

The Universal Postal Union
**E-COMMERCE
GUIDE**



UPU | UNIVERSAL
POSTAL
UNION

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Foreword

E-commerce has revolutionized the way the world does business. It has created greater convenience for consumers, enabling them to purchase what they want, whenever they want, wherever they are. It has also created new opportunities for Posts, encouraging them to evolve services and business models to adapt to new possibilities.

With over 670,000 postal outlets covering most of the world, the postal network is well placed to support government policies for e-commerce inclusion. Posts support the inclusion of micro, small and medium-sized enterprises (MSMEs), enabling them to sell online and move their goods across the borders. Posts also support inclusion of consumers, giving them access to purchase online products that are not always available in their local shops. Facilitating inclusive e-commerce is a key contribution that Posts make to their country's achievement of several United Nations Sustainable Development Goals (SDG), especially goals 1, 2, 5, 8 and 9.

In 2005 the UN's World Summit on the Information Society appointed the UPU as a co-facilitator for its action line on e-business. Since then, the UPU has strengthened its role as a knowledge centre for postal e-commerce development through studies and the development of standards, guidelines and regulations for the postal sector.

The UPU E-Commerce Guide, published in 2014 and updated in 2015, was well received by UPU members, who acknowledged it as an important reference for preparing their e-commerce development plans.

As the guide demonstrates, Postal operators around the world are an integral part of the overall e-commerce ecosystem providing a wide range of services from logistics, digital platforms, marketing, and payments, to name a few. Today, postal services embrace offline, online and mobile technologies to provide competitive and convenient services across the world.

This latest comprehensive update to the E-commerce Guide consolidates material gathered over the past two years in studying the evolution of the postal sector activities in e-commerce. The guide includes new and expanded information on recent trends, business models, e-commerce key elements, strategies and UPU enablers to facilitate e-commerce.

I am convinced that this guide will provide policymakers, regulators and postal operators with a set of strategic considerations and concrete actions to ready their country's infrastructure for the demands of e-commerce and ensure that the everyone can be included in the market.

I encourage all UPU members to take note of the rich information in the Guide and to work with the Universal Postal Union to ensure they are in the best possible position to take advantage of the e-commerce environment.

Bishar Hussein

Director General
Universal Postal Union



Acknowledgments

This 3rd edition of the UPU E-commerce Guide was coordinated and written by Daniel Nieto Corredera, under the overall supervision of Paul Donohoe within the Digital Economy and Trade Programme of the Directorate of Policy, Regulations and Markets at the UPU.

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The Universal Postal Union
**E-COMMERCE
GUIDE**





Chapter I: **Introduction**

Preface

The new version of the UPU E-Commerce Guide is a set of practical recommendations for UPU members to consider in developing their own e-commerce capabilities and services for domestic, regional and cross-border markets.

The guide is organized into the following main sections:

MARKET TRENDS AND DRIVERS: presentation of significant global, regional and domestic e-commerce market trends and opportunities;

E-COMMERCE KEY ELEMENTS: description of the main aspects of an e-commerce structure;

E-COMMERCE BUSINESS MODELS AND STRATEGIES: explanation of possible e-commerce business models for Posts, from parcel delivery to e-marketplaces;

UPU ENABLERS FOR E-COMMERCE: technical assistance and tools available for the development of e-commerce services.

Gathering a useful set of recommendations is not an easy task given the diversity in market development levels. Nevertheless, this guide covers as many different scenarios as possible.

The guide is not a complete business plan, nor is it a step-by-step method. It would not be possible to go into such depth in a single document, given the many variables involved within the context of each designated operator (DO). Instead, the guide provides information, principles and practical recommendations that can help Posts in building their business models and services. Each model built will take into account specific business strategies, market situations, capabilities and other product management issues, beyond the principles covered in this document.

Motivation

The world is on the cusp of a new digital era. With dramatically reduced costs of collecting, storing and processing data, digitalization is transforming economic activities and boosting growth around the world. Digital technologies have a bearing on the prospects for micro, small and medium enterprises (MSMEs), especially those in developing countries, to participate in global trade through e-commerce. This transformation will require adaptations of existing legal and regulatory frameworks in various areas, and will have tremendous implications on postal digital commerce.

The International Bureau has been closely following the evolution of e-commerce since 2014, conducting surveys on postal capability and publishing the E-Commerce Guide. The UPU strives to serve as a knowledge centre for member countries in all areas, including e-commerce, by gathering the many resources currently available and producing analytical publications that can serve as tools with which to plan for future changes to the postal market.

The UPU needs to take a global approach, based on a market and customer focus, towards the development of an intelligent postal ecosystem for e-commerce, using multifunctional, integrated infrastructure for simple and reliable access to postal services worldwide.

Committee 3 of the Postal Operations Council (POC) agreed during POC S5 to update the guide to encompass broader e-commerce issues, so that it can be used as an up-to-date reference for DOs.

Connections between e-commerce and the World Postal Strategy

The Istanbul World Postal Strategy (IWPS) forms the basis of the 2017–2020 Istanbul Business Plan. Its aim is to provide high-level strategic direction that will enable the UPU to respond to the key challenges that it faces and seize existing and future opportunities.

The 2016 UPU Congress approved Istanbul Business Plan work proposals 031, 032 and 033, instructing the POC to work on the development of e-commerce in the postal sector.

Connections between e-commerce and the Sustainable Development Goals

As the United Nations specialized agency for the postal sector, the UPU supports its member countries in implementing the Sustainable Development Goals (SDGs). Key UPU activities include identification and analysis of the role of the postal network in implementing the SDGs, integration of the SDG framework into UPU strategic planning, involvement of member countries in assessing postal sector relevance at country level, and monitoring and evaluation of the impacts of the postal sector on SDG implementation.

Recent years have witnessed rapid growth in e-commerce as both consumers and enterprises go online to find what they need. E-commerce emerges as a vehicle for inclusive and sustainable development by supporting productive activities, entrepreneurship, creativity and innovation, and encouraging the formalization of growth of MSMEs, including through access to financial services enabled by the International Trade Centre.

At the international level, the UPU vision of being seen as an enabler of inclusive development and an essential component of the world economy embodies the fundamental principles of the SDGs. Through its direct and indirect contributions to the achievement of multiple SDGs and targets, the postal sector is a natural partner to governments for achieving their development objectives at the national level.



Goal 2 promotes sustainable agricultural practices by ensuring investment in infrastructure and technology to improve agricultural outputs. As enablers of e-commerce for rural development, Posts play a role in making tools available for farmers to

sell their products online. UPU research shows that there is a strong positive correlation between a wide-reaching postal network and achievement of the SDGs.

Case: Korea (Rep.)

In Korea, postal information and communications technology (ICT) services for e-marketplaces help local communities distribute their products nationally and abroad.



Goal 8 promotes inclusive decent work and sustainable economic growth for all. It also aims to promote policy actions to eradicate forced labour, slavery and human trafficking. The UPU postal development report for 2018

shows the postal sector making a major contribution towards the achievement of this goal through trade facilitation for MSMEs by offering products and services tailored to the needs of businesses.¹ Posts are serving over 100,000 people per post office; they also provide businesses and consumers alike with access to a massive logistical, financial and communication network.

The postal sector is also a valuable contributor to job creation and sustained and inclusive economic growth. In 2016, the postal sector employed 5.32 million staff worldwide, and Posts throughout the world strive to achieve the goal of providing decent work and promoting inclusive economic growth.

The result of the UPU's multivariate regression analysis shows considerable correlation between postal development and the targets of goal 8.² It also reveals that countries with well-developed postal services, on average, have a large percentage of adults holding a bank account, which is an indicator of financial inclusion. Digital postal services, such as e-shops, foster MSME growth through access to global market services.

Case: Iran (Islamic Rep.)

Iran Post provides Bazaar Post, an innovative e-commerce technology solution allowing businesses to scale their business across the country while providing a highly localized and customer-centric shopping experience. The service recorded 5.4 million transactions in 2014.

At the international level, the UPU vision of being seen as an enabler of inclusive development and an essential component of the world economy embodies the fundamental principles of the SDGs.

¹ <https://www.upu.int/en/Publications/2IPD/Postal-Development-Report-2018>

² Ibid



Goal 10 aims to reduce inequality within and between countries: “By 2030, progressively achieve and sustain income growth of the bottom 40% of the population at a rate higher than the national average”. Posts can serve as a channel for economic and social

inclusion by providing new e-commerce technologies to deliver social inclusion. Digital postal services for e-commerce are helping to create a strong social inclusion tool to achieve social and economic progress in the disadvantaged segments of society, a correlating factor for financial inclusion.

