Know-Your-Customer (KYC) is used as a mandatory check by banks, financial institutions, and other financial service providers, for identifying and verifying the customer's identity. Without a central repository for KYC, customers must go through this process each time they try to avail financial services from different sources. For CMSMEs, this is particularly burdensome as it increases the costs of accessing formal funds. Banks and financial institutions are also hesitant to lend to CMSMEs if the necessary information is missing, and the process of obtaining and verifying the necessary information imposes high costs, leading to an absence of credit records.

A Central Know-Your-Customer (CKYC) can allow multiple stakeholders to maintain data in a central database.

Central Know-Your-Customer (CKYC) implies that a transaction with any one of these institutions will create their KYC which will be available to all other institutions as well. This reduces the time and cost of other institutions to collect and verify the same information each

time a customer tries to avail financial services at different institutions. Moreover, a central database maintained with telcos, microfinance institutions, mobile financial service providers, non-banking financial institutions (NBFIs), and banks can significantly reduce this gap and allow for seamless verification of customer identity across a wide range of financial institutions.

A central database can add value as a consolidation of existing databases.

Major fintech players or financial institutions who already have a large database of CMSMEs must be incentivized to collaborate in a central repository. This can reduce both the time and costs associated with a centralized database.

Strengthening the regulatory framework for data privacy and sharing is key.

Data protection laws are needed to protect CMSMEs' information from being misused. As CMSMEs' understanding of data privacy and sharing is limited, gaining consent on data sharing can prove particularly difficult. Legal gaps also pose challenges in the proper protection of customer information in a central database and can disincentivize companies from using the CKYC database in the absence of streamlined regulatory definitions. A proper implication of a centralized database is crucial to encouraging collaboration among stakeholders.

CMSMEs require infrastructural support to fully utilize a CKYC and central database model.

Many CMSMEs lack a basic understanding of KYC due to low levels of financial and digital literacy. The traditional process of onboarding to a KYC could hence create a platform that lacks transparency and presents more complications for CMSMEs. Thus, infrastructural support is needed to enable CMSMEs to fully utilize this model.

The evaluation of a CKYC and central database sandbox needs a holistic approach.

► UNDESA Policy Brief

DA2124B: Frontier Technology Policy Experimentation and Regulatory Sandboxes in Asia and the Pacific

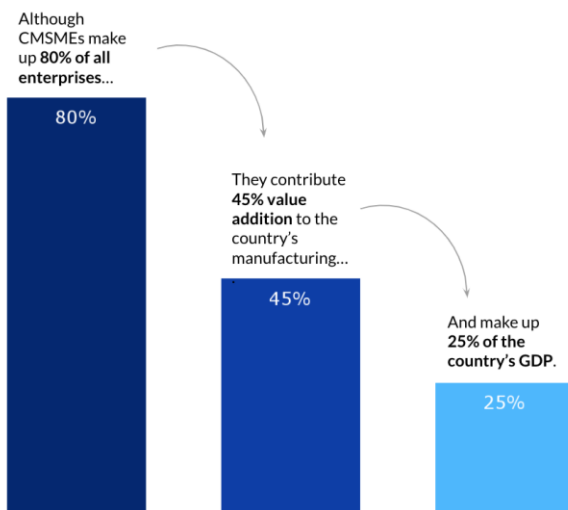
Indicators which can be used to evaluate the sandbox include loan disbursement to CMSMEs, the number of CMSMEs with CKYC in the credit database, the number of banks and NBFIs adapting the CKYC and central credit database model, and the change in perspectives of banks and NBFIs on the credit-worthiness of CMSMEs.

Access to Market for CMSMEs in Bangladesh

Landscape Assessment

Access to market refers to enterprises' capacity to sell goods and services to a broad market, comprising both the domestic and foreign market. Despite their significance in the economy, CMSMEs are still limited in reaching their target markets.

Figure 6: Disparities in CMSMEs share of enterprises and contributions to GDP



Source: Bangladesh Bank, Dhaka Chamber of Commerce and Industry (DCCI)

Market access for CMSMEs is limited by a number of factors, including low access to information for CMSMEs, weak developments of business support services, and an absence of a national program to guide CMSMEs for business expansion:

- Limited access to information creates vulnerabilities for CMSMEs.

