UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

Towards an E-commerce Strategy for **Rwanda**

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NOTE

Within the United Nations Conference on Trade and Development (UNCTAD) Division on Technology and Logistics, the E-Commerce and Digital Economy Branch conducts analytical work on the development implications of information and communication technologies (ICTs), e-commerce and the digital economy. It is responsible for the preparation of the Digital Economy Report as well as thematic studies on ICT for Development.

This report was developed in partnership with the Ministry of Trade and Industry (MINICOM) of Rwanda. The Branch promotes international dialogue on ICT for development issues. It contributes to strengthening the capacities of developing countries to measure the digital economy and to design and implement relevant policies and legal frameworks. It also monitors the overall state of e-commerce legislation (https://unctad.org/page/cyberlaw-tracker-country-detail). Since 2016, the Branch has been coordinating a multi-stakeholder initiative called eTrade for all (https://etradeforall.org/), which aims to improve the capacity of developing countries, in particular the least developed countries (LDCs), to harness e-commerce. The initiative is also behind the eTrade Readiness Assessments, which are based on the seven policy areas of the initiative, and of the eTrade for Women programme, launched in 2019, which aims to promote a more inclusive digital economy, in particular through its network of Advocates. These women digital entrepreneurs are active in all developing regions, and contribute to capacity-building, mentoring and awareness-raising activities for more inclusive policies of this kind.

The following typographical signs were used in the tables:

• Two dots (..) mean that data are not available or are not provided separately. In the event that no data were available for all the elements composing a row of an array, they were omitted;

• A dash (-) means that the element under consideration is zero or that its value is negligible.

Unless otherwise stated, the term “dollar” means the dollar of the United States of America.

Due to rounding, the figures and percentages in the tables do not necessarily add up to the totals shown.

PREFACE

E-commerce has been known primarily for its ability to serve as a new distribution channel with lower barriers of access to markets that can empower entrepreneurs and enterprises. With its rapid expansion in many developing countries, e-commerce has also shown that it can play an important role in growing trade and industry, boosting productive capacity and facilitating integration into global value and supply chains.

UNCTAD aims to enhance the capacities of developing countries to harness the evolving digital economy for more inclusive development. Our E-commerce and Digital Economy Programme has a mandate to assist developing countries to enhance their readiness to engage in e-commerce in a beneficial manner and integrate into the global digital economy.

In this context, UNCTAD provides support in formulating national and regional e-commerce strategies through comprehensive diagnostics, policy advice and customized strategy development. The following strategy document is the outcome of a long-standing partnership with the Government of Rwanda aimed at boosting e-commerce in the country. Rwanda has consistently demonstrated its ability to support economic growth through instigating reforms supporting businesses, including online ones, and leveraging on technological progress for engaging more actively in regional and international trade.

The National E-commerce Strategy of Rwanda, which follows the Rwanda E-commerce Policy, marks an important milestone in strengthening the policy framework for e-commerce in Rwanda.

On behalf of UNCTAD, I would like to express our appreciation for the excellent collaboration with the Ministry of Trade and Industry (MINICOM) and key national stakeholders on the strategy. The strategy development has also benefitted from cooperation with many development partners, including the Foreign, Commonwealth & Development Office (FCDO) of the United Kingdom, the Gesellschaft für Internationale Zusammenarbeit (GIZ) of Germany, the International Trade Center (ITC) and the United Nations Commission on International Trade Law (UNCITRAL). I hope that these joint efforts will bring forth the e-commerce potential for Rwanda, and accelerate sustainable economic growth and inclusive prosperity.

Shamika N. Sirimanne
Director, Division on Technology and Logistics, UNCTAD

FOREWORD

I am honored to present to you a report on the development of a National E-commerce Strategy of Rwanda (ECOM) in the context of the broader Rwanda E-commerce Policy. These policy developments complement Rwanda's Strategy for Digital Transformation of Trade, Industry and Commerce (ICT4COM), which aligns the trade and industry sector towards the aspirations of the Smart Rwanda Master Plan.

E-commerce growth is a unique opportunity to open access to international and local markets for our small and medium-sized enterprises. E-commerce represents a key enabler of their capacity to export. It must be leveraged on to strengthen the private sector's contribution to national growth. Rwandan companies similarly need to improve their online capabilities to be able to rapidly respond to changing consumer preferences.

MINICOM has a vision to achieve accelerated and sustained economic growth by harnessing the opportunities created by digitalization, not least in the context of electronic commerce. The ECOM Strategy highlights existing barriers to effective harnessing of e-commerce in Rwanda and charts a way to overcoming these barriers with a view to contributing towards inclusive and sustainable economic and social development.

This ECOM Strategy will serve as the main implementation tool for the Rwanda E-commerce policy developed by the Government of Rwanda. Building on areas prioritized in the policy, the strategy provides recommendations and an action plan for the development and use of e-commerce in Rwanda, covering initiatives in both the public and private sectors. It is based on a desk review of relevant sources of information to determine the underlying factors or focus areas for e-commerce that affect its development and use, interviews and seminars with stakeholders, and a recently conducted situational analysis that provided a panoramic view of the e-commerce ecosystem in Rwanda. Preliminary versions of the ECOM Strategy were presented in a series of multi-stakeholder workshops, which helped to formulate a high-level vision of e-commerce for five years of implementation and associated strategy mission statement, review the proposed overarching goals and measures and link them to ongoing or proposed projects and initiatives for the development of e-commerce.

The elaboration of the ECOM Strategy relied on a highly participatory and consultative process involving major stakeholders, including high level trade and industry sector actors.

Let me take this opportunity to recognize the contribution of key stakeholders in the sector, particularly MINICT, RISA, RDB, BNR, RSB, RURA, NIRDA, iPOSITA and PSF ICT Chamber, which have closely worked with MINICOM and UNCTAD to formulate this strategy. Valuable inputs were also received from GIZ and the ITC. I would like to extend my special appreciation to the E-commerce and Digital Economy Branch at UNCTAD for continued support in the development of the ECOM Strategy.

Financial support from the United Kingdom's Department for International Development, subsequently replaced by the Foreign, Commonwealth & Development Office, for the development of this Strategy is gratefully acknowledged.

Thank you.

Dr. Jean Chrysostome NGABITSINZE

Minister of Trade and Industry

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This publication was prepared, under the direct supervision of Cécile Barayre-El Shami and with the overall guidance of Torbjörn Fredriksson of the UNCTAD Division on Technology and Logistics, by a team comprising Monica Kerretts-Makau, David Hughes, Scarlett Fondeur Gil, Iris Maculi, Martine Julsaint Kidane, Rishab Raturi, and Ina Hodge.

The technical support and coordination at MINICOM were critical for the success of this publication. UNCTAD would like to acknowledge the key role of the MINICOM team. In addition, UNCTAD appreciates the inputs of the Ministry of ICT and Innovation (MINICT), the Rwanda Information Society Authority (RISA), the Rwanda Development Board (RDB), the Rwanda Standards Board (RSB), the Rwanda Utilities Regulatory Authority (RURA), and the National Industrial Research and Development Agency (NIRDA).

UNCTAD warmly thanks GIZ and ITC for their review of this publication. Relevant comments on various parts of the report were made also by representatives of several divisions of UNCTAD and UNCITRAL.

While the cover page was prepared by Magali Denise Studer, the overall layout, graphics and desktop publishing were undertaken by Natalia Stepanova. The publication was edited by Nancy Lynn Biersteker.

Finally, UNCTAD would like to thank the FCDO of the United Kingdom for its financial support.

ABBREVIATION AND ACRONYMS

AfCFTA	African Continental Free Trade Area
B2B	Business-to-Business
B2C	Business-to-Consumer
B2G	Business-to-Government
BNR	National Bank of Rwanda
C2C	Consumer-to-Consumer
CoD	Cash-on-Delivery
COMESA	Common Market for Eastern and Southern Africa
EAC	East African Community
EBM	Electronic Billing Machine
ECOM	Electronic Commerce
EDPRS	Economic Development and Poverty Reduction Strategy
EIF	Enhanced Integrated Framework
EV	Extended Validity
GIZ	Gesellschaft für Internationale Zusammenarbeit
HIC	High-Income Country
ICT	Information and Communications Technology
ICT4COM	Strategy for Digital Transformation of Trade, Industry and Commerce
IGC	International Growth Centre
IoT	Internet of Things
MIC	Middle-Income Country
MINICOM	Ministry of Trade and Industry
MSME	Micro, small and medium-sized enterprises
NCSA	National Cyber Security Authority
NGO	Non-Governmental Organizations
NICI	National Information and Communication Infrastructure
NPS	National Payment Systems Law
NST1	National Strategy for Transformation
PPP	Public Private Partnerships
RDB	Rwanda Development Board
RISA	Rwanda Information Society Authority
RNPS	Rwanda National Payment System
RURA	Rwanda Utilities Regulatory Authority
SACCO	Savings and Credit Cooperative Organization
SDGs	Sustainable Development Goals
SDM	Single Digital Market for East Africa
SRMP	SMART Rwanda Master Plan
SSP	Sector Strategic Plan
TMEA	TradeMark East Africa
UNCTAD	United Nations Conference on Trade and Development
US$	United States Dollar
WCO	World Customs Organization

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INTRODUCTION

E-commerce is expanding rapidly in Rwanda, presenting an important opportunity for accessing untapped regional and global markets, creating jobs and improving living standards. To harness and promote its potential for development, the Government of Rwanda has embarked upon developing a policy and institutional framework for a unifying 'whole of government' approach on e-commerce, within the broader digital economy agenda through the elaboration of an e-commerce policy and its supporting implementing strategy.

The vision of the E-commerce Policy is to transform Rwanda into a regional e-commerce hub on the strength of its technology, payments and logistics infrastructure and human capital; a hub accelerating innovation, boosting regional and international trade and supporting all sectors of Rwanda's economy and both urban and rural communities to create jobs, increase personal income and improve living standards.

The mission statement of the Rwanda E-commerce Policy is to build a robust, safe and enabling e-commerce ecosystem for socio-economic transformation, with objectives:

1. To lay out the framework under which e-commerce will be developed in Rwanda and create a unifying 'whole of government' approach on e-commerce within the broader digital economy agenda.
2. To accelerate, mobilize and strengthen the effectiveness of available resources and efforts among stakeholders to harness the power of e-commerce for economic growth and socio-economic development.
3. To define the national institutional e-commerce framework to create ownership and enhance coordination of the e-commerce agenda at the national level.
4. To empower policymakers to take adequate action and to prioritize resources and make it easier to integrate e-commerce into the national development plans and sectoral plans in trade, ICT, education, health, agriculture, tourism and financial services and other relevant sectors.
5. To lay the ground for the private sector to drive the e-commerce agenda with the government as a catalyst to accelerate growth.

Nine high-level policy priority areas regarding e-commerce are identified:

Policy Area 1: Awareness, Capacity Building & Skills Development

Policy Area 2: ICT Infrastructure & Services

Policy Area 3: E-commerce Platforms

Policy Area 4: Financial Services & Digital Payment Solutions

Policy Area 5: Logistics Infrastructure/Transport & Logistics

Policy Area 6: Trade Facilitation

Policy Area 7: Legal & Regulatory Frameworks

Policy Area 8: Entrepreneurship, Innovation & Access to Finance

Policy Area 9: Data

Following on this, the ECOM Strategy, presented in this publication, aims to facilitate and support the implementation of the policy. It translates the policy areas* into actionable strategic initiatives and provides a detailed framework for governance, implementation, as well as monitoring and evaluation.

** The policy areas are fully aligned between the policy and strategy.*

The ECOM Strategy aims to bring Rwanda towards a sustained and inclusive development path through digitalization and e-commerce and contribute to its overall ambition to become an upper middle-income country by 2035. Notably, the ECOM Strategy aligns with guiding development and sectoral policies that steer Rwanda's ambition in the ICT sector, including the Smart Rwanda Master Plan, National Strategy for Transformation, and the Strategy for Digital Transformation of Trade, Industry and Commerce (ICT4COM). The document is organized as follows:

Chapter 1 provides a situational analysis of the readiness of the country to engage in e-commerce. It also discusses the alignment of the ECOM Strategy with other sectoral and national development plans.

Chapter 2 presents the Strategic framework – reproducing the vision, mission statement, and overarching goals, and specific outcomes of the E-commerce Policy.

Chapter 3 presents the strategic initiatives associated witih each priority area, in line with the goals and outcomes.

Chapter 4 provides the Governance framework.

Chapter 5 provides the Implementation and Monitoring and Evaluation frameworks, including a risk mitigation analysis.

While the strategy provides the main aspects for implementation, as well as monitoring and evaluation, it should be considered a living document. Specific sections may need to be adjusted to ongoing developments under the guidance of the National E-commerce Council.

1. SITUATION ANALYSIS

1.1 The growing importance of e-commerce for development

Over the past two decades, the world has gone increasingly digital. Information and communications technologies (ICTs) have become a powerful and transformative tool for businesses and households, prompting social progress and helping to narrow down the divide across regions and countries. The opportunities for leveraging digital technologies are immense. They allow people to better connect and trade online, and businesses to access larger markets and global value chains while overcoming costly intermediaries. In this new digital revolution, e-commerce (Box 1.1) has become an essential and complementary part of traditional trade. Electronic commerce can improve the productivity of micro, small and medium-sized enterprises (MSMEs) and support agricultural and industrial development. In more recent years, e-commerce has helped to diversify and transform countries' economies and improve export competitiveness. Today more and more people move, connect and buy online. According to UNCTAD's latest estimates, global e-commerce sales in 2019 amounted to US$ 26.7 trillion, up by 4 per cent from the previous year.