Case: Armenia

Haypost identified a perfect opportunity to both develop a new business line using modern e-commerce technologies and create a strong social inclusion tool. The operator’s ICT services created “Shop in America”, a new platform to make world-class shopping accessible in the remote regions of Armenia. Haypost created an online network of more than 700 post offices, installing 2,900 new computers in Yerevan and the regions. Internet corners were installed in all renovated post offices. Shop in America helps to foster social inclusion through e-commerce development, offering individuals a tax-free allowance for imports ranging between 600 and 4,800 USD per year. Decentralization of customs clearance with the integration of automated customs clearance software in 700 online post offices enables customers to get their goods cleared in their home towns and villages. Haypost has set up a subsidiary company in the United States of America, based in Glendale, California – the centre of the largest Armenian community in North America – where customers can register for free and get a free US address for their online purchases.

DISCLAIMER: The following part of the report contains numerous “Case Studies” done by the UPU staff or research affiliates, documented in the UPU database. The “Case Studies” do not necessarily imply official endorsement or acceptance by the countries where the studies are being conducted. Therefore, the documents represent the official material in possession of the UPU and can be fully accessible upon request by an individual or a group.

Trade facilitation

Parcelization of trade is shifting the paradigm of cross-border e-commerce. While trade previously involved big containers with one document to deal with customs authorities, small packets are now moving cross-border, generating bottlenecks at Customs and creating obstacles for trade.

The Trade Facilitation Agreement (TFA) aims to simplify and speed up customs procedures to make trade easier, faster and cheaper. It enables e-commerce by removing the “red tape” barriers imposed on cross-border trade. It strives to reduce costs and delays at customs points and harmonizes customs procedures globally. It also addresses issues of transparency, standardization and simplification of these procedures, for example, by obliging trade-relevant authorities to accept electronic copies of customs declarations.

As trade facilitation concerns many segments of the postal network and supply chain – physical services, financial services, electronic services, customs, airlines, and security – the UPU provides legal, regulatory and technical frameworks to support the development of MSMEs through the postal infrastructure.

The postal network allows MSMEs to participate in e-commerce, giving them an affordable and direct means of shipping merchandise to customers, reducing the need to cooperate with distributors, customs brokers and retailers. With the growth of e-commerce and the influx of packages being sent across borders via post, UPU rules, standards, programmes and tools help member countries facilitate trade, especially that of MSMEs.

The UPU has developed new standards and regulations that enable an efficient global postal supply chain model, which includes exchanging information electronically between partners in the supply chain: Posts, transportation and Customs. The model is facilitated by the UPU’s technical solutions for exchanging electronic advance data (EAD), which address many TFA obligations, such as the request for advance rulings, pre-arrival processing, cooperation with Customs, and acceptance of copies.

The UPU has taken a more advanced digital approach to the implementation of TFA obligations, with its provision of electronic data exchange tools, such as the International Postal System (IPS) and Customs Declaration System (CDS), to facilitate real-time exchanges of data between Posts and Customs. Through trade facilitation, DOs support government objectives for e-commerce, economic and social development and inclusion, while at the same time positioning themselves as the trusted intermediary for MSME internationalization.



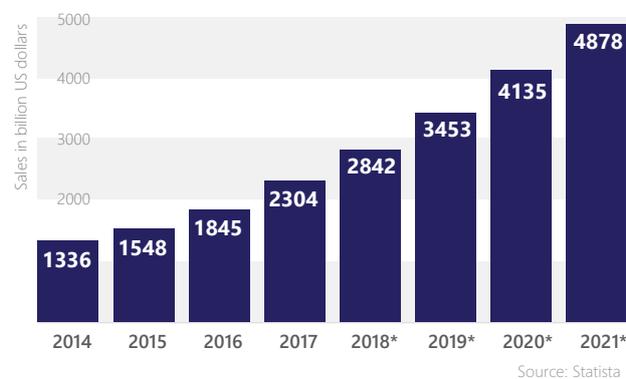
Chapter II:

**E-commerce: trends
and drivers**

Global statistics in e-commerce

E-commerce is widely viewed as a key driver of innovation, competitiveness and inclusive economic growth. Global e-commerce sales has increased tenfold in the past few years alone. The figure below gives information on retail e-commerce sales worldwide from 2014 to 2021. In 2018, retail e-commerce sales worldwide amounted to 2.84 trillion USD and e-retail revenues are projected to grow to 4.88 trillion USD in 2021.³ This trend is set to continue.

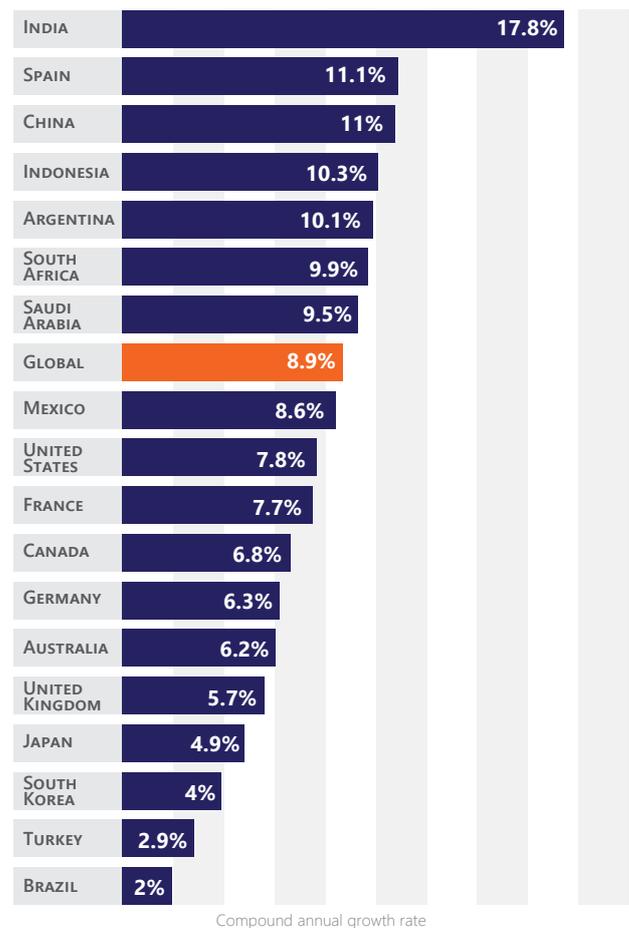
Figure 2.1 - E-commerce sales worldwide from 2014 to 2021



In the coming years, it is expected that retail e-commerce sales will see unprecedented growth with all the new technologies. Online shopping is one of the most popular Internet activities worldwide. The statistics below show the retail e-commerce sales compound annual growth rate from 2019 to 2023 in leading countries.⁴ The projection also shows the growth in digital shoppers in all regions, irrespective of economic advancement.

India has the highest online shares of annual growth rates as percentage of total retail sales (17.8%), followed by Spain (11.1%) and China (People's Rep.) (11%). The following chart gives a useful visual summary of retail e-commerce sales growth prediction.

Figure 2.2 - Online shares of annual growth rates as percentage of total retail sales



E-commerce is widely viewed as a key driver of innovation, competitiveness and inclusive economic growth.

³ <https://www.statista.com/statistics/379046/worldwide-retail-e-commerce-sales/>

⁴ <https://www.statista.com/statistics/220177/b2c-e-commerce-sales-cagr-forecast-for-selected-countries/>