- Access to business intermediary and development services is still inadequate, especially for rural CMSMEs.
- There is an absence of a national program to guide CMSMEs for accessing and exploring the export market.

Access to market by CMSMEs has a number of opportunities for enhancement. In particular, digitization, cluster-based training programs, and infrastructural developments have an enormous scope to develop and improve market access for CMSMEs:

- Digitization stands as an essential ingredient in helping CMSMEs tackle access to market.
- Cluster-based schemes can help support new and existing entrepreneurs expand their business through industry-specific expertise.
- Infrastructural developments can go a long way in developing CMSMEs' capacities for growth.

Regulatory Sandbox Potential: Open Network For Digital Commerce (ONDC) Model

CMSMEs face a number of challenges arising from limited digitization and weak infrastructure. Inadequate levels of digital literacy, low levels of formalization, and limited access to information create a vulnerable position for CMSMEs in the market. Furthermore, uneven infrastructural development across urban and rural areas in the country lead to rural CMSMEs in particular struggling with the capacity to access a greater market.

An Open Network For Digital Commerce (ONDC) Model can democratize e-commerce.

An ONDC model can provide a platform for CMSMEs to offer their products and services to a wider market beyond their physical presence and facilitate the digitalization of a platform for a greater market reach of CMSMEs of all sizes.

► UNDESA Policy Brief

DA2124B: Frontier Technology Policy Experimentation and Regulatory Sandboxes in Asia and the Pacific

Through the ONDC, merchants across a variety of sectors can be discovered and engaged by any application with a mobile network and internet. Merchants will also be able to save their data and build credit history and reach a greater number of customers. With proper implementation, this network will be able to create a level playing field for CMSMEs to gain market access against e-commerce giants in the market.

A public-private partnership can be the most effective way to implement an ONDC model.

Through a public-private partnership, the ONDC model can promote CMSMEs for greater access to market, as this can ensure little market disruption for existing players in the nascent e-commerce landscape in the country while enhancing CMSMEs' market access.

The quality of products and services provided by CMSMEs must be ensured to build consumer trust and loyalty.

Standardization of products offered through the ONDC is required through a quality assurance unit as well as selection criteria of CMSMEs, to ensure trust and reliability among customers. Policy frameworks should be mindful that new interventions do not stifle the growth of existing e-commerce platforms in the country.

The platform needs to be mindful of CMSMEs' logistical and negotiating challenges.

The framework for an ONDC needs to be mindful of the limited negotiating power of CMSMEs. Furthermore, the locality of CMSMEs needs to be taken into account, to ensure that middlemen who are necessary in logistical support for CMSMEs are not disrupted.

The outcome is crucial for both CMSMEs and existing e-commerce platforms in the market.

The market reach of CMSMEs can be evaluated by both the number of CMSMEs on the platform, and the number of sales by CMSMEs through the platform. Furthermore, low levels of disruption for existing e-commerce platforms can be ensured by monitoring the changes in sales of e-commerce platforms due to CMSMEs.

Recommendations

CMSMEs in Bangladesh have received increasing levels of attention for their enhancement by private and public sectors, particularly since the COVID-19 pandemic. Access to finance and access to market remains two of the most challenging scopes for CMSMEs in the country. As such, regulatory sandboxes have the scope to mobilize innovations in technology to facilitate CMSMEs in both of these areas.

The key learnings are as follows:

- The development of a regulatory sandbox requires a heavy amount of **open communication and engagement between all of the stakeholders** in the area of focus.
- The initial concept of the sandbox requires further verification from stakeholders to ensure that **all risks and assumptions are addressed** in the design of the sandbox.
- Proper implementation of a regulatory sandbox needs a **single implementer for full accountability and a singular point of contact** for all stakeholders. Involving several stakeholders as implementers can dilute accountability and result in unmet expectations in the implementation of the sandbox.