The recent COVID-19 pandemic has demonstrated the importance of digital technologies and e-commerce to sustain economic activities and trade, especially of essential goods. The disruption of supply chains and closure of borders have greatly affected the populations of developing countries, particularly rural areas, where access to markets is more challenging. With restrictions of travel and movement enforced all around the world, e-commerce and digital solutions have become critical to reduce the risk of infections by minimizing face to face interactions. E-commerce has also helped to preserve jobs during the crisis and has underscored the importance of staying connected.

The crisis has, at the same time, underlined the urgency to close the digital divide. While half of the world has limited or no connection to the Internet, in LDCs only one in five people use the Internet (UNCTAD, 2019). Women are particularly poorly connected, along with informal workers. Lack of Internet access has a strong bearing on everyday activities, and during the recent lockdown, it has affected the possibility for workers and students to carry on distance learning and teleworking.

Box 1.1. What is e-commerce?

In this strategy, e-commerce refers to the sale or purchase of goods or services, wholly or partly by means of an electronic network, including the Internet, mobile (m-commerce) and social networks, with or without electronic payment (cash delivery), delivered electronically or physically.

This strategy distinguishes between the following types of e-commerce.

Business-to-business (B2B): Transactions between businesses, such as between a manufacturer and a wholesaler, or between a wholesaler and a retailer. B2B transactions may take place through an electronic procurement (e-procurement) system operated by the buyer, electronic data interchange, the supplier's website or through an electronic marketplace.

Business-to-consumer (B2C): Sales between businesses and consumers via a marketplace, a supplier's website, social networks, crowd sourcing platforms or via mobile telephone-based applications (e.g., that use SMS ordering or voice recognition). B2 micro businesses sales would be included within this category.

Consumer-to-consumer (C2C): Sales between consumers in a manner like classified advertisements on social networks, classified advertising sites such as Craigslist, Gumtree and OLX, or using an electronic auctioning service such as eBay. Micro-businesses to micro businesses would use similar platforms.

Business-to-government (B2G): Sales to government in a manner similar to that for B2B.

Source: UNCTAD

1.2 Contributions of e-commerce to the Sustainable Development Goals

Digitalization has a powerful developmental impact and will affect the achievement of the sustainable development goals (SDGs). E-commerce can have a direct effect on the reduction of poverty (SDG 1) through improved access to markets by low-income communities using relatively low-cost technology. Digital solutions, when available, enable them to access financial services and make payments without time consuming and costly journeys. E-commerce can relieve economic isolation and help local firms participate in the wider economy. E-commerce can therefore contribute to reducing the levels of poverty and inequality (SDG 10), and indirectly lead to improvements in health and education (SDG 3 and 4). E-commerce can also economically empower women entrepreneurs and contribute to gender equality (SDG 5) by giving them access to markets that would otherwise be hard to reach because of distance or cultural reasons, thus contributing to more inclusive and equitable development.

The opportunities arising from e-commerce can lead to the creation of new jobs (SDG 8), by increasing the levels of economic productivity, access to financial services related to ICT and the formalization of MSMEs. This can be reflected in higher remuneration and better working conditions. In some markets, however, e-commerce can have the opposite effect, by consolidating sectors into a small number of large suppliers or replacing higher value jobs with lower value jobs. It is therefore important to ensure that the benefits of e-commerce give rise to decently paid work for many. E-commerce can also expand access to infrastructure and technology and encourages the vast majority to use the Internet (SDG 9). It can expand the use of digital solutions for the integration of African countries into the international value chains. Finally, e-commerce can support regional integration by enabling e-commerce shipments to neighboring countries and encourages access to information (SDG 10) as well as public-private partnerships and increased exports from African countries (SDG 17).

1.3 Potential benefits of leveraging e-commerce in Rwanda

The economic benefits of e-commerce differ significantly from country to country.

For entrepreneurs and small businesses, e-commerce represents an attractive option, as it can boost business growth through:

New opportunities for sellers to meet buyers due to the flexibilities created by the technology: e-commerce creates new business opportunities that ultimately lead to job creation, including for women entrepreneurs, thereby contributing to their financial independence and gender equality.

Expanded market reach: e-commerce can allow companies to sell to anyone, anywhere in the world, thus expanding access to international markets and reducing the need for intermediaries.

Better consumer convenience: an online store stays open 24 hours a day, seven days a week, 365 days a year.

Lower sales costs: e-commerce companies can benefit from lower operating and fixed costs that enhance overall competitiveness, particularly as compared to that of bricks-and-mortar retail stores.

More efficient inventory management: inventory management can be automated using online e-tools and third-party vendors.

Targeted marketing: online merchants can benefit from access to consumer data to ensure they are targeting the right people for their products.

Location independence: with access to a laptop and an Internet connection, a small business can in principle manage an e-commerce business from any location.

To secure such benefits for the private sector in Rwanda, it is essential to create an ecosystem that is conducive to e-commerce. That is the objective of this ECOM Strategy.

1.4 Links to National Strategic Plans of Rwanda

The ECOM Strategy is developed with the objective of supporting Rwanda's economic growth, employment and trade, as well as contributing to its overall aspiration to become an upper middle-income country by 2035 and higher income by 2050. This ECOM Strategy is the result of a participatory stakeholder consultation process led by MINICOM, which included interviews and seminars as well as desk review of relevant sources to determine the current situation in Rwanda for e-commerce and the underlying factors or focus areas, that impact on its development and use. It provides the implementation framework for the Rwanda E-Commerce Policy.

The ECOM Strategy aligns itself with the main implementation tool of the Vision 2050, i.e., the National Strategy for Transformation (NST1) (see Figure 1.1). NST1 integrates broader, long-term global and regional commitments by embracing the SDGs, the African Union Agenda 2063 and the East African Community Vision 2050. Three of the specific objectives of the NST1, which the Rwanda ECOM Strategy will directly contribute to, are:

1. The creation of decent jobs for economic development and poverty reduction,

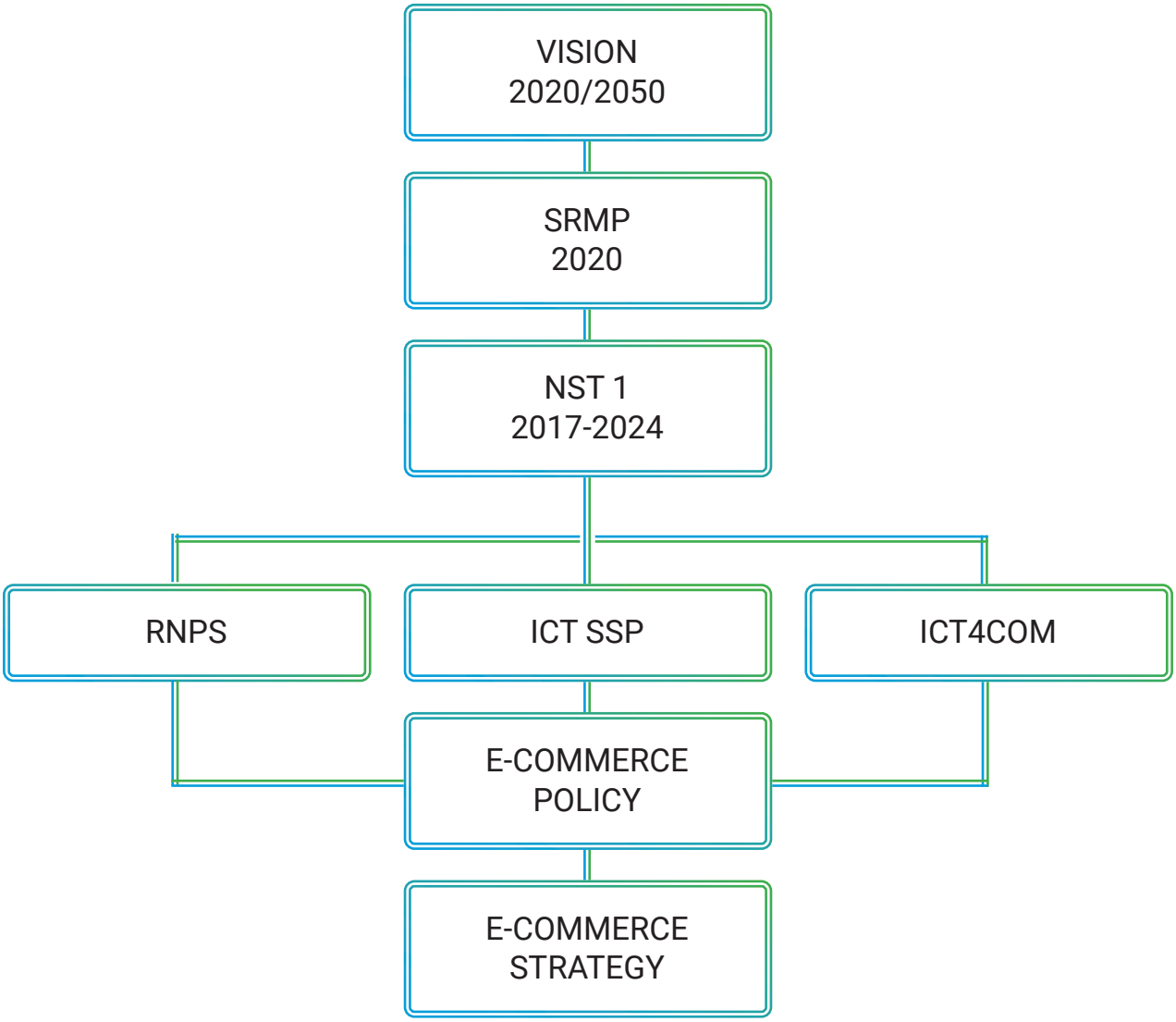
2. The development and promotion of a service-led and knowledge-based economy, and

3. The strengthening of the capacity, services delivery and accountability of public institutions.

Because the NST1 is itself implemented through Sector Strategic Plans (SSPs), the ECOM Strategy also aligns itself with the SMART Rwanda Master Plan (SRMP). The SRMP was developed taking account of earlier policies and strategies including Vision 2020, Economic Development and Poverty Reduction Strategies (EDPRS), National Information Communication Infrastructure (NICI) Plans, the SMART Africa Manifesto and the 7-Year Government Programme. SMART Rwanda is intended to provide economic transformation - creating new jobs and increasing productivity - and to achieve accountable governance.

The Government's Strategy for Digital Transformation of Trade, Industry and Commerce (referred to as ICT4COM), is a comprehensive strategy which seeks to enhance trade, commerce and industry through digital innovations vital for transforming the behavior of sector actors, including by promoting the expansion of e-commerce and the Internet of Things (IoT). The ECOM Strategy supports SMART Rwanda and the ICT4COM strategies through initiatives specifically targeted at promoting e-commerce and more specifically B2B, B2C and C2C. For example, whereas the NST1 focusses on digital literacy broadly, the ECOM strategy promotes skills and knowledge necessary to introduce e-commerce into a business and to raise the understanding among Rwanda's general population of the opportunities and benefits from e-commerce.

Figure 1.1: Overarching framework for the National ECOM Strategy



In order to avoid duplication, the ECOM Strategy will refer to the relevant elements of the E-commerce Policy, which this strategy elaborates upon. This Strategy cross-references sectoral strategies under the SRMP (for e.g., ICT4Ag) or plans (for e.g., Financial Sector Development Strategic Plan, 2018-2024) that include elements of e-commerce measures.

In this context, the ECOM Strategy supports the SMART Rwanda objectives in the following areas.

Agriculture, with e-commerce providing better access to markets by household farmers, cooperatives and other large commercial farms, leading to greater productivity, increased production and improved producer pricing. Strategic e-commerce initiatives will also support the purchase of agricultural inputs from a wider selection of suppliers, potentially contributing to lower prices and better access to such inputs by farmers.

Basic financial infrastructure, transaction systems and security systems, promoting the use of electronic payments of all kinds.

ICT skills and innovation capacity, by supporting the development of expertise in e-commerce related applications and IT services.

Empowerment of women and youth. As e-commerce initiatives cover sectors such as agriculture and handicrafts where women take a leading role, as well as innovative ICT projects in e-commerce with particular emphasis on youth.

Reference should also be made to the Rwanda National Payment System (RNPS) Strategy 2018-2024, which aims to "build a cashless Rwanda through a world-class payment system that [...] promotes financial inclusion".1 The RNPS Strategy specifies a number of sub-strategies with accompanying action steps for delivering the strategic mission.

The ECOM Strategy also relates to a number of e-commerce initiatives led by international partners, such as: a) "Rwanda: Enabling the future of e-commerce" implemented by GIZ and b) Enhancing Trade Competitiveness through e-commerce in Rwanda, a project run by MINICOM with financial support of the EIF, and others on mobile money and cross-border payments in East Africa implemented by the International Growth Centre (IGC).

1.5 Rwanda's readiness to engage in e-commerce

E-commerce is still at an early development stage in Rwanda, with considerable scope for growth. Rwanda is deemed to be the second easiest place to do business in Africa, ranked 38 globally as per the World Bank's Ease of Doing Business (2020). These rankings indicate Rwanda's strong commitment to enhancing business activity by providing a conducive framework that encourages efficiency. Further, Rwanda ranked 96 out of 134 economies in the World Economic Forum's Network Readiness Index (2020). This index seeks to assess the economic impact of participating in a network economy within a country.