E-commerce trends and drivers

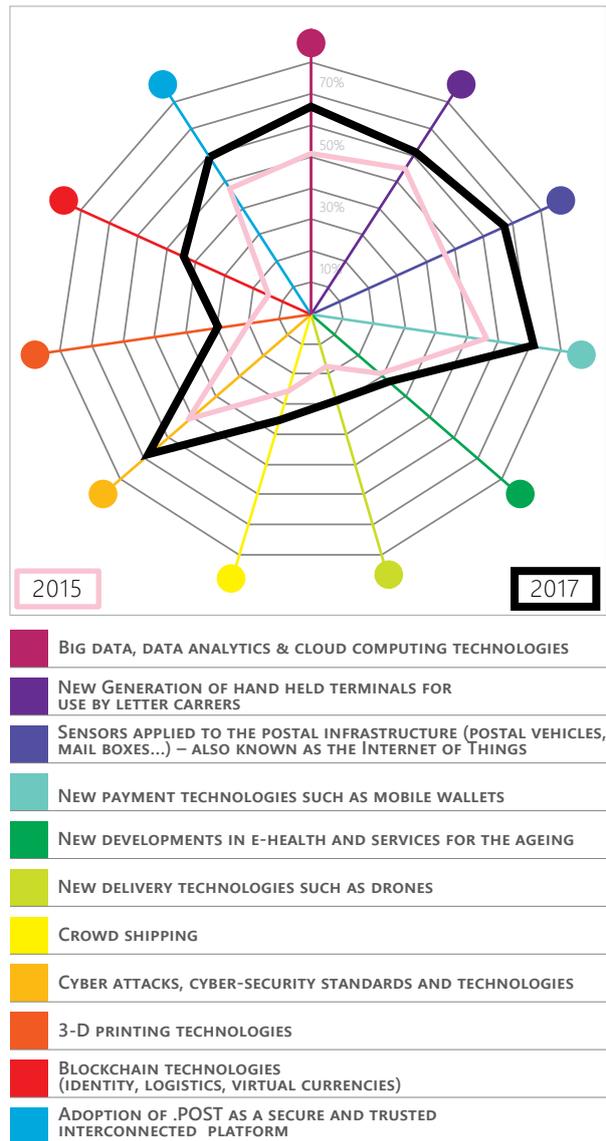
UPU technology radar

The UPU technology radar measures postal operators' perception of new technological trends that could affect (positively or negatively) their digital postal business in the future. The radar can be seen as a good tool for identifying strategic new projects (e.g. new pilots, or topics that need to be further researched or monitored) related to e-commerce. In 2017, on average, global postal operators' perception of the impact of new technology was 51%, compared with 38% in 2015.

New technologies whose perceived impact on postal e-services saw significant increase between 2015 and 2017 include: blockchain technologies (up by 30 percentage points); sensors applied to postal infrastructure (postal vehicles, mailboxes, etc.), also known as the Internet of Things (up 21 points); cyberattacks, cybersecurity standards and technologies (up 17 points); new payment technologies, such as mobile wallets and big data, data analytics and cloud computing technologies (up 15 points each); and adoption of .POST as a secure and trusted interconnected platform, and new delivery technologies, such as drones (up 12 points each). Posts' perception of 3-D printing technologies and crowd shipping as a high impact area also saw a positive trend (up 10 points).

Other new technologies whose perception improved slightly in 2017, compared to 2015, are the new generation of handheld terminals for use by letter carriers, and new developments in e-health and services for older people (up by 6 and 3 points, respectively).

Figure 2.3 - New technologies expected to impact digital postal services: Global trends



Source: 2017 UPU digital postal services survey

Third-party logistics

Logistics play a key role in rendering the e-commerce supply chain visible and determine the overall satisfaction of customers, efficiency and service delivery.

Third-party logistics (3PL) is now emerging as a key driver in e-commerce. Most online retailers are finding it financially feasible to outsource the logistics component of the supply chain, given its complex and capital-intensive nature. 3PL service providers are helping these retailers to become efficient through superior service delivery. There are a number of e-commerce companies with their eyes on e-commerce shipments with tools to cater for the e-commerce industry. The companies offer storage maintenance, storage and delivery, reducing the requirement of maintaining warehouses and means of transport. They also reduce the risk of damage when goods are in transit.

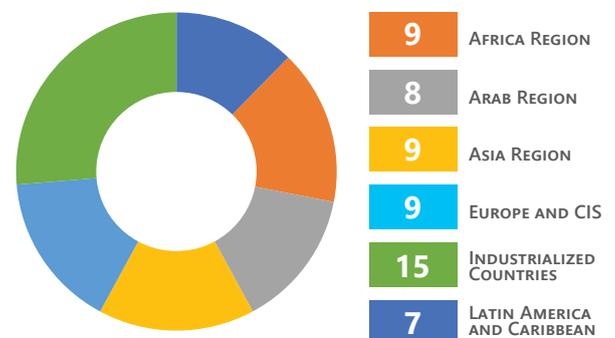
Explosion in smartphone applications

The adoption of the latest mobile technologies is playing a big role in the growth of e-commerce. The need for ease when shopping on the go has led to the growth of mobile shopping.

Mobile online shopping has grown considerably since the first UPU Postal E-Services Survey in 2012. The past five years have seen an expansion in mobile application usage for postal e-services. In 2012, only 16 postal operators reported that they had adopted mobile phone apps, compared to 57 operators in 2017 (and 51 in 2015). Growth in mobile app e-service usage varies by country, but there is an upward trend in all UPU regions. Fifteen postal operators in industrialized countries, nine each in Asia-Pacific and Africa, seven each in Europe and the Commonwealth of Independent States (CIS) and in Latin America and the Caribbean, and eight in the Arab region reported that they use smartphone apps for their postal e-services.

The following figure presents postal operators claiming to provide e-services through a smartphone app, by region in 2017. Industrialized countries are early adopters of mobile applications for postal e-services, representing more than a quarter of the global total, followed by Europe and CIS, Asia-Pacific and Africa. In terms of regional distribution in adopting mobile phone technology, no region appears to be far behind. Postal operators in the Arab and Latin America and Caribbean regions are also increasingly adopting mobile app technology in their e-services. Despite smartphones being relatively expensive, and low mobile Internet penetration rates acting as a barrier to the adoption of mobile apps, interestingly, regional Posts in Africa are increasingly adopting mobile apps in their postal e-services.

Figure 2.4 - Postal operators offering e-services via a smartphone app

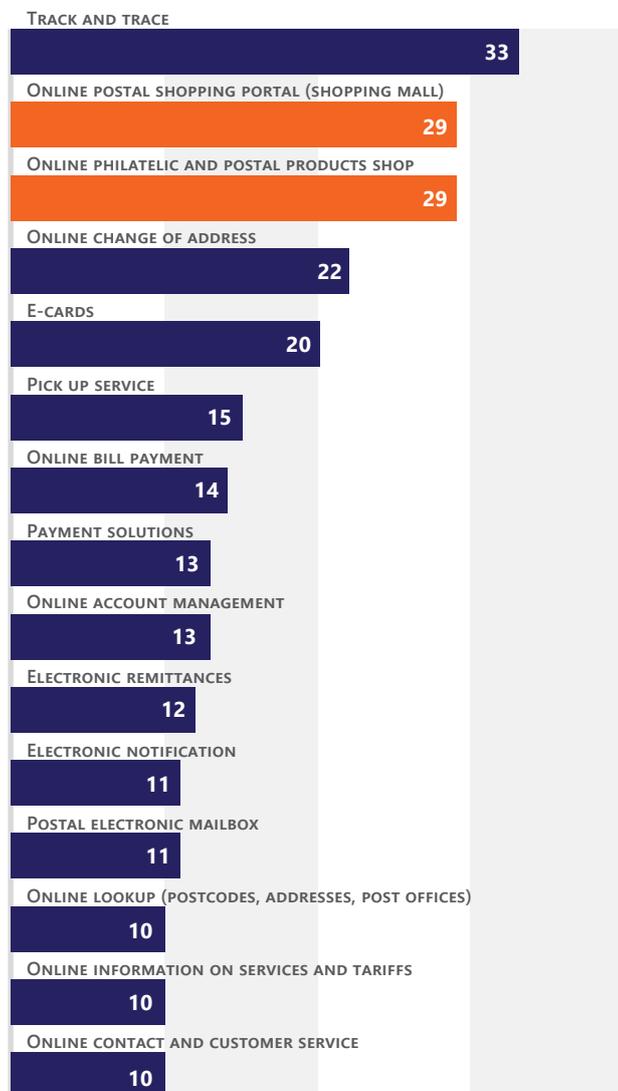


Source: 2017 UPU digital postal services survey

The adoption of the latest mobile technologies is playing a big role in the growth of e-commerce. The need for ease when shopping on the go has led to the growth of mobile shopping.

The figure 2.5 shows the top 10 postal e-services accessed via a mobile phone. E-services that are supporting e-commerce growth, such as online postal shopping portals (shopping malls) and online philatelic and postal product shops, are widely provided by DOs (see bars in orange).

Figure 2.5 - Postal e-services accessed via mobile



Source: 2017 UPU digital postal services survey

Mobile Internet penetration is driving more customers to online mobile shopping. Customers are also becoming sharper and better informed about their needs and available solutions than ever before.

Increased range of payments for underbanked shoppers

Unlike in developed countries, there is a huge population in developing countries that are underbanked. In 2018, 66% of sub-Saharan Africans were listed as unbanked.⁵

Large online payment platforms, such as PayPal and Payoneer, have expanded across the world. However, there is still a gap as the services are not available across all countries. This gap is filled by local online payment processing platforms and mobile phone money transfer platforms, such as M-Pesa in Kenya. China has stand-alone street terminals for making purchases.