Table 1: Synthesis of recommendations, corresponding core provisions and expected outcomes

Regulatory Sandbox Potential	Core Provisions	Expected Outcomes	Timeframe
<p>R1: Replace existing documentation and identification numbers with a singular Unique Business Identification (UBID)</p>	<ul style="list-style-type: none"> ■ The UBID needs to be complemented with infrastructural developments and capacity-building support to CMSMEs. ■ The UBID must replace a significant number of existing license and registration numbers required for formalization. ■ The UBID should be valid for a considerable period of time to mitigate complications and expenses for CMSMEs. 	<ul style="list-style-type: none"> ■ Increase in the number and volume of loans disbursed to CMSMEs through banks, NBFIs, and microfinance institutions (MFIs). ■ Significant user penetration of the UBID, gauged by the number of registered users. 	<p>Medium term</p>
<p>R2: Create a centralized repository of information of CMSMEs through a Central Know-Your-Customer (CKYC) and Central Credit Database</p>	<ul style="list-style-type: none"> ■ A central database would add more value if, instead of being created as a new database, it is approached as a consolidation of existing databases. ■ Strengthening the regulatory framework for data privacy and sharing is key to incentivizing fintechs and financial institutions to partake in this collaborative effort. ■ CMSMEs require infrastructural support for enhanced capacities in digital and financial literacy, in order to fully utilize a CKYC and central database model. 	<ul style="list-style-type: none"> ■ Improved credit history and basic information on CMSMEs available to banks and NBFIs. ■ Increase in formal lending to CMSMEs. ■ Significant number of CMSMEs registered to the central credit database. 	<p>Long term</p>
<p>R3: Democratize access to market for small-scale businesses through the Open Network for Digital Commerce (ONDC) Platform</p>	<ul style="list-style-type: none"> ■ A public-private partnership can be the most effective way to implement an ONDC model to promote CMSMEs for greater access to market, as this can ensure both little market disruption for existing players in the nascent e-commerce landscape in the country, while enhancing CMSMEs' market access. ■ The quality of products and services provided by CMSMEs must be ensured to build consumer trust and loyalty. This requires selection criteria for CMSMEs which can be onboarded to the platform, as well as a quality assurance unit. ■ Promoting CMSMEs through a platform needs to be mindful of the logistical challenges faced by CMSMEs in catering products and services outside of their locality, and thus needs to be paired with interventions to develop the logistical infrastructure as well. 	<ul style="list-style-type: none"> ■ Improvement in the market access of CMSMEs, gauged by the number of CMSMEs registered on the platform and their sales numbers and volume. ■ Standardization of products and services provided by CMSMEs 	<p>Long term</p>

► UNDESA Policy Brief

DA2124B: Frontier Technology Policy Experimentation and Regulatory Sandboxes in Asia and the Pacific

About the Department of Economic and Social Affairs

The Department of Economic and Social Affairs of the United Nations Secretariat is a vital interface between global policies in the economic, social, and environmental spheres and national action. The Department works in three main interlinked areas: (i) it compiles, generates, and analyzes a wide range of economic, social, and environmental data and information on which States Members of the United Nations draw to review common problems and to take stock of policy options; (ii) it facilitates the negotiations of Member States in many intergovernmental bodies on a joint course of action to address ongoing or emerging global challenges; and (iii) it advises interested Governments on the ways and means of translating policy frameworks developed in United Nations conferences and summits into programs at the country level and, through technical assistance, helps build national capacities.

About LightCastle Partners

At LightCastle, we take a data-driven approach to creating opportunities for growth and impact. We consult and collaborate with development partners, public sector and private organizations to promote inclusive economic growth that positively changes the lives of people at scale. Our services include Management Consulting, Entrepreneurship Ecosystem & Investments, Market Entry Advisory and Digital Transformation. Till date, LightCastle Partners has consulted for 150+ development partners & private organizations on 250 + projects, collaborated with 500+ SMEs & startups, mobilized USD 150 million+ in investments and supported 40+ accelerator/ incubator programs across Bangladesh. LightCastle also hosts the largest market and industry datasets in Bangladesh across 30+ industries.

Authors and Editors

- **Wai Min Kwok**, Senior Governance and Public Administration Officer, United Nations
- **Bijon Islam**, CEO and Co-Founder, LightCastle Partners
- **Fariha Kabir**, Business Consultant, LightCastle Partners
- **Raidah Morshed**, Business Analyst, LightCastle Partners