Several countries have started measuring the contribution of e-commerce to the national GDP. For example, e-commerce sales have been estimated to represent 0.9 per cent of GDP in Brazil and 2.1 per cent of the GDP in India (based on 2019 figures). The exact contribution of e-commerce to Rwanda's GDP is currently unavailable. The government should establish targets as well as develop methods to collect data based on international standards. This section reviews the most important areas of the national e-commerce ecosystem which require attention by policy makers and national stakeholders.

ICT infrastructure and services

An increasing proportion of the population in Rwanda has access to electricity. According to statistics from the Rwanda Energy Group, as of September 2020, 57 per cent were connected to power (up from 20 per cent in 2014). In some districts however, such as Gakenke, Gatsibo and Kamonyi, the connectivity rates remain below 40 per cent. Access to mobile and broadband services – with GSM network coverage – is today largely available, while 4G services are provided to 97 per cent of the population[2], but only 8 per cent of mobile Internet subscriptions are 4G.[3]

Internet penetration has reached 7,995,325 million subscriptions (63.1 per cent of the population) mainly over mobile networks as of December 2020 [4], but Internet users in Rwanda are estimated at 31.1 per cent of the population (3.8 million out of 12.2 million inhabitants).[5] Fixed telephony and fixed broadband Internet access are negligible in comparison with mobile penetration, at around 0.9 per cent of the population.[6] As a consequence, B2B and B2C e-commerce will need to be delivered over narrowband or broadband mobile services. Nevertheless, as the mobile network is built on a fibre backbone that reaches all districts, it will be possible to provide fibre links to businesses and ultimately to consumers as demand increases.

Many MSMEs in Kigali have access to ICT and use it on a regular basis. The degree of use needs to be investigated further to determine whether there is sufficient capacity for e-commerce adoption more widely. It is unlikely that rural MSMEs have the same level of use of IT given lower availability of electricity.

In terms of affordability of ICT services, high charges for the use of Unstructured Supplementary Service Data (USSD) codes should be addressed by the Rwanda Utilities Regulatory Authority (RURA) in order to make the use of mobile services more affordable for e-commerce. The cost of fixed broadband Internet should also be reduced for it to be accessible by small businesses. Many micro and small enterprises will not be able to make the necessary capital investments to extend their business to e-commerce. Revenue sharing models for business IT services are needed so that these small businesses may defer the cost of IT implementation over a period of use.

Use of e-commerce platforms

Because e-commerce use is still limited, e-commerce platforms are essentially focused on making e-commerce services accessible to entrepreneurs and other businesses so they can sell their own goods and services online, either domestically or across borders.

According to the African Marketplace Explorer, there were 26 online marketplaces for B2C e-commerce in Rwanda in 2019.[7] About four fifths of them were so-called classified sites and the remainder were online shopping malls.[8] Between 2017 and 2019, there was a significant decline in web traffic to these marketplaces, largely due to decreased popularity of certain major players, such as Imali.biz and Tohoza.com, and the decision of Jumia to withdraw from Rwanda in late 2019.[9]

MINICOM has more recently produced a list of 62 working e-commerce related websites. The types of goods and services sold via these websites include: groceries, food and beverages; personal hygiene and beauty products; baby products; health products and pharmaceuticals; appliances and electronics; office products; fashion; arts and crafts; home and garden tools; agriculture/farm inputs; construction tools; automobiles; utilities; ICT and logistics services; dry cleaning and laundry services; renovations and maintenance services; business directory services; tourism services; online shop development; and digital addressing services.

The introduction of third-party platforms to support e-commerce could also support the development of existing e-commerce businesses, including start-ups.

The range of applications that may be supported by e-commerce platforms in Rwanda are extensive and will require different types of e-commerce services and technologies. For example, there will be differences between retail and wholesale businesses. Exporting firms will require other services than those needed to service solely the domestic market. B2B e-commerce may also require e-procurement services in addition to marketplaces and business specific websites. In addition, platform providers will need to provide training services to increase skills and awareness of customers and traders using the platform.

The IT sector

In terms of readiness to engage in e-commerce, the IT sector in Rwanda is at an early stage of development and remains relatively fragmented. This limits the size of projects that it can address and the range of specializations and economies of scales to benefit from.[10] Some IT firms have the skills to develop e-commerce websites. The IT sector is however currently comprised of few international IT firms. One major gap is the lack of hosting centres in Rwanda. E-commerce provides an opportunity for the development of cloud services in Rwanda rather than hosting in other countries. There is also a gap in the availability of IT skills and support services across the country. It will be important to build e-commerce infrastructure that minimizes the requirement for such support. This might be done through the use of IT services such as cloud computing and e-commerce applications delivered as services.

Trade facilitation for e-commerce

Cross-border trade is particularly important for a landlocked country like Rwanda. Simplified procedures will mean that goods flow more freely across borders, thereby reducing transportation costs and delays, especially for small parcels and low-value shipments.

Rwanda is working with member countries of the Common Market for Eastern and Southern Africa (COMESA), the East African Community (EAC) and the Northern Corridor to facilitate cross-border trading. Significant developments have already taken place, in collaboration with TradeMark East Africa (TMEA), Customs authorities and other partners, particularly in the following areas:

- Free trade across the COMESA community.
- Roll out of one-stop border posts and capacity-building of border post officials by TMEA and others, to reduce import and export delays and facilitate informal cross-border trade.
- Minimization of administration through customs clearance at the port of entry into the EAC, which speeds up transportation within the region and to/from ports.
- Mutual recognition of product standards between the Northern Corridor countries.

A standard coding of products should be adapted to enable goods to be imported without delay. Rwanda has also entered into agreements with private sector organizations to foster international trade by MSMEs.

At the continental level, the implementation of the AfCFTA[11] will provide an opportunity for EAC members to boost intra-regional trade. It will help the region to grow its industrial base, diversify the economy and become less dependent on global value chains. In this context, effective public measures will be critical to support and build resilience of countries and businesses in the long run. Regional policies should give particular attention to bridging existing and emerging digital divides to allow countries in East Africa take full advantage of digitalization. This calls for a comprehensive regional strategy for e-commerce development. It would help to increase trade competitiveness and build a stronger and more self-sufficient region through the digital economy.

Transport and logistics

E-commerce depends on efficient transport systems. The international dimension of e-commerce, in particular, has given rise to increased volumes of imports with a consequential impact on customs services. This demand necessitates highly efficient customs operations to avoid delays and ensure consistency in the treatment of packages. Retail warehousing is therefore essential and should be purpose built.

Rwanda has a functioning logistics and transport system that can collect and deliver goods across the country. National roads are generally good, but delays are frequent, particularly for delivery in some areas where dwellings cannot be easily reached by vehicles. Accurate digital maps will avoid such delays and enable transport companies to optimize route planning, thereby eliminating a major element of inefficiency and cost in transportation associated with e-commerce.

Plans have been made to extend the rail network through Uganda, Kenya and Tanzania to Mombasa and Dar Es Salaam ports. However, decision-making associated with these plans has been slow. Such links would help reduce costs and time for bulk transport of import and export goods. Air freight is also used in e-commerce, especially to deliver small packages quickly. Private couriers generally provide an end-to-end service, but in some cases freight forwarders may be used. While major courier companies have their own fleet, others may use airlines and other freight carriers. Many international couriers provide services to Rwanda.

In terms of logistics and warehousing, underinvestment in recent years has resulted in individual companies operating on a small scale. There is no vertical integration between vehicle transport, warehousing, and fulfilment

companies. The Kigali Logistics Platform should improve freight handling in Rwanda, and there is an opportunity for e-commerce fulfilment to be located there.[12]

Logistics firms have raised the issue of staff training, which is so far fragmented and costly. These firms have suggested that a sector training programme, such as an apprenticeship, be established. Logistics firms have also pointed to the absence of digital applications (for e.g., for fleet management, tracking inventory or shipments, or logging itineraries and stops) in Rwanda to support transport and logistics firms.

In terms of export sales, the costs of shipment and holding stock in export markets for local delivery are reliant on scale. Currently, every company has to manage its exporting arrangements. The possibility of shared facilities in export markets and consolidated shipments should be considered. While Rwanda lacks a packaging company able to provide cardboard and plastic boxes, the E-Commerce Service Centre seeks to provide services that procure packaging machine technology and knowledge that can enable efficiency in packaging for e-commerce.[13]

Additional issues concern the perceived high-risk status of Rwanda, which leads to higher insurance costs for goods in transit and containers, as well as to restrictions on insurance associated with transport.

Financial services and payment solutions

While cash on delivery (CoD) is common in many developing economies, it can restrict the value of purchased goods and increases the risk that a sale may not happen if pre-payment has not been made. There is an additional risk to the delivery agent who may have to hold large amounts of cash while delivering packages. Therefore, e-payments are preferred in e-commerce transactions, to be made on delivery or beforehand.

Electronic payments rely on individuals holding an account and on interoperability between common payment services and financial accounts used by sellers, so that payments can be made irrespective of the service used by the parties to the transaction. In Rwanda, this generally means interoperability between mobile payment services, Savings and Credit Cooperative Organizations (SACCOs) and bank accounts.

The infrastructure for e-payments and financial services exists in Rwanda. Payment cards are the most commonly available payment service among the existing platforms, along with mobile payments and digital wallets. Bank transfers are also available. Overall, however, CoD remains the most common form of payment for online goods. Most of the population (about 89 per cent) use formal and informal financial products, while 68 per cent use formal banking and other formal financial services. There is therefore familiarity with the use of financial services in Rwanda. The low uptake of debit and credit cards however means that neither of them is likely to be a popular payment method for e-commerce transactions.

As of 2020, there were 11.1 million subscribers to mobile money services, indicating large availability of mobile money agents across the country.[14] For example, MoMo API was recently launched in Rwanda.[15] MTN Rwanda recently reported that, during the course of 2020, the active mobile money user base had grown from 2.8 million to 3.2 million while MoMo Pay users had increased from about 200,000 to about 1.4 million.[16] Drawing from the Kenyan experience, mobile money can become an attractive method of paying for e-commerce transactions. Currently however, mobile money services are subject to high commission rates and lack integration between

different mobile money systems. There are difficulties and costs associated with setting up merchant accounts in Rwandan banks to be used with payment cards, PayPal and potentially other payment services such as mobile.

A payment platform, RSwitch, is available and the regulatory framework is in place in the form of BNR Law 55/2007 and the National Payment Systems (NPL) Law 03/2010. RSwitch provides a debit card that can be used in ATMs, point-of-sale terminals and online. It links to Micro Finance Institutions and SACCOs as well as banks.

Electronic payments are already possible. However, there is a lack of interoperability between mobile money platforms, which leads to higher costs and duplication of platforms for receiving payments.

Legal and regulatory frameworks for e-commerce

The legal and regulatory environment related to e-commerce in Rwanda appears to be comprehensive, especially after the passing of Law No. 24/2016, which covers the ICT sector and provides regulatory guidance on all salient matters. Nevertheless, all relevant laws and regulations should be benchmarked against international practices to determine the need for action under the ECOM Strategy.

There is also a need for online consumer protection and, in particular, an online conflict resolution mechanism for e-commerce to be enforced. The status of the East African Community Electronic Transaction Bill of 2014 also remains unclear. At the regional level, UNCTAD provided support to the EAC in 2012 to review and harmonize the cybersecurity laws and regulations, but there is a need to reform those laws in order to reflect the most recent advancements in the e-commerce ecosystem and provide a sound regulatory framework that can easily interface between the physical and the digital space.[17]

ICT skills' development

Stakeholder awareness and an appropriate level of ICT skills are instrumental to the adoption of e-commerce. Digital inclusion requires that all groups, including those lagging behind, are provided with opportunities to catch up with more advanced knowledge so that they are able to participate in e-commerce.[18] Overall, a graded framework for awareness and skills training will be needed with special emphasis on MSMEs, rural communities, women, youth and older people. Appropriate training will need to take account of the following factors:

1. Capacity development projects

Initiatives under the NICI Plan Stage III from 2011-2015 and the Smart Rwanda 2020 Master Plan included skills development and community development projects. The results of such initiatives have not been published yet. Meanwhile, a number of incubators and accelerators are present in the country. The kLab and THINK incubators were established in Kigali to promote and develop the capacity of tech start-ups. They provide opportunities for building capacity in e-commerce start-ups. The establishment of the Rwanda Information Society Authority (RISA), which is intended to enhance skills in ICT and develop capacity-building programmes, offers an opportunity to set up a training programme specific to e-commerce.

2. Business skills

Beyond a low level of secondary education among the population, there is a general lack of business and ICT-related skills, especially among MSMEs. This may reduce their confidence in launching new businesses related to e-commerce in which IT knowledge is used extensively. There is also a general lack of marketing and digital marketing skills, which are critical for e-commerce, as well as limited awareness and enforcement of regulations associated with trading. This needs to be addressed in order to increase trust in e-commerce activities, which depends largely on the enforcement of laws, trusted trader schemes, trust marks and review sites.

Businesses need further knowledge to export, including certification and product import regulations by country. Without such knowledge, they are unlikely and unable to make export e-commerce sales.

Finally, there is a lack of awareness of the benefits of e-commerce to merchants, consumers and businesses more generally, without which merchants will not turn to e-commerce and will find themselves, sooner or later, in competition with foreign sellers.

Business facilitation

A number of business facilitation programmes and services in Rwanda can help to facilitate e-commerce start-ups, if they are given an appropriate focus. These programmes can support e-commerce expansion by: a) financing investment in e-commerce start-ups and promoting growth in established e-commerce businesses, b) providing working capital for micro and small e-commerce businesses, and c) providing international marketing services for Rwandan products.