There has also been a high growth of online wallets and cryptocurrencies and other digital currencies that are making it possible to trade without worrying about exchange rates and country-specific financial issues. The wide spectrum of options has made it easier for many people to buy and pay online.

The Post is a key enabler in increasing the range of payments for unbanked shoppers. Currently, 91% of Posts worldwide (183 out of 201) provide financial services, either directly or in partnership with other financial institutions. Recent studies reveal that Posts are comparatively better than other financial institutions in banking segments of the population that tend to be excluded, such as women, the poor, the less educated and those in the informal economy.⁶ As such, postal networks should be an integral part of discussions in which governments, policymakers and international organizations design strategies for fostering financial inclusion.⁷

Blockchain-enabled platforms

A blockchain is a decentralized, distributed record or "ledger" of transactions, in which cryptographic techniques are used to store transactions in a permanent and near inalterable way. Unlike traditional databases, which are administered by a central entity, blockchains rely on a peer-to-peer network that no single party can control. Authentication of transactions is achieved through cryptographic means and a mathematical "consensus protocol" that determines the rules by which the ledger is updated, which allows participants with no particular trust in each other to collaborate without having to rely on a single trusted third party. Thus, blockchains are, as *The Economist* calls them, "trust machines". Participants in a blockchain can access and check the ledger at any time.

5 <https://www.itnewsafrica.com/2018/12/66-percent-of-sub-saharan-africans-are-listed-as-unbanked-world-bank/>

6 Ansón, Berthaud, Klapper & Singer, 2013, "Financial Inclusion and the Role of the Post Office", Policy Research Working Paper 6630, World Bank

7 Global Panorama on Postal Financial Inclusion. UPU 2016 www.upu.int/uploads/tx_sbdownloader/globalPanoramaOnPostalFinancialInclusion2016En.pdf

Given the potential of blockchains, companies, civil society organizations, software developers, academics, governments and intergovernmental organizations should work hand-in-hand to assess the practical and legal implications of the technology and to develop collective solutions to existing challenges. This is particularly true when it comes to international trade. Blockchains could make international trade smarter, but smart trade requires smart standardization – and smart standardization can only happen through cooperation. If there is a new ecosystem conducive to the wider development of blockchain, international trade could well look radically different in 10 to 15 years.⁸

The Internet of Things

The Internet of Things (IoT) has been defined as a worldwide information infrastructure in which physical and virtual objects are uniquely identified and connected over the Internet, enabling innovative, advanced services and creating a more convenient and smarter life.⁹ The IoT would expand the scope and depth of e-commerce by linking people, smart objects and offline objects in the current e-commerce business model, generating an unprecedented amount of big data on product performance and customer behaviour and experience, increasing communication and action, and, ultimately, shaping the future of e-commerce.

Artificial intelligence

Artificial intelligence is a way of offering the industry innovative and smart business solutions. It adds valuable elements to help e-commerce platforms remain competitive. It enables companies to gather and use data in real time, facilitating efficiency and competence in business and providing customers with a personalized experience through knowledge about their preferences.

Artificial intelligence enables an e-commerce website to recommend products uniquely suited to shoppers and allows people to search for products using conversational language or images, as if they were interacting with a person.

Virtual reality

Virtual reality (VR) is an emerging technology that has the potential to reshape the world of online shopping experiences. VR provides a new level of interaction for customers and users.

VR is full of possibilities for offering consumers the chance to visualize how a product looks before they actually purchase it. Many companies are therefore trying to introduce their own VR shopping app to let users try before they buy.

E-commerce competitive landscape

The e-commerce megatrend is bringing rapid and sustained growth to the parcel market. The global e-commerce market has increased almost twentyfold since 2000 and is predicted to grow by around 10% each year until 2025 across developed regions to an estimated 8 trillion EUR.¹⁰

A broad range of market dynamics support e-commerce growth, as new regions (e.g. sub-Saharan Africa, Eastern Europe), new consumer segments (e.g. the elderly), new product verticals (e.g. furniture), new channels (e.g. social media platforms), and new occasions (e.g. hyperlocal “instant” shopping) are introduced to the online shopping universe. In fact, online retail will outgrow physical retail expansion by five times from 2016 to 2021 and account for 25 to 30% of total retail by 2030, compared to 9% today.¹¹

Emerging challenges for Posts to compete in e-commerce

The entire logistics value chain for small packets and parcel handling is for the taking, most notably by the e-commerce giants that have recently taken substantial steps towards integration, such as Amazon, Alibaba and JD.com. These steps include Amazon’s order of 20,000 delivery vans in the US and Alibaba’s move to offer parcel delivery beyond its own needs to the broader market. These three giants alone now account for around two-fifths of online purchases globally, and the move to parcel delivery seems an obvious choice.¹²

A study carried out by McKinsey & Company shows that most postal operators are still hampered by structurally uncompetitive labour costs that are 20 to 40% higher than those of their new competitors, along with IT systems and risk-averse cultures, while new competitors erode their primary sources of competitive advantage: strong brands and scale benefits.

⁸ Can Blockchain revolutionize international trade? World Trade Organization 2018 www.wto.org/english/res_e/booksp_e/blockchainrev18_e.pdf

⁹ www.itu.int/en/ITU-T/gsi/iot/Pages/default.aspx

¹⁰ The endgame for postal networks: How to win in the age of e-commerce. McKinsey 2019. www.mckinsey.com/~/_/media/McKinsey/Industries/Travel%20Transport%20and%20Logistics/Our%20Insights/The%20endgame%20for%20postal%20networks%20How%20to%20win%20in%20the%20age%20of%20e%20commerce/The-Endgame-for-Postal-Networks.ashx

¹¹ Ibid

¹² Ibid

Consumers

Consumers today expect ever faster, more transparent and more convenient delivery of their items, at constant or falling prices. Despite the proliferation of higher-value delivery forms, including same-day delivery, around 70% of consumers expect e-commerce deliveries to be free.¹³ Consumers are also continually expanding the product categories for which they will shop online, including furniture and groceries.

Retailers

The McKinsey & Company study highlights that two-fifths of global e-commerce is dominated by the three giants: Amazon, Alibaba and JD.com.¹⁴ These retail leaders are able to offer a broad and fast-growing spectrum of delivery options to their customers, including innovations such as time window delivery, advanced track and trace, in-flight redirection, pickup at home, and new access options such as parcel lockers and smart locks. In fact, many of these innovations have already become market standards in just a few years.

New B2C parcel competitors

It can be increasingly difficult for postal operators to cover the cost of these innovations, given that transforming B2B and express-parcel players and venture capital-funded start-ups (such as Postmates, DoorDash and Instacart, which have raised 3.9 billion USD in funding since 2011 and are now eyeing the non-food retail market) are willing and able to expend a significant amount of money to secure a stake in the B2C parcels market. These competitors are doing so by forgoing short-term profits in return for revenue growth, or by undercharging customers for shipping as they benefit from cross-selling other services.

As consumer expectations continue to rise, they are increasingly unwilling to assume the additional costs themselves. E-tailers, in particular, are pressuring their logistics partners to cover the costs in order to compensate for their lost shipping fees and keep their unit economics intact.

The increasing size and sophistication of these online retailers vis-à-vis their logistics partners means they can gain the concessions they desire – if only via the implicit and growing threat that they will either insource their logistics or take on multiple third-party logistics.¹⁵

Efficient postal services are the heart of e-commerce

In order to succeed in the competitive field of e-commerce, Posts need to rapidly establish an integrated cross-border e-commerce ecosystem, which is to be provided by postal operators through physical e-commerce hubs interfaced with online e-commerce platforms via a suite of innovative UPU standards and IT tools.

How to be competitive in a soaring e-commerce market

With e-commerce growth set to continue over the coming years, Posts should continue to play a vital role in the e-commerce market by leveraging their core competencies. To take their place, postal operators need to further optimize their current operations, boosting operational competence in sorting, transport, pickup, delivery and – often neglected – business support functions.

The McKinsey & Company study proposes seven key initiatives for reducing total costs by up to 20%.¹⁶ The most impactful of these initiatives for many players are using advanced production integration methods, introducing analytics-supported flexible resource planning, and automating operational planning and support activities by up to 50%.

Posts also need a long-term plan to establish the additional capacity required to participate in continuous parcel growth. The long-term plan needs to answer three key questions:

HOW MUCH CAPACITY IS NEEDED (AND WHERE) TO MEET EVOLVING E-TAILER FULFILMENT STRATEGIES AND SERVICE EXPECTATIONS?

WHAT IS THE RIGHT KIND OF AUTOMATION TECHNOLOGY FOR THE PRODUCTS?

HOW CAN ADDITIONAL CAPACITY BE BEST INTEGRATED TO PROTECT JOINT NETWORK ECONOMICS?

¹³ www.pitneybowes.com/content/dam/pitneybowes/us/en/ecommerce-study/2018-global-ecommerce-study-overview.pdf

¹⁴ The endgame for postal networks: How to win in the age of e-commerce. McKinsey 2019 www.mckinsey.com/~media/McKinsey/Industries/Travel%20Transport%20and%20Logistics/Our%20Insights/The%20endgame%20for%20postal%20networks%20How%20to%20win%20in%20the%20age%20of%20e%20commerce/The-Endgame-for-Postal-Networks.ashx

¹⁵ Ibid

¹⁶ Ibid

The study adds that with about 75% of delivery speed-related quality issues in today's postal networks being structural, strategic investments in the network offer a unique opportunity to not only create capacity for growth and improve the operating cost base, but also for a real change in service offering. As such, leading players are already continuously investing billions of dollars in their networks.

Posts can continue to play a vital role in many areas of e-commerce market: they can provide delivery, logistics and payment solutions and they can enter into partnerships to provide wider e-commerce solutions in line with the demands of their individual markets.

Why are Posts entering the e-commerce market

Through diversification strategies, Posts are enabling e-commerce and creating a unique competitive advantage. The UPU digital economy report also shows that, through diversification, Posts create a potential market for e-commerce.¹⁷ Posts also stay competitive in a growing e-commerce market by protecting and strengthening the core business. The table below displays the considerable proportions of Posts that share these views – more than half of respondents:

Reasons	Percentage of Posts
LEVERAGING COMPETENCIES	Posts rated as a trusted service provider by 83% of DOs in 2017 (versus 72% in 2015)
	69% of Posts exploit synergies between e-services and their other online activities
DIVERSIFICATION	69% of Posts want digital services to help generate new revenue from postal e-services to compensate for most or all of (potential) declines in mail revenue
PROTECTING AND STRENGTHENING THE CORE BUSINESS	82% of Posts desire to exploit as high a market share as possible
	64% of Posts respond to competitive threats
	70% of Posts want to enter the market before competitors

What are the main obstacles for Posts entering the e-commerce market

Large competitors pose a significant threat to postal operators, as does the ever-changing digital technology. The latest UPU research identified the top five obstacles in implementing postal digital services to support e-commerce.¹⁸

Globally, over half of Posts face the following challenges:

RESOURCE CONSTRAINTS LIMITING FULL DEPLOYMENT OF POSTAL E-SERVICES;

TIME TAKEN TO TRANSITION TOWARDS A DIGITAL CULTURE;

LIMITATIONS OF IT INFRASTRUCTURE;

INSUFFICIENT INTERNAL EXPERTISE FOR E-SERVICE DEVELOPMENT.

Posts can continue to play a vital role in many areas of e-commerce market: they can provide delivery, logistics and payment solutions and they can enter into partnerships to provide wider e-commerce solutions in line with the demands of their individual markets.

¹⁷ "The digital economy and digital postal activities – a global panorama" Universal Postal Union 2019

¹⁸ Ibid

The five challenges facing more than half of Posts in each region have been identified as follows:

Region	Obstacles
AFRICA	Limited resources
	Lack of IT infrastructure
	Transition required towards a digital culture
	Lack of experts needed for e-service development
	Slower-than-anticipated customer adoption of postal e-services
ARAB REGION	Legal framework restricting the scope of e-services
	Limited business models available and e-merchants' use of their own delivery networks
	Slower-than-anticipated customer adoption of postal e-services
	Investment resources insufficient for full deployment of e-services
	Lack of experts needed for e-services development
ASIA-PACIFIC	Insufficient investment resources
	Customs clearance
	Limitations of IT infrastructure
	Slower-than-anticipated customer adoption of postal e-services
	Insufficient experts needed for e-service development
EUROPE AND CIS	Transition required towards a digital culture
	Lack of training for employee development
	Resource constraints limiting full deployment of services
	Restrictive legal framework
	Customs clearance barrier to e-services and postal development
INDUSTRIALIZED COUNTRIES	Time taken to move towards a digital culture
	Slower-than-anticipated customer adoption of postal e-services
LATIN AMERICA AND CARIBBEAN	Lack of IT infrastructure
	Insufficient investment resources
	Long transition to a digital culture
	Customs clearance
	E-merchants using their own delivery networks

Posts' major competitors in e-commerce

Understanding both internal and external challenges is crucial for Posts to remain competitive. Postal operators need to become competitive players in the parcel market if they are to sustain the core business and deliver universal services in the most economical way.

The online retail market is becoming increasingly concentrated. E-commerce supergiants Amazon, Alibaba and JD.com alone now account for approximately 40% of online retailers, dominating seven of the world's 10 largest e-commerce markets.

Their counterparts in most of the remaining markets are equally large, including Flipkart in India and eBay in Korea (Rep.). Only the Russian Federation has yet to reveal a dominant market leader.¹⁹

Largest e-commerce companies globally:

AMAZON: the biggest e-commerce company with revenues of almost 180 billion USD. It is quickly establishing its own delivery network in its key markets.

JD.COM is China's biggest e-commerce provider with over 300 million active customers. With revenues of over 55 billion USD in 2017, it is developing innovative delivery solutions and enhancing customer experience.

ALIBABA can be considered an e-commerce facilitator for the way it brings together merchants and consumers through its well-developed ecosystem, providing payment and financial services to aid commerce.

EBAY: established as an Internet auction site to bring together buyers and sellers, eBay was primarily established as a C2C e-commerce company. While still providing auctions for used items, eBay now also, more conventionally, sells new goods.

RAKUTEN provides a range of electronics and Internet services, with Rakuten Ichiba being Japan's largest e-commerce platform. Rakuten is, however, much more than simply e-commerce, as it is a truly digital company offering a wide range of services.

Based in Brazil, **B2W** is one of Latin America's biggest e-commerce platforms. Born of a merger between Americanas.com and Submarino.com, its 2017 revenues of 2.1 billion USD equate to half of the Brazilian online market.

Founded in Berlin in 2008, **ZALANDO** offers a cross-platform online store selling a range of products. It now operates in more than 15 countries throughout Europe, and generated revenues of more than 5 billion USD in 2017.

With operations in 785 metropolitan areas around the world, **UBER** began life as a ride-hailing service but now provides taxis, food delivery, ridesharing and other mobile-generated services.

Established in 2007, **FLIPKART** is based in India and started life selling books online. Moving quickly into other products, it sold more than 51% of all smartphones in India in 2017. In 2018, Walmart bought a 77% controlling stake in it for 16 billion USD.

YANDEX specializes in Internet-related products and services, including search engines, navigation, transport and e-commerce. In 2018, it merged its Yandex NV business with Uber and also started trialling autonomous vehicles.

In many cases, these competitors represent opportunities and threats to postal operators. They are opportunities insofar as they are pushing retail online, which requires the physical delivery of items to online buyers. They are, however, also threats because many are also involved in disrupting traditional working methods and looking at ways of providing alternative delivery solutions.

Postal operators must heed these warning signs. Even as the e-commerce giants are taking steps to meet an increasing share of their logistical needs in-house, they are laying a foundation to serve the market more broadly.

Chapter III:

E-commerce value chains

E-commerce value chain

E-commerce physical value chain

The table below illustrates the complete cycle of an e-commerce value chain comprising both physical and digital flows of item data as well as payment. Electronic exchange of information is mandatory for tracking and tracing item-data in an e-commerce value chain. DOs exchange pre-dispatch information and dispatch receipt information in accordance with the UPU Regulations to the Convention.²⁰ There are also mandatory data exchange events with the customer, provided by the DOs.

For UPU physical services that offer tracking as a service feature, the following track-and-trace information for outward and inward postal items is required.