Some initiatives such as the "Rwanda: Enabling the Future of E-Commerce" project, which has been in operation since 2017 with the support of GIZ and is expected to be run by government after 2022 when donor support ends, cover a number of the areas mentioned above. The project is the result of a collaboration between GIZ and MINICOM, as well as other ministries and agencies from the Rwandan government, including MINICT, Rwanda Development Board (RDB), the National Post Office, and the Rwandan ICT Chamber. Initially aimed at setting up infrastructures and supportive mechanisms for Rwandan MSMEs to sell goods via a B2C E-Commerce marketplace both domestically and cross-border, it has established an E-Commerce Service Centre in Kigali,[19] to be rolled out to other cities, which provides e-commerce firms with access to online transport, packaging, and payment services.

1.6 SWOT Analysis

A brief SWOT analysis of e-commerce in Rwanda based on the review of the domestic e-commerce ecosystem, including the recent situational analysis commissioned by MINICOM is presented below.[20]

Strengths

- A Government deeply committed to the digital transformation agenda
- Strong policy framework
- Strong legal and regulatory framework
- Elaborate digital strategies in place
- Enabling public institutional framework
- Relative ease of doing business in Rwanda that enables start-up business creation
- Stable, safe and secure environment
- Strong ICT infrastructure
- National Payment System working towards a "Cashless Rwanda"
- Several public & private e-commerce initiatives pointing to a strong Public Private Partnerships (PPP) structure/environment
- Zero corruption policy
- Goodwill from donors and financing institutions such as the World Bank
- Proximity to large regional export markets
- Local mobile phone manufacturing plant
- Initiatives to encourage tech start-ups including Kigali Innovation City, the $100m ICT Innovation Fund for small and emerging ICT businesses, the US$10m Business Development Fund that supports women and other start-ups, One Stop Centres and Business Development Centres run by RDB, and sandbox regulation by BNR.

Weaknesses

- Lack of e-commerce specific policy and/or strategy
- No consolidated e-commerce legislation
- Lack of a formal defined structure on ownership of the e-commerce agenda
- Lack of a dedicated ICT Regulatory Authority
- Lack of enforcement of IP rights
- Absence of a verifiable registration database for verification of Certification Authorities
- Low Internet access and devices penetration, particularly in certain regions and among women
- High internet costs
- Low awareness and digital literacy levels
- Skills gaps, including a low level of secondary education among the labour force, a general lack of business-related and IT/e-commerce skills in particular
- Lack of data specific to e-commerce
- Low income levels/purchasing power
- Inadequate online shopping experience
- Low domestic consumer demand for online products and services
- Lack of trust among consumers

- Cultural resistance to electronic trading
- The large informal economy, which adds challenges on e-commerce associated with identity, payments and taxation
- Conservative business practices
- A nascent digital entrepreneurship ecosystem
- SMEs still face several barriers to access to finance
- Limited knowledge on how to sell on international platforms like Alibaba and Amazon
- Insufficient international marketing of Rwandan products
- Difficulty in verifying the status of Rwandan businesses to establish trading relationships and obtain EV certificates necessary for certain e-commerce processes
- Lack of full interoperability and high cost of mobile payment services, banking, SACCO and other financial services
- Lack of a national addressing system
- Costly and inefficient logistics
- An old national postal service

Opportunities

- Access to global markets through international e-commerce platforms
- Africa Continental Free Trade Area (AfCFTA)
- Single Digital Market for East Africa (SDM): economies of scale afforded by regional integration
- Higher internet penetration expands the consumer market for e-commerce
- Achievements in poverty reduction and increased literacy levels amongst young people, indicates growth potential for access and use e-commerce in the coming years.
- The strength of the services sector can provide new opportunities for e-commerce
- PPP
- A purpose-built modern warehousing of sufficient capacity including bonded warehousing offering efficient logistics and fulfilment service necessary for the volume of parcels generated by e-commerce

Threats

- Slowdown in global economic growth
- Impacts of the Covid-19 pandemic
- Lack of a vibrant private sector, which remains a major risk to Rwanda's growth outlook--growth projections for the medium to long term depend on the ability of the private sector to take the lead
- Regional instability
- Relatively high fees for containers and insurance
- Growing reliance on public-sector led investments
- Differing tax regimes at both regional and global levels

2.
STRATEGIC FRAMEWORK

This chapter reproduces the vision for e-commerce in five years of implementation, the strategic mission and overarching goals outlined in Rwanda's ECOM Strategy.

2.1 Vision and goals for the development of e-commerce in Rwanda

Rwanda's vision for e-commerce is that its adoption contributes to the achievement of the SDGs and other developmental goals that Rwanda has set for itself. The country aims to achieve middle-income country (MIC) status by 2035 and high-income country (HIC) status by 2050. The development of e-commerce is intended to increase, concomitant with the overall development of the economy. This will require support for all Rwandans, enabling benefits of e-commerce to be widespread. It will also require the use of e-commerce for international trade so that Rwanda can capture the economic benefit that such trade brings. The vision is formulated in the E-commerce Policy as follows:

"To transform Rwanda into a regional e-commerce hub on the strength of its technology, payments and logistics infrastructure and human capital; a hub accelerating innovation, boosting regional and international trade and supporting all sectors of Rwanda's economy and both urban and rural communities to create jobs, increase personal income and improve living standards."

The mission statement included in the E-commerce Policy is:

"To build a robust, safe and enabling e-commerce ecosystem for socio-economic transformation."

The extent to which e-commerce is adopted by consumers and businesses will determine the overall success of this implementation strategy. Therefore, three overarching goals have been established for this Strategy.

1

Increased uptake of Rwandans using e-commerce to purchase goods and/or services.

2

Increased use of e-commerce by businesses of 10 employees or more to channel their sales.

3

Increased turnover coming from e-commerce sales in businesses of all sizes as measured by those formal businesses with 10 or more employees.

2.2 Policy areas as strategic priorities, outcomes, and rationale

To achieve the goals of the ECOM Strategy, twelve specific outcomes have been identified as key strategic priorities which align with the policy areas outlined in the E-commerce Policy. These reflect the analysis from Chapter 1 and are accompanied by a brief rationale.

Policy Area 1 Awareness, capacity-building and skills development

Outcome 1

Increased availability of skills and knowledge necessary to introduce e-commerce to a business.

Outcome 2

Improved understanding of the opportunities and benefits from e-commerce among the general population of Rwanda.

Rationale

With an increasing number of MSMEs and larger businesses set to engage in e-commerce related skills will be increasingly required. These include a wide array of skills ranging from software development to data analytics and AI for business, but also skills required for online consumers.

Policy Area 2 ICT infrastructure and services

Outcome 3

Increased availability of skills and knowledge necessary to introduce e-commerce to a business.

Outcome 4

Enhanced capacity of IT sector to support Rwandan businesses by providing e-commerce related IT services.

Rationale

The expansion of e-commerce requires that the Rwandan people and businesses have access to affordable, high-quality IT products and services. Better access to a wider range of suppliers and inputs will ultimately reduce input costs for businesses through reduced administration costs of procurement, payment, and sales.

Policy Area 3 E-commerce platforms

Outcome 5

Increased availability of and access to third-party e-commerce platforms for all sizes of Rwandan businesses, but particularly micro and small businesses, including informal businesses, enabling them to sell online. These third-party e-commerce platforms shall ensure conformity with the security recommendations of the National Cyber Security Authority (NCSA).

Outcome 6

Increased availability of IT platforms for the electronic provision and management of services used by e-commerce businesses such as logistics services that conform to the security recommendations of the NCSA.

Rationale

While smaller businesses may use GSM phones for buying and selling, larger businesses will typically require web-based marketplaces, e-procurement sites and their own websites to sell goods and services, both nationally and internationally. It is important that there is a general awareness of the importance of digital security and related capabilities across all e-commerce platforms operating in Rwanda.

Policy Area 4 Financial services and digital payment solutions

Outcome 7

Improved electronic payment services that enable participation of everyone in e-commerce and minimize the administrative overhead on businesses.

Rationale

Expansion of e-commerce can be simplified and made more secure if an increased number of mobile and other e-payment option are available. Online payment solutions will also be essential for the expansion of cross-border e-commerce.

Policy Area 5 Transport and logistics

Outcome 8

Increased access of Rwandan businesses to regional and international markets through reliable and efficient transport and logistics services designed to meet the needs of e-commerce businesses.

Rationale

Availability of adequate transport and logistics infrastructure and services will enhance competitiveness of Rwandan e-commerce businesses in regional and international markets. Increase in e-commerce will likely result in a larger number of smaller packages, given that the nature of e-commerce purchases differs from the significantly larger purchases associated with retail and wholesale. As a result, Rwanda will increasingly require enhanced capabilities for the logistics chain and last mile delivery

Policy Area 6 Trade facilitation

Outcome 9

Reduced frictions in trade and conveyance between Rwanda and other COMESA and EAC countries, including through regional initiatives to harmonize taxation of e-commerce across the states (for e.g., excise duty imposed on Internet services, social media, e-services and on marketplace infrastructure) and implement interoperable customs systems.

Rationale

The expansion of cross-border e-commerce will lead to Rwandan companies buying and selling in neighbouring countries and more widely, as well as to growth in the volume of packages to be delivered across borders. Increased efficiency of clearance and delivery of low value and small parcels is therefore particularly crucial for the development of e-commerce.

Policy Area 7 Legal and regulatory framework

Outcome 10

Improved conformity of e-commerce related laws to international best practices.

Rationale

A legal and regulatory framework covering a broad range of issues including electronic transactions and electronic signatures, data protection and privacy issues, consumer protection, information security and computer crime, intellectual property and taxation will be essential for ensuring trust in online transactions and legal protection for users and providers of e-commerce services in Rwanda.

Policy Area 8 Entrepreneurship, innovation, and access to finance

Outcome 11

Enhanced financial and incubation support services from existing initiatives to new e-commerce businesses.

Rationale

Rwandan MSMEs and e-commerce start-ups may face major bottlenecks when seeking to establish or grow an online business. They will require specific support to develop adequate technical skills and business knowledge, as well as to access finance. users and providers of e-commerce services in Rwanda.

Policy Area 9 Data

Outcome 12

Current, accurate and readily available data on e-commerce at the national level.

Rationale

Collection and publishing of e-commerce specific data at the national level will help inform policymaking and business decisions, as well as monitor sector performance.

Annex 1 shows the relationship between the expected outcomes of the ECOM Strategy and the attainment of the Overarching Goals.

3.
STRATEGIC PRIORITIES

3.1 Strategic initiatives related to Policy Area no. 1
Awareness, capacity-building and skills development

Under Outcome1: Increased availability of skills and knowledge necessary to introduce e-commerce to a business.

i. Develop and implement an awareness-raising and skills development programme for micro and small businesses, particularly informal businesses, those in rural areas, and agricultural households.

The programme will rely on Business Development Centres and their fieldworkers as focal points to raise e-commerce awareness and skills among micro and small businesses and households in rural areas. The Business Development Centres would also provide access to relevant e-commerce platforms.

The programme would include an e-commerce awareness programme of a more general nature. Skills training would include introduction to e-commerce, basic business skills, marketing skills, digital marketing skills, online branding, e-commerce risk management, e-commerce audit and analytics, cross-border e-commerce, e-commerce platforms, IT skills for e-commerce, as well as skills for e-payments and logistics services.[21]

Providers of such services – e-commerce platforms, payment services and logistics services – would hold awareness-raising and skills development classes related to their platforms and services at the Business Development Centres. Such skills training could be aligned with efforts to adopt e-commerce by MSMEs within the locality of the Business Development Centre.

ii. Develop and implement tailored programmes targeting young people and vulnerable groups such as women, persons with disabilities, aimed at developing basic business skills, basic IT use skills, marketing and catalogue production skills, consumer protection and retail law, logistics and payments services.

Such programmes could include apprenticeships, business skills courses or industrial attachments (such as traineeships) in e-commerce companies covering the following issues: introduction to e-commerce, e-commerce policy, laws and regulations including consumer protection, privacy, data protection, security law and regulation; digital marketing; digital customer service; IT for e-commerce including available platforms, integration of payment and logistics services with e-commerce websites, use of USSD codes, mobile payments; cross-border e-commerce issues such as management of fulfilment, transport and other logistics services related to e-commerce; customs processes and procedures; and export and import regulations.

iii. Develop and implement a logistics apprenticeship programme covering law, regulation and processes associated with logistics, the transport sector and customs.

This apprenticeship programme would cover, from the point of view of the transport and logistics sector: fulfilment management and operations; transport and other logistics services; customs processes and procedures; as well as export and import regulations.

iv. Develop and implement a programme via RISA and Kigali Innovation City to enhance e-commerce related ICT skills.

This programme would cover the use of ICT in e-commerce and, in particular, digital marketing skills. This would include catalogue creation and management, development; implementation and support of e-commerce platforms and systems, including web based, social media based and USSD based systems, nature of electronic payment systems

and integration with e-commerce platforms and systems; common logistics and fulfilment IT, including warehouse management, stock control and other related applications, and integration with e-commerce platforms and systems.

Under Outcome 2: Improved understanding of the opportunities and benefits from e-commerce among the general population of Rwanda.

i. Develop and implement a consumer e-commerce awareness programme.