TABLE 3.1 – MANDATORY TRACKING EVENTS – PHYSICAL VALUE CHAIN

Event	Description	Data elements	Where?
EMA	Posting/collection	item-identification destination-country event-date-time office-of-origin-ID	Post office
EMB	Arrival at outward office of exchange (OE)	item-identification destination-country event-date-time office-of-origin-ID	OE (origin)
EMC	Departure from outward OE	item-identification destination-country event-date-time office-of-origin-ID	OE (origin)
EMD	Arrival at inward OE	item-identification destination-country event-date-time office-of-origin-ID	OE (origin)
EDB	Item presented to import Customs	item-identification destination-country event-date-time office-of-origin-ID	OE (destination-Customs zone)
EDC	Item returned from import Customs	item-identification destination-country event-date-time customs-return-point-ID	OE (destination-Custom zone)
EDE	Item held by import Customs	item-identification destination-country event-date-time receiving-OE import-customs-retention-reason	OE (destination-Custom zone)
EMF	Departure from inward OE	item-identification destination-country event-date-time inward-OE	OE
EDD	Arrival at sorting centre	item-identification destination-country event-date-time delivery-office-ID	Sorting centre
EDE	Departure from sorting centre	item-identification destination-country event-date-time delivery-office-ID	Sorting centre
EMG	Arrival at delivery office	item-identification destination-country event-date-time delivery-office-ID	Post office
EDG	Item out for physical delivery	item-identification destination-country event-date-time delivery-office-ID	Post office
EDH	Item arrival at collection point for pickup	item-identification destination-country event-date-time collection-point-ID	Lockers
EMI	Final delivery	item-identification destination-country event-date-time delivery-office-ID	Post office/home
EMH	Attempt/ unsuccessful delivery	item-identification destination-country event-date-time collection-point-ID	Home
ITMATT	This message carries electronic customs declarations between postal operators.		
CUSITM/ CUSRSP	These messages carry electronic customs declarations from postal operators to Customs and the reply message from Customs to Posts.		

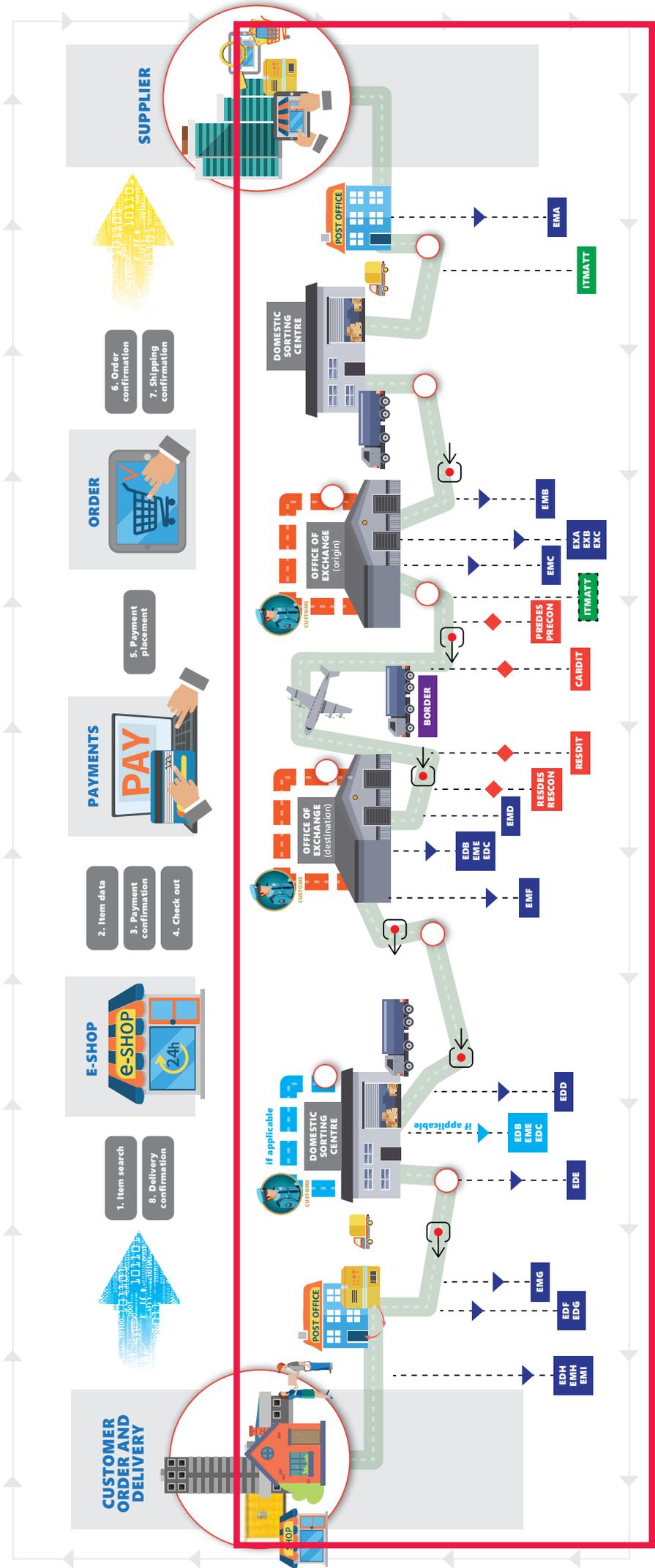


Figure 3.1 - E-commerce physical value chain

Source: UPU

E-commerce digital value chain

The digital value chain, which focuses on e-shoppers' activities, starts with an item search at an e-shop. Online shopping is a process whereby consumers buy goods and services directly from a seller over the Internet without an intermediary service. E-shoppers can visit web stores from the comfort of their home and shop sitting in front of their computer.

The table 3.2 describes the e-commerce value chain from the customer's perspective. The first stage starts when the customer visits an online shop to search for an item. Once the customer has selected their item, the e-shop sends a request to the customer to pay. Payment from the customer will trigger payment confirmation and checkout.

Following checkout, payment placement is triggered, which in turn leads to an order. Once a customer has placed an order, the supplier responds with an order confirmation (e.g. e-mail).

An order confirmation contains important information for the customer, including order information and estimated shipping dates. It gives customers a tracking number, which the customer can use to find shipping information.

The last stage in an e-commerce value chain is transporting the item to the customer's final delivery destination. Successful delivery is confirmed when the customer receives the delivery item. It usually triggers the customer's confirmation of receipt.

Events	Where?	How?
SEARCH	E-shop	Online-API
PAYMENT	E-shop	Payment request-API
PLACEMENT	E-shop (bank)	Payment placement-API
CHECKOUT	E-shop	Receipt confirmation-API
ORDER	E-shop	Payment confirmation-API
CONFIRMATION	E-shop	Order confirmation-API
SHIPMENT	E-shop	Shipment confirmation-API
DELIVERY	E-shop	Delivery confirmation-API

With e-commerce growth set to continue over the coming years, Posts should continue to play a vital role in the e-commerce market by leveraging their core competencies.



30%

OF TOTAL RETAIL BY 2030 WILL BE ONLINE
E-retail will outgrow physical retail by five times from 2016 to 2021

91%

OF POSTS PROVIDE FINANCIAL SERVICES
either directly or in partnership with other financial institutions.

83%

POSTS RATED AS A TRUSTED SERVICE PROVIDER
of DOs in 2017 (versus 72% in 2015)

70%

OF POSTS WANT TO ENTER THE MARKET
before competitors

4.88

TRILLION USD
is projected e-retail revenue in 2021.

10%

IS PREDICTED ANNUAL GROWTH
of the global e-commerce market

Chapter IV:

E-commerce key elements



E-commerce comprises any form of economic activity conducted on the Internet, including the production, promotion, sale and distribution of products. A well-organized and more detailed view of e-commerce key elements is needed to better understand and identify opportunities for Posts. These elements should be considered as part of any e-commerce planning and implementation, and are grouped into three categories:

DIGITAL KEY ELEMENTS: elements related to e-commerce portals, taking into account technical tools and support, content management, mechanisms for searching products and business models.

PAYMENT KEY ELEMENTS: elements related to electronic payments tools available and business models.

PHYSICAL KEY ELEMENTS: comprising the essential services and tools related to shipping, delivery, fulfilment and business models.