This programme would cover ICTs pertaining to e-commerce; payment services; logistics services, including postal codes as they are introduced; trust in e-commerce; and basic rights associated with consumer protection, privacy, data protection and security.

This programme will use as channels popular media and businesses in the e-commerce ecosystem. Action can be distributed, for example, through point-of-sale publicity material targeted at shoppers, bank customers and SACCO customers as well as through feature articles in newspapers and programmes on TV or radio.

3.2 Strategic initiatives related to Policy Area no. 2 ICT infrastructure and services

Under Outcome 3: Increased affordability and availability of mobile broadband and GSM services and devices for Rwandan people, including value added mobile services that enable e-commerce (such as USSD codes and mobile money).

i. Promote women's access to, ownership of, as well as use of mobile phones and other devices that may be used for e-commerce.

Reasons for the lower levels of access to mobile phones and the Internet will be identified through market research, and mobile service packages that are likely to raise access for women will be introduced. These packages will need to take account of the difficulty faced by many women in paying for such services themselves.

ii. Reduce the cost of commodity telecommunications services including USSD codes, mobile money services, and broadband Internet access to levels affordable in a competitive market.

Charges are currently too high for widespread use of low-value purchases. Due to these charges, the vendor availing such services is likely to pass on the cost to the consumers, which can reduce demand. The regulator may review the market for such services to determine whether any measures to introduce cost-oriented pricing for such services are required.

Under Outcome 4: Enhanced capacity of IT sector to support Rwandan businesses by providing e-commerce related IT services.

i. Grow and develop the IT sector's capacity in e-commerce.

This will be done by: a) cultivating new indigenous ICT businesses focused on e-commerce through the SMART Rwanda National Innovation Framework; b) growing existing indigenous ICT companies through the development and sale of applications software, systems and hosted services to enable e-commerce functions in small, medium and large businesses; and c) attracting international IT firms to bring their support capacity to Rwanda. Services will include cloud services, such as applications, business and technical consultancy associated with IT, software development, and product development associated with e-commerce.

3.3 Strategic initiatives related to Policy Area no. 3 E-commerce platforms

Under Outcome 5: Increased availability of and access to third-party e-commerce platforms for all sizes of Rwandan businesses, particularly micro and small businesses, including informal businesses, enabling them to sell online securely.

i. Establish affordable marketplace platforms to enable micro and small businesses to adopt IT and e-commerce and to export with the minimum of expenditure and risk.

These platforms will enable small suppliers and traders to use e-commerce as a channel to market to wholesale and retail sales. They will have the following characteristics:

- Two channels: a) USSD codes and mobile payments, and b) a web-based platform and a variety of payment methods.
- Available on a service rental and/or commission basis.
- Providing a full set of e-commerce related support services including: skills development, photography, cataloguing support, IT platform for e-shops and e-trading, warehousing, packaging, packing, logistics and access to payment services.
- Available in rural areas through Business Development Centres, as well as in urban centres.

These platforms should meet industry-standard requirements of online security to secure data of the users, so as to enhance trust. The ICT Chamber, in collaboration with the Digital Business Institute proposed in the ICT4COM, will provide trust seals. Further, the experiences of platforms, including Jumia, which ended its activities in Rwanda in December 2019, need to be assessed to determine whether they may fulfil this role. Sponsors need to be identified to build and operate the platform.

ii. Establish affordable multimodal platforms for exporters.

Determine and implement the most appropriate e-commerce platforms and services with the purpose of increasing exports of Rwandan goods and services. This will involve:

- Identifying the goods and services that may be sold into export markets via e-commerce.
- Identifying the target country markets to be addressed.
- Determining the most suitable methods of addressing individual country markets.
- Determining the cost of serving the addressable country markets including the cost of holding stock in such markets.
- Building the necessary service infrastructure for addressing individual country markets including prospectively transport to the country, and local warehousing and fulfilment services, that may be provided through end-to-end logistic providers.
- Developing an international marketing programme for Rwandan products and services.

These platforms should meet industry-standard requirements of online security to secure data of the users, so as to enhance trust.

Under Outcome 6: Increased availability of IT platforms for the electronic provision and management of services used by e-commerce businesses such as logistics services.

i. Establish an IT platform for logistics and transport companies.

This platform will provide, at affordable prices, common logistics and fleet management applications for small and medium sized logistics and transport companies. Prospectively these applications could be provided as on-demand software on a cloud platform in Rwanda. Key technical, process and planning skills would also be provided. Services would be provided on a rental basis.

3.4 Strategic initiatives related to Policy Area no. 4 Financial services and digital payment solutions

Financial services and online-payment strategic initiatives presuppose the implementation of the Rwanda Payment System Strategy 2018-2024 and should be monitored in connection with the same strategy.

Under Outcome 7: Improved availability of electronic payment services that enable participation of everyone in e-commerce and minimize the administrative overhead on businesses.

i. Support increased uptake of e-payments among disadvantaged groups and thereby promote the involvement of these groups in e-commerce.

Commitments towards achieving this are prominently set out in Rwanda's National Payment System Strategy.[22] This Strategy will support the commitments listed in the National Payment System Strategy by focusing on: a) the promotion of the participation of women, young adults and the elderly in e-commerce by increasing their access to and use of mobile payments and other forms of e-payments and bank accounts; and b) the promotion of participation in e-commerce by increasing access to mobile payments and other forms of e-payments in those districts where their use is low. This can be achieved by working with mobile operators to ensure that there are mobile money agents in all districts. This strategy document will also seek to incentivize merchants and consumers engaged in e-commerce activities, including among the disadvantaged groups, to adopt digital payments through training and awareness raising campaigns.[23]

ii. Promote interoperability between mobile payment services and between mobile payment services and merchant accounts in banks.

The BNR will work with commercial banks, SACCOs and mobile operators to ensure that payments can be made easily via mobile money services directly into merchants' accounts with banks as well as between any two mobile money accounts irrespective of the provider of the service under the Interoperability Action Step of the Payment System Strategy Sub-strategy 3:A "Enhance collaboration between stakeholders while promoting competition". The requirement for interoperability between mobile payment services will be given priority.

iii. Reduce charges for e-payments.

Charges for e-payments can be reduced through introducing cost-oriented charges paid by merchants for mobile payments, and by reducing payment service provider fees. This could be done, for example, by encouraging competition between banks and payment service providers for merchant accounts. If such a charge reduction cannot be implemented voluntarily, regulations will be introduced to ensure cost-oriented charging is implemented. This will be done under the Payment System Strategy under Sub-Strategy 4.B: "Adapt the pricing structures of various payment instruments to enhance affordability, fair pricing, and transparency in the market".

iv. Ensure availability of merchant accounts in all Rwandan banks and SACCOs.

Merchant accounts will be made available through all Rwandan banks and SACCOs. It will be possible to receive payments into these accounts via Payment Service Providers or from mobile money services. Setting up accounts will be made as simple as possible, taking account of the "Know Your Customer" requirements for setting up a new account. This will be done under the Payment System Strategy under Sub-Strategy 4.C: Provide payments products and services that are affordable and meet consumers' needs.

v. Enable automated VAT accounting and tax collection through an API equivalent to the EBM.

The API will have the same functionality as the Electronic Billing Machine (EBM) but would receive sales information directly from a point-of-sale system for e-commerce purchases or from an e-commerce website. In addition to the API itself, a process for accrediting applications that use the API will be developed. At least one B2B and B2C e-commerce application will use the API and will be accredited. All platforms developed under this strategy that will use the API will be accredited.

3.5 Strategic initiatives related to Policy Area no. 5 Transport and logistics

Under Outcome 8: Increased access of Rwandan businesses to regional and international markets through reliable and efficient transport and logistics services designed to meet the needs of e-commerce businesses.

i. Promote efficient warehousing to address increased needs created by e-commerce growth through the adoption of relevant international standards.

The existing E-Commerce Service Centre addresses some initial demand for e-commerce fulfilment and warehousing services. Nevertheless, the economy will need to adapt to the increased use of e-commerce and the greater need for such services that adopt international standards. Standards should include vehicle loading bay design, unloading and loading systems and processes, storage systems and processes, and IT for managing warehousing activities. MINICOM will review warehousing standards used elsewhere[24] and determine what is appropriate for Rwanda. Based on this review, MINICOM will amend or introduce planning and building control guidelines or regulations, as necessary.

ii. Assess the current capabilities and future needs of logistics in Rwanda in light of increase in e-commerce demand.

This assessment can be made by MINICOM, with inputs from the private sector, and should study:

- ***Opportunities provided by the Kigali Logistics Platform that estimates future needs of such services to support the development of cross-border e-commerce in Rwanda.***

The prospective demand for such fulfilment and warehousing facilities and determine whether there is sufficient space to extend the Platform to cover future needs arising from e-commerce. MINICOM will subsequently work with the Kigali Logistics Platform to plan for and implement such an extension to its function.

- ***Development of warehousing outside of Kigali that meets the following requirements:***
  - □ Satisfies growing e-commerce demand;
  - □ Is located on main roads suitable for large trucks and potentially close to new rail infrastructure for multi-modal use; and
  - □ Is designed for efficient cargo handling that minimizes the "touches" for individual loads and allows for rapid loading, unloading and storage.

The assessment will identify demand across Rwanda for e-commerce fulfilment and warehousing services. It will determine the capacity of local infrastructure to satisfy the need and work with local authorities to promote private investment in such warehousing.

- ***Improvement of Bonded warehouses.***

Bonded warehouses can enhance supply of e-commerce goods in a country in a cost-efficient way. Since e-commerce goods differ from traditional retail and wholesale goods, bonded warehouses will need to make necessary adjustments as they cater to the need of growing e-commerce shipments in Rwanda. Since various issues with bonded warehouses affect the cost of importing goods, the assessment will document the main issues and address them in order to make importing goods efficient.

iii. Develop packaging production facilities in Rwanda to cover the increased need from e-commerce.

E-commerce, by its very nature, multiplies the number of packages. Given this increase in the number of packages, and accounting for legal requirements for packaging in Rwanda, and across other East African countries, the Rwanda Standards Board will promote the development of production facilities for packing material. Rwanda should also account for ways to limit negative environmental externalities associated with e-commerce packaging production and use.

3.6 Strategic initiatives related to Policy Area no. 6 Trade facilitation

Under Outcome 9: Reduced frictions in trade and conveyance between Rwanda and other COMESA and EAC countries, including through regional initiatives to align duties and taxes of e-commerce across States, and implement interoperable customs systems.

i. Adopt the World Customs Organization (WCO) Framework of Standards on Cross-Border E-Commerce.

Government administration and the private sector will be encouraged to adopt available e-commerce related standards such as those set at WCO to allow for the early risk assessment and clearance of legitimate transactions within an automated environment.

3.7 Strategic initiatives related to Policy Area no. 7 Legal and regulatory framework

Under Outcome 10: Improved conformity of E-commerce related laws to international best practices.

i. Ensure e-commerce related laws reflect developments, and regional and international benchmarks, specifically in the following areas:[25]

- Online consumer protection
- Validity and enforcement of electronic communications and contracts
- Cybersecurity related issues
- Protection of Intellectual Property Rights

While updating the e-commerce related laws, Rwanda should take into account regional and international benchmarks. For instance, when updating consumer protection laws, international benchmarks on consumer protection such as the United Nations Guidelines for Consumer Protection should be accounted for.[26] Benchmarks on electronic contracts such as the United Nations Convention on the Use of Electronic Communications in International Contracts should be considered when updating these laws.

Benchmark on cybersecurity laws, inter alia the African Union Convention on Cybersecurity and Personal Data Protection (AU Malabo Convention) and the EAC Framework for Cyberlaws should be considered.[27]

Moving forward, Rwanda is encouraged to undertake a diagnostic of the existing legal framework to identify potential gaps and jurisdictional overlaps, as well as engage in stakeholder consultations to clearly identify the needs for revision and whether an omnibus law is required. Such an assessment should also be aligned with the EAC Regional E-commerce Strategy.

ii. Enact the EAC Electronic Transaction Bill 2014.

iii. Achieve convergence of digital and banking regulations.

Determine consistency between digital and banking regulations and implement required changes.

3.8 Strategic initiatives related to Policy Area no. 8 Entrepreneurship, innovation, and access to finance

Under Outcome 11: Enhanced financial and incubation support services from existing initiatives to new e-commerce businesses.

i. Support e-commerce start-ups.

E-commerce start-ups will be encouraged to bid for funding and support through the ICT Innovation Fund and the Business Development Fund.[28] Both Funds will allocate a proportion of their funding to e-commerce, and a portion will be dedicated to women-led startups.

ii. Private financing e-commerce start-ups.

MINICOM will develop a programme to match e-commerce start-ups with angel investors and other private investors. This programme will include events at which start-ups can pitch their proposed business models to investors with a view to obtaining funding and mentoring in exchange for a certain ownership share of the business.

iii. Increase availability of working capital for e-commerce small businesses and finance for e-commerce start-ups.

BNR will work with stakeholders to increase availability of affordable working capital for start-ups, micro and small businesses. Options that may be considered include a dedicated working capital fund that spreads the risk across multiple investors and minimizes it through lending criteria adopted and the consolidation of the risk across multiple businesses. Issues will arise when informal businesses seek working capital. BNR will collaborate with non-governmental organizations (NGOs), identify sources of micro-loans that can support informal businesses. BNR will work with these sources to develop a separate fund for informal businesses with its own lending criteria, or work with those sources to provide common framework for investment in informal micro-businesses.

iv. Provide business advocacy services to e-commerce businesses.

Rwanda ICT Chamber and RDB will provide services for e-commerce businesses that support them in export marketing.

v. Training for e-commerce skills and business development skills for women entrepreneurs.

Business development skills enhance the sustainability of e-commerce businesses. Training for

e-commerce skills alongside business development skills will complement each other and facilitate an advanced skillset for women entrepreneurs. Existing initiatives relating to e-commerce skills and business development such as UNCTAD eTrade for Women can be leveraged. The eTrade for Women Masterclasses seek to empower and build skills of participants through training sessions. This becomes particularly relevant as businesses are rebooting their strategy during the COVID-19 pandemic. Another objective of the programme is to build lasting community of women digital entrepreneurs. RISA, in collaboration with the private sector, can also assist in incorporating gender component in skills development.

vi. Introduce a business verification scheme.

The RDB business registration system will be revised to include all firms and an obligation placed on them to keep their registrations updated. This database will then keep registration details for all formal businesses, emulating those in other countries. The revised database will contain a registered address for the business, the names and addresses of directors, and up-to-date published financial accounts. The rules of the register would require registered businesses to keep their information current, with spot checks to determine that the information is correct. Investors and trading partners could then use the register as a source of corporate information. Such registration could be made a pre-condition for access to other business facilitation initiatives. RDB will also introduce a register of informal businesses that will include a registered address for the business and the names and addresses of the business owners. Similar requirements for registration and maintenance of up-to-date information would be applied, and registration could be made a pre-condition for other applicable business facilitation initiatives.

3.9 Strategic initiatives related to Policy Area no. 9 Data

Under Outcome 12: Improve statistics on e-commerce at the national level to be current, accurate and readily available.

i. Establish procedure for harmonized data collection (which should include disaggregation by gender and region), storage, processing and dissemination of statistics on standard ICT and e-commerce statistics.

Better data will allow for enhanced monitoring and evaluation of ICT and e-commerce activities. This will support the overarching goals to strengthen the e-commerce sector and allow for better benchmarking and assessment of progress. A survey would be required to establish a baseline value for the contribution of e-commerce to the national economy and would allow setting the target for the growth of e-commerce. Support of various international organizations working in this area, including International Telecommunications Union and UNCTAD, could be considered.

ii. Extend current monitoring of ICT access and use in accordance with international standards (which should include disaggregation by gender and business).

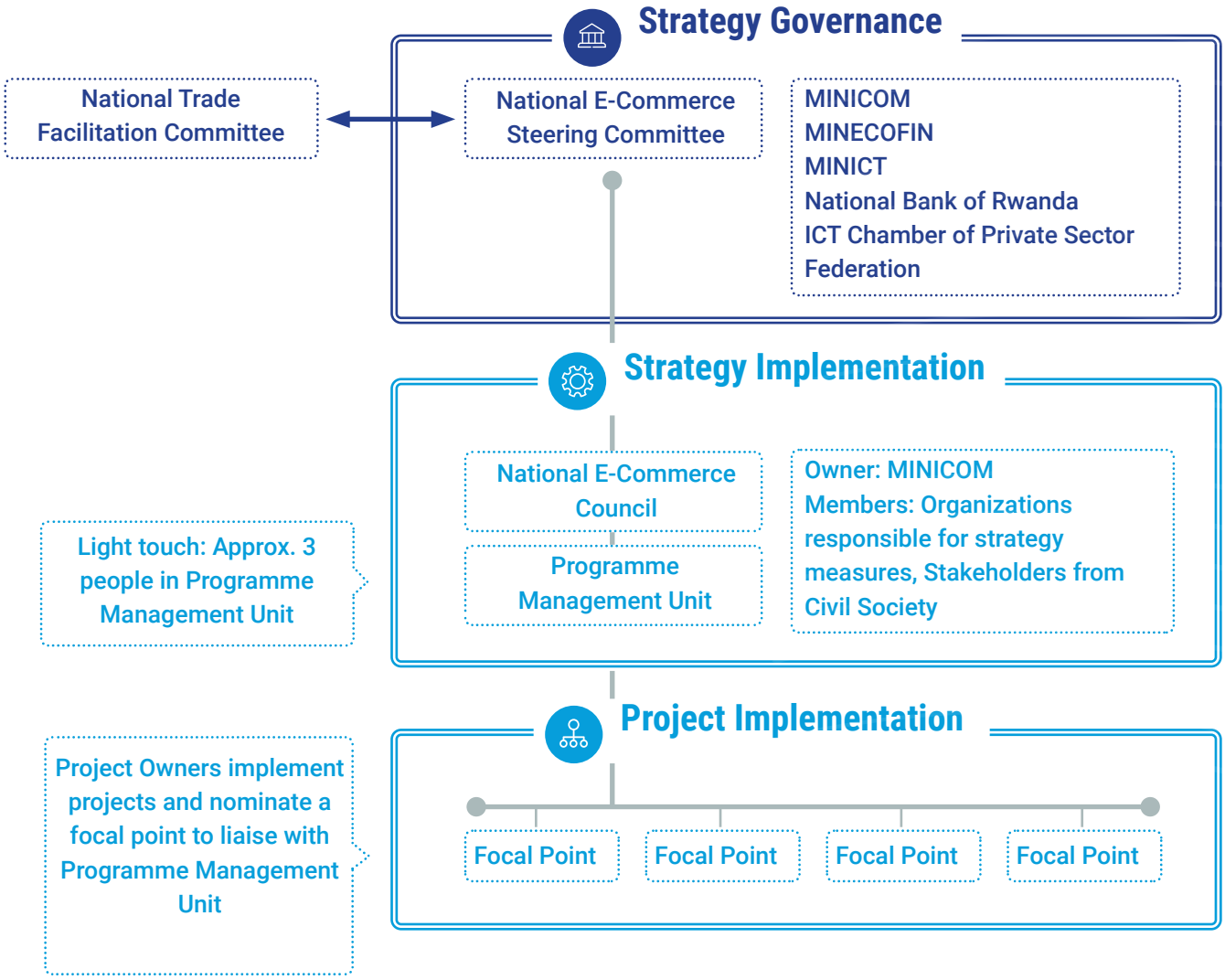
Establish understanding of gender issues associated with access to and use of ICT by monitoring in gender specific terms. Enable progress in adoption of IT by businesses to be monitored and benchmarked against other countries. Support of various international organizations working in this area, including the International Telecommunications Union and UNCTAD, could be considered.

4.
GOVERNANCE FRAMEWORK

This strategy will create a framework that provides strategic direction to monitor its governance and implementation in an effective and coherent manner. The National E-Commerce Steering Committee envisaged under this structure will provide overall guidance with regard to the implementation. The National E-Commerce Council will facilitate implementation of the strategy by providing a framework for monitoring and tracking performance and progress, a programme management process for the selection, allocation of resources, management of individual projects, and an evaluation process. Project owners, which can be a ministry, department, or agency, will be the final implementers of the Strategy under the guidance of the National E-Commerce Council.

Notably, the governance model incorporates private sector participation, including private sector finance.

This framework will resemble the structure of the SMRP Steering Committee. Skills and knowledge may be transferred between SMART Rwanda and the ECOM strategy and may be used later in subsequent developmental programmes.



5. IMPLEMENTATION, MONITORING AND EVALUATION FRAMEWORKS

5.1 Implementation plan

This section provides a framework detailing roles and responsibilities for the implementation of the Strategy. It also includes a tentative timeline for the implementation of the strategic initiatives. The National E-commerce Council will further verify the plan during the strategy implementation, and introduce any changes or additional information, such as tentative budget per initiative, following proposals by the Programme Management Unit.

Table 5.1. Implementation plan

Policy Area 1: Awareness, capacity-building and skills development

Outcomes	Strategic initiatives	Timeframe	Responsibility for implementation
Outcome 1. Increased availability of skills and knowledge necessary to introduce e-commerce to a business.	a. Develop and implement awareness-raising and skills development programmes for rural and micro and small businesses and agricultural households with e-commerce platform access.	Year 1 and continuing	Private Sector Federation (Lead), MINICOM, MINICT, Business Development Centres and field-workers
	b. Develop and implement an apprenticeship e-commerce programme for young people and an e-commerce business skills course for mature people.	Year 1 and continuing	MINICOM (Lead), MINICT through RISA, WDA TVET programmes, Institution of Higher Learning
	c. Develop and implement a logistics apprenticeship programme.	Year 1 and continuing	Kigali Logistics Platform (MINICOM as champion)
	d. Develop and implement an ICT skills development programme.	Year 1	RISA (Lead), Kigali Innovation City
Outcome 2. Improved understanding of the opportunities and benefits from e-commerce among the Rwandan population.	a. Develop a consumer awareness - raising programme.	Year 1	MINICOM (Lead), Private Sector Federation, MINICOFIN, MINICT, WDA TVET programmes

Policy Area 2: ICT infrastructure and services

Outcomes	Strategic initiatives	Timeframe	Responsibility for implementation
Outcome 3. Increased affordability and availability of mobile broadband and GSM services and devices for Rwandan people, including value added mobile services that enable e-commerce (such as USSD codes and mobile money).	a. Promote women's access to mobile phones, the Internet and e-payments.	Start Year 1 and continuing	SMART Rwanda National Innovation Framework (Government, DPs and CSOs)
	b. Reduce the cost of commodity telecommunications services including USSD codes, mobile money services, and broadband Internet access to levels affordable in a competitive market.	Start Year 1 and continuing	SMART Rwanda National Innovation Framework
Outcome 4. Enhanced capacity of IT sector to support Rwandan businesses by providing e-commerce related IT services.	a. Cultivate new indigenous ICT e-commerce businesses.	Year 1 and continuing	SMART Rwanda National Innovation Framework

Policy Area 3: E-commerce platforms

Outcomes	Strategic initiatives	Timeframe	Responsibility for implementation
Outcome 5. Increased availability of and access to third-party e-commerce platforms for all sizes of Rwandan businesses, but particularly micro and small businesses, including informal businesses, enabling them to sell online. These third-party e-commerce platforms should meet industry-standard requirements of online security.	a. Establish affordable marketplace platforms for micro and small businesses to adopt IT and e-commerce and to export with the minimum of expenditure and risk.	Start Year 1	ICT Chamber (Lead), MINICOM, MINICT
	b. Establish affordable multimodal platforms for exporters.	Start Year 1	ICT Chamber (Lead), MINICOM, MINICT

Outcomes	Strategic initiatives	Timeframe	Responsibility for implementation
Outcome 6. Increased availability of IT platforms for the electronic provision and management of services used by e-commerce businesses such as logistics services.	a. Establish an IT platform for logistics and transport companies.	Start Year 1	ICT Chamber (Lead), MINICOM, MINICT

Policy Area 4: Financial services and digital payment solutions

Outcomes	Strategic initiatives	Timeframe	Responsibility for implementation
Outcome 7. Improved electronic payment services that enable participation of everyone in e-commerce and minimize the administrative overhead on businesses.	a. Support increased uptake of e-payments among disadvantaged groups and thereby promote the involvement of these groups in e-commerce.	Year 1	BNR as specified in the Payment System Strategy
	b. Promote interoperability between mobile payment services, and between mobile payment services and merchant accounts in banks.	Year 1	BNR
	c. Reduce charges for e-payments.	Year 1	As specified in the Payment System Strategy
	d. Ensure availability of merchant accounts in all Rwandan banks and SACCOs.	Year 1	BNR
	e. Enable automated value added tax (VAT) accounting through an Electronic Billing Machine (EBM) equivalent application programming interface (API).	Year 1	Rwanda Revenue Authority

Policy Area 5: Transport and Logistics

Outcomes	Strategic initiatives	Timeframe	Responsibility for implementation
Outcome 8. Increased access of Rwandan businesses to regional and international markets through reliable and efficient transport and logistics services designed to meet the needs of e-commerce businesses.	a. Promote efficient warehousing by developing new warehousing standards.	Year 1	MINICOM (Lead), PSF, RDB
	b. Assess the current capabilities and future needs of logistics in Rwanda in light of increase in e-commerce demand.	Year 1	MINICOM (Lead), PSF, RDB
	c. Develop production facilities in Rwanda to cover the increased need for e-commerce.	Year 1 and continuing	MINICOM (Lead), PSF, RDB

Policy Area 6: Trade facilitation

Outcomes	Strategic initiatives	Timeframe	Responsibility for implementation
Outcome 9. Reduced frictions in trade and conveyance between Rwanda and other COMESA and EAC countries, including through regional initiatives to align duties and taxes of e-commerce across States, and implement interoperable customs systems.	a. Adopt the WCO Framework of Standards on Cross-Border E-Commerce.	Year 1	MINICOM (Lead), MINICT, ICT Chamber

Policy Area 7: Legal and regulatory framework

Outcomes	Strategic initiatives	Timeframe	Responsibility for implementation
Outcome 10. Improved conformity of e-commerce laws to the regional EAC e-commerce strategy and international best practices.	a. Ensure e-commerce laws conform to the regional EAC e-commerce strategy results and international best practices.	Year 1 and continuing	RISA (Lead), MINICT, RSB, RURA

Outcomes	Strategic initiatives	Timeframe	Responsibility for implementation
	b. Enact the East African Community Electronic Transaction Bill (2014).	Year 1	MINAFET
	c. Achieve greater convergence of digital and banking regulations.	Year 1 and continuing	BNR (Lead), RURA, MINICT, RISA

Policy Area 8: Entrepreneurship, innovation and access to finance

Outcomes	Strategic initiatives	Timeframe	Responsibility for implementation
Outcome 11. Enhanced financial and incubation support services from existing initiatives to new e-commerce businesses.	a. Support e-commerce start-ups.	Year 1 and continuing	ICT Innovation Fund, RDB Business registration and network
	b. Encourage private financing e-commerce start-ups.	Year 1 and continuing	MINICOM (Lead), MINICT, ICT Chamber, RDB
	c. Increase availability of working capital for e-commerce small businesses and finance for e-commerce start-ups.	Year 1 and continuing	MINICOM (Lead), MINICT, ICT Chamber, RDB
	d. Provide business advocacy services to e-commerce businesses.	Continuing	MINICOM (Lead), MINICT, ICT Chamber, RDB
	e. Provide training for e-commerce skills and business development skills for women entrepreneurs.	Year 1 and continuing	MINICOM (Lead), MINICT, ICT Chamber, RDB
	f. Introduce a business verification scheme.	Year 1	Private Sector Federation, RDB

Policy Area 9: Data

Outcomes	Strategic initiatives	Timeframe	Responsibility for implementation
Outcome 12. Improve statistics on e-commerce at the national level to be current, accurate and readily available.	a. Establish procedure for harmonized data collection (with gender and regional disaggregation), storage, processing and dissemination of statistics on standard ICT and e-commerce statistics.	Year 1	MINICOM (Lead), NISR, BNR, MINICT
	b. Extend current monitoring of ICT access and use in accordance with international standards (which should include disaggregation by gender and business).	Year 1	SMART Rwanda National Innovation Framework

5.2. Monitoring, evaluation and risk management

The table below presents the respective indicators and targets for each strategic outcome, including the institution responsible for collecting relevant data. The table is to be revised on a yearly basis to update information and ensure the adequacy of the data presented.