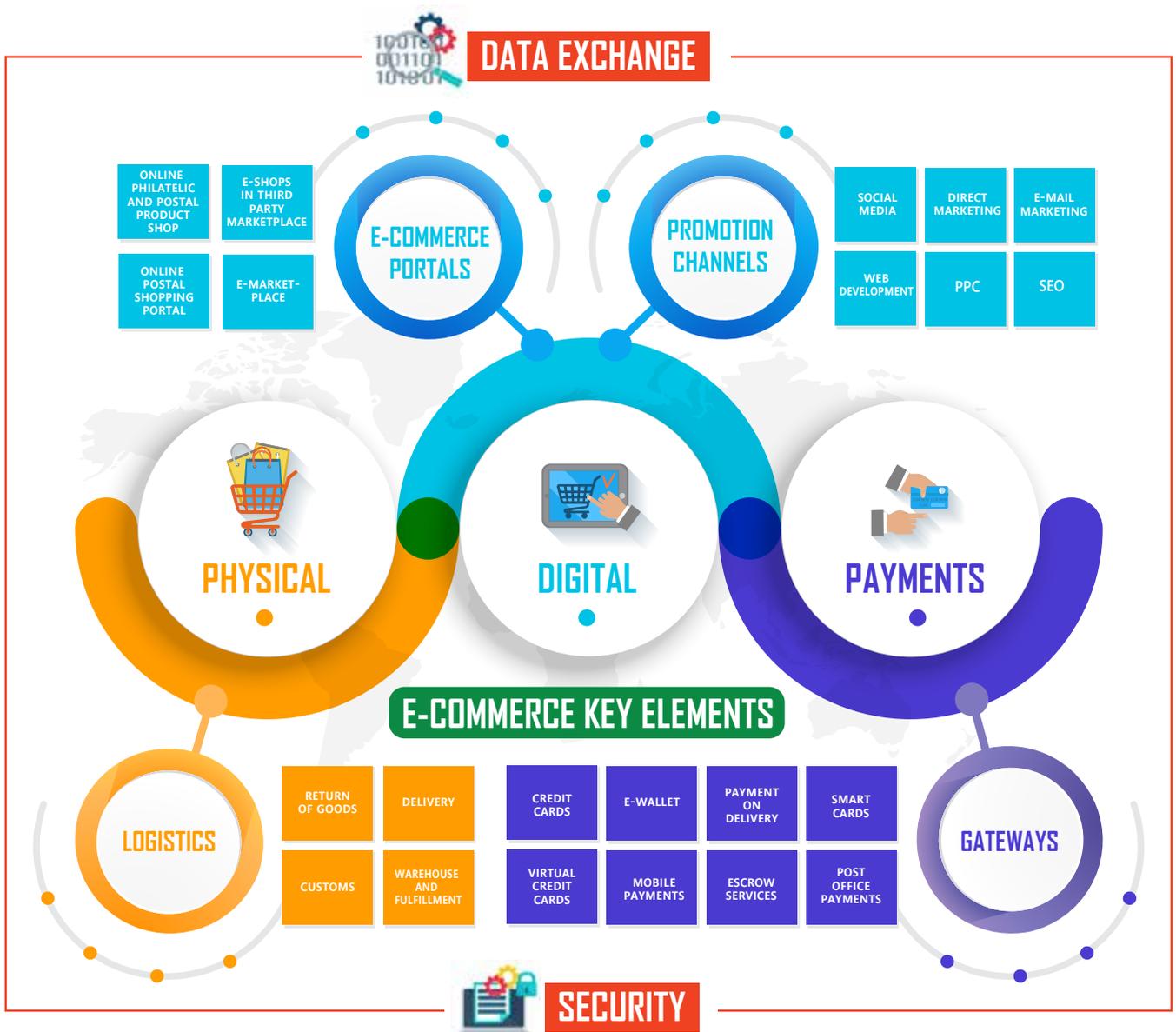
There are also some crosscutting issues that are central to any e-commerce strategy. These issues are grouped into two categories:

DATA EXCHANGE: standards and tools for data exchange related to products, duty and taxes, customers, orders, and other information shared among e-commerce players.

SECURITY: security is key to ensure trust and reduce fraud across the three dimensions (digital, physical and financial (payments)).

The e-commerce key elements are shown in the following picture:

Figure 4.1 - E-commerce key elements



Digital key elements

Postal e-commerce portals are the main virtual contact point between sellers and buyers.

Through these portals, the online shops make themselves known to customers and provide essential information about their products and services, including pricing, shipping and other commercial information necessary for visitors to initiate and complete a transaction.

E-commerce portals

Online philatelic and postal products shop

A Post can build an e-shop to sell its own products and postal services online. This experience can help Posts offer further e-commerce services.

Philatelic products are an obvious choice for a postal e-shop.

Case: Uruguay Post

Correo Uruguayo built its own philatelic store and sells its own products and postal services online.²¹

E-shops in third-party marketplaces

Marketplaces are powerful sales channels that connect sellers with buyers. Selling in the largest marketplaces, such as Amazon, eBay or Tmall (China), increases the reach and visibility of small and medium enterprises, both nationally and internationally.

In addition, it allows consumers, via the postal network, to access products from any country and from anywhere.

Case: Correos

Correos, the Spanish postal operator, hosts a web service called Comandia, which is specialized in e-commerce, web hosting, marketing strategies, and tools for selling online and growing business in global marketplaces.²²

Online postal shopping portal (shopping mall)

Shopping malls are a type of platform for Posts to provide e-commerce solutions and services. They allow MSMEs to display and sell their products online.

A shopping mall provides easy and safe services through a user display interface with the latest technologies and website protection protocols. Customers can log on to the website, register, view the list of available products and services, and make their purchase.

Shopping malls also provide e-commerce opportunities, not only to Posts, but also to entrepreneurs as the website serves as an optimal way of displaying products and services to the biggest potential client base. This will increase the number of views and sales and yield considerable revenue for entrepreneurs as well as Posts.

Case: Turkish Post

PTTEM, a subsidiary of Turkish Post, offers customers a marketplace to buy products, pay taxes, and top-up paid services. It also allows small and medium enterprises to sell their products or services. Furthermore, along with other national Posts, PTTEM has started to serve customers in other countries with cross-border e-commerce. PTTEM has targeted customers, merchants and postal partners locally and regionally. The entire process of finding the product, buying it, making the payment and delivery are handled by PTTEM, while Turkish Post or local post offices handle the acceptance from sellers and delivery to customers. Furthermore, PTTEM has enriched its services by offering a service platform for cross-border trading, e-commerce fulfilment for merchants and partners, loyalty programmes to partners, on-the-go delivery boxes, and corporate e-commerce and services solutions. Along with product marketplaces, PTTEM has integrated several Turkish Post customer services into the marketplace platform, such as a fast Transit System (Paid Highway Tolls System) Top-Ups, Vehicle Tax/Fine/Insurance Query Payments, and Smart Parcel Lockers on the go.

PTTEM develops and manages end-to-end technologies and operations for:

- the local e-commerce marketplace epttavm.com, which serves over 10 million visitors a month with products provided by over 10,000 sellers; and

- the cross-border e-commerce marketplace platform Ready2Sale and postal partner marketplaces, such as turkishsouq.com for Qatar Post, eshop.posta.ba for Bosnia and Herzegovina Post, etc.

Along with products marketplaces, PTTEM has integrated several Turkish Post customer services into the marketplace platform, such as fast transit system (paid highway-toll system) top-ups, vehicle

21 www.stamps.uy.post/

22 www.comandia.com/blog/

taxes/finances/insurance payments, and on-the-go smart postal lockers.

Furthermore, PTTEM has developed seller and brand services, such as e-commerce fulfilment services, loyalty programmes, corporate FTS and e-exports/cross-border e-commerce trading.

Finally, PTTEM has become a 360° service provider for SMEs and Turkish Post's corporate e-commerce and other customers.

Case: Saudi Post

E-mall is a platform providing e-commerce solutions and services in both English and Arabic in Saudi Arabia. It allows companies, profit organizations and charities in Saudi Arabia to display and sell their products and services online. It enables customers to view products by category and pay for purchases (by credit card or in cash) at Saudi Post's branches across the country, before delivering purchased items directly to customers' addresses through the Saudi Post delivery network. E-mall provides 24-hour customer service via the unified call centre (on 9200 05590) and e-mall social media accounts on Twitter and Facebook.

Shopping malls can also promote inclusion and preserve tradition: Saudi Post created a submarket subsidiary named Souq Alqarya (the village market) to display and sell products and handicrafts made by women. It is characterized by its traditional design and its bringing together of charities and handicraft associations to one place for free. Souq Alqarya supports craftspeople and their families, providing them with a permanent year-round sale outlet. In addition, this platform promotes traditional and distinctive crafts and handicrafts.²³

E-marketplace

An e-marketplace is an e-commerce site where product or service information is provided by multiple third parties, while transactions are processed by the marketplace operator.

E-marketplaces are virtual online market platforms where companies can register as buyers and sellers to conduct business-to-business transactions over the Internet. The use of the Internet has helped remove intermediaries in transactions. E-marketplaces are web-based information systems that provide opportunities for both suppliers and buyers.