Table 5.2: Monitoring and evaluation framework

Overarching Goals

Goals / Outcomes	Indicators	Data source	Baseline	Targets Year 5	Responsible for collecting data
1. Increased uptake of Rwandans using e-commerce to purchase goods and/or services.	Proportion of Rwandan individuals, households and businesses using e-commerce to purchase goods and services.	Surveys	TBD	Increase of 10% of Rwandans will be using e-commerce to purchase goods and/or services by Year 5.	MINICOM (Lead), MINICT, ICT Chamber
2. Increased use of e-commerce by businesses of 10 employees or more to channel their sales.	Proportion of Rwandan businesses selling or receiving orders through e-commerce channels.	Surveys	TBD	Increase of 30% for businesses with ten or more employees will be e-commerce as a channel to market.	MINICOM (Lead), MINICT, ICT Chamber
		Surveys	TBD	Increase the number of companies running business through e-commerce channels by 100%.	MINICOM (Lead), MINICT, ICT Chamber
3. Increased turnover coming from e-commerce sales in businesses with ten or more employees.	Proportion of total turnover in businesses arising from e-commerce sales.	Surveys	TBD	5% of turnover on average will arise from e-commerce sales in businesses with ten or more employees.	MINICOM (Lead), MINICT, ICT Chamber

Policy Area 1: Awareness, capacity-building and skills development

Goals / Outcomes	Indicators	Data source	Baseline	Targets Year 5	Responsible for collecting data
Outcome 1. Increased availability of skills and knowledge necessary to introduce e-commerce to a business.	a) Awareness-raising and skills development programme for rural, micro and small businesses, as well as agricultural households with e-commerce platform access developed.	Institutional Annual reports	9	30	MINICOM (Lead), MINICT, ICT Chamber Business Development Centres and field-workers, Development partners, RDB

Goals / Outcomes	Indicators	Data source	Baseline	Targets Year 5	Responsible for collecting data
Outcome 1. Increased availability of skills and knowledge necessary to introduce e-commerce to a business.	b) Number of rural, micro and small businesses, as well as agricultural households that enrolled in the skills development programme, disaggregated by gender of business/farm owner and region.	Institutional Annual reports (Digital Ambassador Program)	3,600	5,000	MINICOM (Lead), MINICT, ICT Chamber Business Development Centres and field-workers, Development partners, RDB
	c) Apprenticeship e-commerce programme for young people and an e-commerce business skills course for mature people developed.	Institutional Annual reports (Net-preneur Program by RDB)	1	10	MINICT (Lead) through RISA, MINICOM, RDB, ICT Chamber, WDA TVET programmes, Institution of Higher Learning
	d) Number of young people and mature people that registered for and graduated from both programme/ courses, disaggregated by gender and region.	Institutional Annual reports	38	300	MINICT (Lead) through RISA, MINICOM, RDB, ICT Chamber, WDA TVET programmes, Institution of Higher Learning
	e) Logistics apprenticeship programme developed.	Institutional Annual reports	0	15	Kigali Logistics Platform (MINICOM as champion), IPOSITA, Logistics companies, RDB, ESC
	f) Number of people who registered for and graduated from the logistics apprenticeship programme, disaggregated by gender and region.	Institutional Annual reports	0	300	Kigali Logistics Platform (MINICOM as champion), IPOSITA, Logistics companies, RDB, ESC
	g) ICT skills development programme established.	Institutional Annual reports	0	10	RISA (Lead), MINICT, Kigali Innovation City, RDB, ICT Chamber
	h) Number of people who registered for and graduated from the ICT skills development programme, disaggregated by gender and region.	Institutional Annual reports	TBD	200,000	RISA (Lead), MINICT, Kigali Innovation City, RDB, ICT Chamber
Outcome 2. Improved understanding of the opportunities and benefits from e-commerce among the Rwandan population.	a) Awareness-raising programme developed.	Institutional Annual reports	9	30	MINICOM (Lead), Private Sector Federation, MINICOFIN, MINICT, WDA TVET programmes
	b) Number and type of key awareness-raising messages broadcast.	Institutional Annual reports	9	30	

Policy Area 2: ICT infrastructure and services

Goals / Outcomes	Indicators	Data source	Baseline	Targets Year 5	Responsible for collecting data
Outcome 3. Increased affordable and universally available mobile broadband and GSM services and devices for Rwandan people, including value added mobile services that enable e-commerce (such as USSD codes and mobile money).	a) Percentage of Rwandan women with access to Internet.	Datareportal[29]	3.4%	15.6%	SMART Rwanda National Innovation Framework
	b) Average price of commodity telecoms services.	GSMA[30]	31.7% in 2019	40%	SMART Rwanda National Innovation Framework
Outcome 4. Enhanced capacity of IT sector to support Rwandan businesses by providing e-commerce related IT services.	a) Number of new local certified e-commerce businesses established.	Institutional report	0	30	ICT Chamber (Lead) through DBI, MINICT, MINICOM, RISA, SMART Rwanda National Innovation Framework
	b) Percentage of current businesses using e-commerce related software and services.	RRA and RDB business registry	TBD	10%	SMART Rwanda National Innovation Framework
	c) Number of international IT firms providing support to Rwandan e-commerce sector.	Institutional Annual reports	0		SMART Rwanda National Innovation Framework

Policy Area 3: E-commerce platforms

Goals / Outcomes	Indicators	Data source	Baseline	Targets Year 5	Responsible for collecting data
Outcome 5. Increased availability of and access to third-party e-commerce platforms for all sizes of Rwandan businesses, but particularly micro and small businesses, including informal businesses, enabling them to sell online. the security recommendations of the NCSA.	a) Number of marketplace platforms established.	ICT Chamber	25	50	MINICOM (Lead), MINICT, ICT Chamber
	b) Average cost to access multimodal platforms for Rwandan businesses.	ICT Chamber	50,000 FRW	10,000 FRW	MINICOM (Lead), MINICT, ICT Chamber
	c) Percentage of e-commerce platforms conforming to security recommendations.	ICT Chamber	0	95%	NCSA (Lead), MINICOM, MINICT, ICT Chamber

Goals / Outcomes	Indicators	Data source	Baseline	Targets Year 5	Responsible for collecting data
Outcome 6. Increased availability of IT platforms for the electronic provision and management of services used by e-commerce businesses such as logistics services that conform to the security recommendations of NCSA.	a) IT platforms set up for logistics and transport companies.	MINICOM, MINICT, ICT Chamber	10	20	MINICOM (Lead), MINICT, ICT Chamber
	b) Number of logistics and transport companies using IT platforms.	RURA	TBD	20	RURA (Lead)
	c) Percentage of logistics platforms conforming to security recommendations.	RURA	TBD	90%	NCSA, RURA

Policy Area 4: Financial services and digital payment solutions

Goals / Outcomes	Indicators	Data source	Baseline	Targets Year 5	Responsible for collecting data
Outcome 7. Improved availability of electronic payment services that enable participation of everyone in e-commerce and minimize the administrative overhead on businesses.	a) Percentage of women and youth in rural areas using e-payments and holding bank accounts.	Reports BNR	0		Monitored under Payment Systems Strategy
	b) Percentage of population making use of mobile money and e-payments in districts identified as with low availability or penetration.	MTN	30%	50%	Monitored under Payment Systems Strategy
	c) Percentage of interoperability achieved among all commercial banks, SACCOs and mobile operators to ensure smooth mobile money payments and transfers across the country.	Reports BNR	TBD	100%	BNR (Lead), RURA, MINICT
	d) Average cost per transaction for payment service provider fees.	Reports BNR	Between 1%-3.5%	Around 1.5% or less	BNR (Lead), RURA, MINICT
	e) Percentage of merchants holding an account for e-payments with commercial banks, SACCOs and mobile operators.	Reports BNR, RNPS	TBD	50%	BNR (lead), RURA, MINICT
	f) Automated API VAT accounting system deployed.	Reports BNR, RRA	286	10,000	Rwanda Revenue Authority

Policy Area 5: Transport and Logistics

Goals / Outcomes	Indicators	Data source	Baseline	Targets Year 5	Responsible for collecting data
Outcome 8. **Increased access of Rwandan businesses to regional and international markets through reliable and efficient transport and logistics services designed to meet the needs of e-commerce businesses.**	**Warehousing**				
	a) Warehousing standards developed.	Institutional Annual reports	TBD		MINICOM (Lead), PSF, RDB, RSB, RHA
	b) E-commerce service centres established.		1	10	MINICOM (Lead), MINICT, PSF
	c) Feasibility study of using the Kigali Logistics Platform for e-commerce fulfilment and warehousing performed.	Institutional Annual reports	0	1	MINICOM (Lead), PSF, RDB
	d) Mapping of current capacity of local infrastructure to satisfy the current and projected needs for warehousing performed.	Institutional Annual reports	0	1	MINICOM (Lead), PSF, RDB
	e) Establishment of a mechanism to monitor and reduce issues related to throughput at bonded warehouses.	Institutional Annual reports	0	1	MINICOM (Lead), PSF, RDB, RRA, RNP, Immigration
	f) Percentage of issues related to at bonded warehouses identified that have been addressed.	Institutional Annual reports	TBD	100%	MINICOM (Lead), PSF, RDB, RRA, RNP, Immigration
	Packaging				
	g) Number of packaging production facilities in Rwanda.	Institutional Annual reports	15	5	MINICOM (Lead), PSF, RDB

Policy Area 6: Trade facilitation

Goals / Outcomes	Indicators	Data source	Baseline	Targets Year 5	Responsible for collecting data
Outcome 9. **Reduced frictions in trade and conveyance between Rwanda and other COMESA and EAC countries including through regional initiatives to harmonize taxation of e-commerce across the states and implement interoperable customs systems.**	a) WCO Framework of Standards on Cross-Border E-Commerce adopted by Rwandan Government.	Institutional Annual reports	0	5	RRA (Lead), MINICOM

Policy Area 7: Legal and regulatory framework

Goals / Outcomes	Indicators	Data source	Baseline	Targets Year 5	Responsible for collecting data
Outcome 10. Improved conformity of e-commerce laws to the regional EAC e-commerce strategy and international best practices.	a) Number of remaining gaps found in national e-commerce related laws vs international best practices, especially around the following topics: • Consumer Protection online • Validity and enforcement of electronic communications and contracts • National/Public Policy Needs • Protection of Intellectual Property Rights • Quality of service standards	Survey	TBD	80%	MINICOM (Lead), MINICT, ICT Chamber, RURA, RICA, RICTA
	b) Verified database of Rwandan business registrations established.	Institutional Annual reports	0	1	MINICOM (Lead), RURA, MINICT, ICT Chamber
	c) East African Community Electronic Transaction Bill enacted.	Institutional Annual reports	0	1	MINAFFET
	d) Number of gaps identified between digital and banking regulations that were addressed.	Institutional Annual reports	TBD		BNR (Lead), RURA, MINICT, RISA

Policy Area 8: Entrepreneurship, innovation and access to finance

Goals / Outcomes	Indicators	Data source	Baseline	Targets Year 5	Responsible for collecting data
Outcome 11. Enhanced financial and incubation support services from existing initiatives to new e-commerce businesses.	a) Number of e-commerce financing mechanisms established by financial institutions and the Business Development Fund funding earmarked to support e-commerce, especially for start-ups.	Institutional Annual reports	0	5	MINICOM (Lead), PSF, MINICT RDB, Bankers Association
	b) Proportion of e-commerce financing mechanisms established by financial institutions and the Business Development Fund funding earmarked to support women-owned e-commerce start-ups.	Institutional Annual reports	0	30%	MIGEPROF (Lead), MINICOM (Lead), PSF, MINICT RDB, Bankers Association

Goals / Outcomes	Indicators	Data source	Baseline	Targets Year 5	Responsible for collecting data
	c) Amount of funding raised from the private sector to support e-commerce start-ups.	Institutional Annual reports	TBD	1,500,000,000 FRW	MINICOM (Lead), PSF, MINICT, RDB
	d) Number of e-commerce businesses supported by TradeMark East Africa in export marketing.	Institutional Annual reports	0	10	TradeMark East Africa
	e) Amount of working capital available for start-ups, micro and small businesses.	Institutional Annual reports	TBD		BNR

Policy Area 9: Data

Goals / Outcomes	Indicators	Data source	Baseline	Targets Year 5	Responsible for collecting data
Outcome 12. Improve statistics on e-commerce at the national level to be current, accurate and readily available.	a) Inclusion of gender and type of business for monitoring indicators on ICT access and use.	Institutional Annual reports	0	2 criteria integrated	MINICOM (lead), MINICT, NISR, BNR

5.3. Risk assessment and mitigation measures

Table 5.3 describes the risks that may prevent the achievement of outcomes, alongside mitigation measures to be undertaken. Each risk is weighted in terms of potential impact on outcome achievement and likeliness that the risk will actually occur.

Table 5.3: Risk Assessment and Mitigation Framework

Risks description	Impact on outcome achievement and likeliness of risks	Mitigating actions proposed
Policy Area 1: Awareness, capacity-building and skills development		
Low registration to e-commerce related skills development programmes by young people and from the poorest segments of the population, due to associated costs and a lack of awareness.	Impact: medium Likeliness: low	Awareness campaigns to inform target populations about the availability of programmes, including in rural areas. Explore public-private partnerships to support the establishment of targeted programmes for startups and small businesses.
Brain drain of qualified technology workers needed to sustain and develop the e-commerce sector.	Impact: medium Likeliness: medium	Encourage larger firms to provide on-the-job training to reduce the skills gaps among ICT practitioners.
Policy Area 2: ICT infrastructure and services		
ICT prices are insufficiently reduced to compensate for the negative impacts on e-commerce adoption of income variations and other competing expenses by both consumers and small businesses.	Impact: medium Likeliness: low	Explore ways for subsidizing access to Internet services and enhancing awareness of e-commerce among consumers and small businesses that are under-represented
Policy Area 3: E-commerce platforms		
Foreign-owned e-commerce platforms capture a substantial part of the value created by e-commerce uptake in Rwanda.	Impact: high Likeliness: medium	Explore ways of strengthening the capabilities of domestic platforms.
Policy Area 4: Financial services and digital payment solutions		
Limited acceptance of available online financial services and payment solutions for e-commerce due to lack of trust by users.	Impact: high Likeliness: medium	Awareness-raising efforts to inform about the risks and opportunities associated with mobile and online payments. Strengthen consumer protection in this area.
Policy Area 5: Transport and logistics		
Disruptions in national and international transport and logistics systems.	Impact: medium Likeliness: medium	Explore insurance and contract-based solutions to protect players in the domestic industry.

Risks description	Impact on outcome achievement and likeliness of risks	Mitigating actions proposed
Policy Area 6: Trade facilitation		
Delays in the implementation of relevant agreements among COMESA and EAC countries to facilitate cross-border e-commerce.	Impact: high Likeliness: medium	Depending on the factors hampering progress, explore opportunities for diplomatic or technical assistance efforts to address them.
Policy Area 7: Legal and regulatory framework		
Lack of enforcement of e-commerce laws and regulations, leading to unprotected use of data and cybersecurity breaches.	Impact: high Likeliness: low	Strengthen enforcement mechanisms.
Reduced effectiveness of the updated legal and regulatory frameworks due to insufficient awareness and understanding by consumers.	Impact: high Likeliness: medium	Awareness campaigns to inform target populations about the new regulations and the benefits thereof.
Limited regulatory compliance by businesses due to (perceived) costs of compliance.	Impact: medium Likeliness: medium	Awareness campaigns to inform businesses of both costs and benefits of the laws and regulations. Explore ways to reduce compliance burden on small businesses.
Policy Area 8: Entrepreneurship, innovation and access to finance		
Newly started and funded businesses are acquired by global companies that transfer local or regional knowhow abroad.	Impact: medium Likeliness: medium	Explore national efforts and initiatives at the EAC or COMESA level to embed innovation and business models domestically and in the region.
Policy Area 9: Data		
Limited capacity of the national statistical system to collect statistics on e-commerce.	Unknown	Provide training to the relevant institutions on the measuring e-commerce.

Annex 1 : Relation between the expected outcomes of the ECOM Strategy and the attainment of the Overarching Goals

Outcome	Increased uptake of Rwandans using e-commerce to purchase goods and/or services	Increased use of e-commerce by businesses of 10 employees or more to channel	Increased turnover coming from e-commerce sales in businesses with ten or more employees
1. Increased availability of skills and knowledge necessary to introduce e-commerce to a business.	Improved awareness, skills and knowledge associated with e-commerce will lead to greater confidence in using e-commerce among businesses of all sizes and hence increased adoption and increased turnover from e-commerce.		
2. Improved understanding of the opportunities and benefits from e-commerce among the general population of Rwanda.	Improved understanding of the opportunities and benefits of e-commerce will lead to greater confidence in using e-commerce to buy goods and services.		Increased turnover from e-commerce because more individuals are using it.
3. Increased affordability and availability of mobile broadband and GSM services and devices for Rwandan people, including value added mobile services that enable e-commerce.	Promotion of women's access to phones, the Internet and e-payments, and reduced call and Internet charges will encourage service uptake, thereby enabling more people, particularly women, to participate in the use of e-commerce by buying or selling goods and services.		Increased turnover from e-commerce because more individuals are using it.
4. Enhanced capacity of IT sector to support Rwandan businesses by providing e-commerce related IT services.	Enhanced capacity of the IT sector will enable the sector to support businesses that wish to use e-commerce as a channel to market, thereby enabling the number of businesses using e-commerce to grow.		Growth in e-commerce related turnover will come in part from the growth in the number of businesses using e-commerce encouraged by improved IT support.
5. Increased availability of and access to third-party e-commerce platforms for all sizes of Rwandan businesses, but particularly micro and small businesses, including informal businesses, enabling them to sell online.	E-commerce platform availability will increase opportunities for individuals to buy goods and services online.	E-commerce platform availability will enable businesses with little IT capability of their own to adopt e-commerce, thereby enabling the number of businesses using e-commerce to grow.	Growth in the number of businesses using e-commerce will lead to growth in e-commerce related turnover by businesses of all sizes, including both domestic sales and export sales.

Outcome	Increased uptake of Rwandans using e-commerce to purchase goods and/or services	Increased use of e-commerce by businesses of 10 employees or more to channel	Increased turnover coming from e-commerce sales in businesses with ten or more employees
		Platforms specifically aimed at micro and small businesses will enable household and other micro businesses to move online. Specific export-oriented platforms will enable growth in the number of businesses using e-commerce for export sales. Such platforms may overcome the skills gap in entering export markets.	
6. Increased availability of IT platforms for the electronic provision and management of services used by e-commerce businesses such as logistics services.		Improved access to logistics services brought about through e-commerce platforms will enable businesses to sell at a distance and encourage use of e-commerce. In addition, the availability of a platform for logistics and related services will enable those businesses to move to e-commerce sales themselves.	Increased sales at a distance will result in higher turnover for businesses of all sizes.
7. Improved electronic payment services that enable participation of everyone in e-commerce and minimize the administrative overhead on businesses.	Increased use of bank accounts and accounts at other financial institutions, mobile payments and card payments particularly among women, young adults, people in rural areas and the old will give them the ability to pay for goods online and should therefore encourage purchasing through e-commerce. Such increased uptake should also allow for micro and small businesses to accept electronic payments for goods they sell using e-commerce and should therefore increase the adoption of e-commerce among such businesses.	Increased use of electronic payment services will remove an inhibitor to e-commerce and lead to a more favourable e-commerce environment that will encourage more businesses to adopt e-commerce.	The use of electronic payment services and the increased adoption of e-commerce by business will result in more sales, and possibly larger sales, through e-commerce channels.

Outcome	Increased uptake of Rwandans using e-commerce to purchase goods and/or services	Increased use of e-commerce by businesses of 10 employees or more to channel	Increased turnover coming from e-commerce sales in businesses with ten or more employees
8. Increased access of Rwandan businesses to regional and international markets through reliable and efficient transport and logistics services (including as provided by e-commerce fulfilment centres) designed to meet needs of e-commerce businesses.		Improved regional and international transport and logistics services focused on e-commerce will enable Rwandan businesses to use e-commerce. This should increase the number of companies selling and exporting using e-commerce and hence e-commerce related turnover.	
9. Reduced frictions in trade and conveyance between Rwanda and other COMESA and EAC countries.		Adoption of WCO Framework of Standards on Cross-Border E-Commerce should increase the proportion of sales made using e-commerce, as well as increasing the number of companies exporting using e-commerce.	
10. Improved conformity of e-commerce related laws to international best practices.	Improved e-commerce related law will increase confidence in e-commerce and should lead to increased uptake of Rwandans using e-commerce either to buy or to sell goods and services.	Improved e-commerce related law will increase confidence in e-commerce among business and should lead to an increase in the number of businesses using e-commerce.	Increase in the number of businesses using e-commerce will result in increased turnover.
11. Enhanced financial and incubation support services from existing initiatives to new e-commerce businesses.		Financing and incubation services will enable new e-commerce start-up businesses and the adoption of e-commerce by existing businesses, leading to increased use of e-commerce.	Increased use will result in increased turnover from e-commerce.
12. Current, accurate and readily available data on e-commerce at the national level.		Monitor and make timely reporting on online transactions for goods and services.	Monitor and report the growth.

NOTES

[1] Rwanda National Payment System Strategy, p. 31.

[2] Ibid.

[3] Latest figures provided in State of E-commerce in Rwanda: A Situation Analysis.

[4] RURA (2020).

[5] Figures cited in State of E-commerce in Rwanda: A Situation Analysis. Data available from ITU as of June 2020, at https://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx, provide estimates for 2017 which suggested that at the time only 21.8 per cent of the population were Internet users.

[6] Ibid.

[7] See: Africa Marketplace Explorer, International Trade Centre, https://ecomconnect.org/page/african-market-place-explorer.

[8] Ibid.

[9] See: "Jumia shuts down operation in Rwanda", Nairametrics, 18 December 2019, https://nairametrics.com/2019/12/18/jumia-shuts-down-operation-in-rwanda/.

[10] ICT4COM notes that Rwanda lags behind in terms of ICT skills and ICT infrastructure development, despite recent progress, particularly in telecommunications.

[11] The agreement entered into force in May 2019 for the 30 ratifying countries, and trading under AfCFTA started on 1 January 2021.

[12] See: https://rdb.rw/rwanda-closer-to-becoming-a-regional-logistics-hub-with-the-launch-of-kigali-logistics-platform/

[13] See: https://ecc.rw

[14] State of E-commerce in Rwanda: A Situation Analysis.

[15] See: "Rwanda launches new mobile money platform", Nextvnews, https://nextvnews.com/mtn-rwanda-launched-new-mobile-money-platform/.

[16] See: "Mobile payment transactions grow 206 per cent", New Times, https://www.newtimes.co.rw/business/mobile-payment-transactions-grow-206-cent.

[17] The revision of the EAC Cyberlaws regulations involved two phases: the first covered issues of e-transactions, e-signatures and authentication, cybercrime, as well as data protection and privacy. The second phase dealt with intellectual property, competition, e-taxation and information security. For more information, see: https://unctad.org/system/files/official-document/dtlstict2012d4_en.pdf.

[18] It is important that e-commerce services match skill levels. This means that they should be presented in Kinyarwanda in many cases and using a familiar level of linguistic interaction.

[19] See: https://ecc.rw.

[20] State of E-commerce in Rwanda: A Situation Analysis.

[21] The scope of the training was determined on the basis of a curriculum developed at the request of MINICOM in the context of a broader project in partnership with UNOPS/EIF in order to provide a solid foundation and tools for increased adoption of e-commerce. The target audience for the training consists of SMEs, policymakers and other stakeholders in the e-commerce ecosystem.

[22] Notably, both points a) and b) listed above are set to be achieved under the Payment System Strategy under Sub-Strategy 2A: Increase the footprint of electronic transaction infrastructure, and under Sub-Strategy 2C: Increase awareness and education of e-payments among Rwandans and encourage innovative business models that offer a strong value proposition for merchants and consumers to use digital payments.

[23] Key Action Steps, National Payment Strategy (Rwanda), p. 9, available at: file:///C:/Users/E7052/Downloads/Vison_and_Strategy_RNPS_2018-2024.pdf.

[24] See, for example of Kenya, at https://www.logisticsmiddleeast.com/article-13840-african-logistics-properties-boosts-e-com-in-east-africa.

[25] State of E-Commerce in Rwanda: A Situational Analysis, Republic of Rwanda.

[26] See: https://unctad.org/system/files/official-document/ditccplpmisc2016d1_en.pdf

[27] See: https://unctad.org/system/files/official-document/dtlstict2012d4_en.pdf.

[28] The ICT Innovation Fund is supported by the African Development Bank. For information, please see: https://projectsportal.afdb.org/dataportal/VProject/show/P-RW-G00-001; for more information on the Business Development Fund, please see: https://www.bdf.rw/.

[29] See: https://datareportal.com/reports/digital-2021-rwanda?rq=Rwanda

[30] See: https://www.mobileconnectivityindex.com/#year=2019&zoneIsocode=RWA&analysisView=RWA

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