The platforms enable buyers to compare various products and services across different factors, such as performance, quality, price, etc. Buyers gain access to a broader range of products and services, while sellers can reach their customers more conveniently and affordably. Sellers can enter new markets, find new buyers and increase sales by generating more value for the buyers. E-marketplaces are generally classified into four types:

INDEPENDENT E-MARKETPLACE: A B2B platform managed by a third party and open to buyers and sellers from a particular industry. When a party registers on an independent e-marketplace, it receives quotations or bids in a particular sector.

Example – Alibaba.

BUYER-ORIENTED E-MARKETPLACE: A collection of people with similar business interests come together to create an efficient purchase environment. This helps buyers obtain sufficient bargaining power to purchase at a desired price from the supplier. Suppliers can also benefit from this marketplace as it gives them a customer base with which they can share their catalogues.

Example – Amazon.

SUPPLIER-ORIENTED E-MARKETPLACE: This type of marketplace is also known as a supplier's directory. It provides a platform for sellers to improve their visibility through different communication media and allows suppliers to target a large number of potential buyers.

Example – eBay.

HORIZONTAL AND VERTICAL E-MARKETPLACE:

Horizontal e-marketplace: Buyers and suppliers from different industries or regions can come together to make a transaction.

Vertical e-marketplace: Provides Internet-based access to various segments of a particular industry up and down the hierarchy

Social media also offer valuable community-building opportunities that cannot be found elsewhere. Whether sharing behind-the-scenes content on your personal page or creating a group involving your business, social media should be leveraged for all it is worth.

Promotional channels

Social media

Social media have a major role in marketing. Customers actively seek brands they like or are interested in, while an increasing numbers of users are taking to social media to research or decide on purchases.

Social media also offer valuable community-building opportunities that cannot be found elsewhere. Whether sharing behind-the-scenes content on your personal page or creating a group involving your business, social media should be leveraged for all it is worth.

Social media platforms, such as Facebook, Google+ and Instagram through its "Shop Now" feature, can be used for online selling. These platforms use specific electronic showcases adapted for highly interactive social networks.

In addition to traditional browsers for desktops and laptops, all of these e-shop models can be made available for tablets, smartphones and digital television.

Direct marketing

Direct marketing involves advertising directly to a group of consumers. One category of direct marketing is direct mail, whereby physical materials are sent directly to consumers, e.g. promotional material, flyers and catalogues.

Direct marketing increases the visibility of e-shops, especially if integrated with web content and online advertising tools.

E-mail marketing

In addition to traditional mail, prospective e-commerce customers can be reached via e-mail. E-mail can be a very effective form of direct marketing to reach targeted lists of customers who have already opted in to receive information on particular products or services.

Vendors should beware of e-mail spam (mass-distributed, unsolicited e-mail), which is illegal in some jurisdictions. Beside the related legal and ethical problems, spam activities destroy e-shop reputations.

It is, therefore, important to consider offering secure e-mail solutions. The UPU has worked on the S52 standard to provide secure delivery of e-mail. This level of security increases the likelihood that prospective customers will click on the link, as it provides assurance that an e-mail is not fraudulent.

Web advertisement

Web advertisement involves linking the e-shop to other websites to increase visibility. There are a number of ways to achieve this:

SEARCH ENGINES: experts say that around 70% of electronic purchases involve a search process. Web search engines are a practical way for users to move through the huge amount of information available on the Internet.

SPONSORED LINKS: search engines also allow sponsored links, namely advertisements related to search parameters entered by users. Advertisers select a set of key words, and when someone searches one of them, a sponsored link engine shows advertisements related to that word. This is an effective and inexpensive way to market a product, as the advertisements are directly linked to the prospective customer's needs. This model of advertisement is based on a "cost per click" scheme – retailers pay only for successful clicks on the advertisement.

PRICE COMPARISON WEBSITES: in addition to searching for products and stores that the user wants, price comparison websites offer tools to compare prices and quality of service.

BANNERS: banner ads generally appear across the top or bottom of a web page, but other models, such as interstitial, pop-up and pop-under ads, can also be used.

E-MARKETPLACES: Internet-based environments bringing together buyers and sellers so that they can trade together more efficiently in a competitive environment.

Search engine optimization

Search engine optimization (SEO) is the process of optimizing your website to rank higher in search engine results pages, thereby increasing the amount of organic traffic your website receives. The channels that benefit from SEO include websites, blogs and infographics.

SEO helps to ensure that a site is accessible to a search engine and improves the chances that the site will be found by the search engine. To receive more traffic, grow their brand and sell more products, Posts need to actively optimize their websites for search engines.

Pay-per-click advertising

Pay-per-click advertising (PPC) is a model of digital marketing in which advertisers pay a fee each time one of their advertisements is clicked. It is essentially a way of buying visits to a website, rather than attempting to “earn” those visits organically.

Search engine advertising is one of the most popular forms of PPC. It allows advertisers to bid for placement of the advertisement in a search engine’s sponsored links when someone searches a keyword that is related to their business offering.

There are two dominant forces in the PPC world: Google Ads and Facebook/Instagram Ads. Google Ads helps advertisers connect with users searching for products or services within their field.

Digital business models

E-commerce portals

Postal e-shops

This business model offers a range of postal products in addition to stamps and collectors’ items. A postal e-shop is an online store introduced by Posts to allow postal customers to buy philatelic products over the Internet. Buyers pay for products and services purchased.

As e-commerce business continues to boom, postal e-shops have also seen sustained growth over the past few years. The 2017 UPU digital postal survey shows that postal e-shops expanded from 39% in 2012, to 53% in 2015 and 59% in 2017, with the upward trend set to continue.

E-shops in third-party marketplaces

This model enables all business firms to build and manage their own online web platform. A host e-shop creates the integrated architecture that allows companies to handle product inventory, means of payment, delivery services, advertisement and sales management.

Posts offering this model provide the technological environment for the e-shop, fully integrated with postal delivery and payment services. MSMEs looking to participate in the e-commerce market are the best candidates for this service model, as they constitute a new audience with little e-commerce experience.

Even though the technology is simplified, the necessary assistance must still be built into the model to help sellers create, configure and operate their hosted e-shop. This technical assistance is a key factor in ensuring the success of the business model. The remuneration may come from monthly, semi-annual or annual fees paid to the hosting service.

Online postal shopping portal

In this model, Posts provide online malls for product promotion and e-shop hosting. This model gathers many stores on a single website that includes search tools and promotion and sale of merchandise.

An e-mall may host e-shops in its own IT infrastructure, as an expansion of the e-shop hosting model. Alternatively, an e-mall might be a showcase of products from stores hosted elsewhere. This model offers e-commerce opportunities to Posts as well as entrepreneurs and businesses.

Postal operator websites are usually among the most popular in their countries, attracting many visitors to e-malls. For retailers, participation in a postal e-mall increases consumer confidence, as the stores are associated with the postal operator’s solid reputation.

The e-mall model was the first attempt to replicate, on the Internet, the success of brick-and-mortar malls. The big challenge is to attract online shoppers. In mature e-commerce markets, e-mall models are in decline. In these markets, the main motivators for purchasing online are open search and product comparison, not e-malls.

Therefore, a good strategy for e-malls is to integrate their search and comparison features with big websites dedicated to these activities. SEO tools are available for e-mall management.

The vendor support structure can include web and phone support, and even personal assistance for larger sellers. Support needs to cover not only the tools for hosting, but also the delivery services, payment methods, showcase management, post-sale services, advertising, item search and comparison, and logistics. Remuneration may include periodic fees, sales commissions and advertisements.

Figure 4.2 - Postal e-marketplace



E-marketplace

The e-marketplace model gathers features from other business models. An e-marketplace includes a wide range of products from many vendors. It also receives payments, distributes orders, delivers items and releases funds to sellers after successful delivery.

In the e-mall model, sellers are responsible for sales. In the e-marketplace model, the Post acts as trusted third party and so is partly responsible for sales. The Post also accepts risks of payment fraud – ultimately, it becomes a payment operator.

The e-marketplace model is complex and faces competition from large e-commerce sites. In some countries, large e-marketplaces, such as eBay, Amazon and Alibaba, are well established. Posts should evaluate the influence of these e-marketplaces and consider the risks of entering into competition with specialized e-commerce companies. An alternative strategy can be to act as an e-marketplace for niche markets, such as handicrafts. Another option can be to build partnerships with e-marketplaces to provide postal logistics, delivery and payment services, instead of creating a new e-marketplace.

It is important to consider the risks of not following e-marketplace strategies and activities. These companies have the intention and capability of becoming strong competitors for Posts. In recent years, they have built platforms to offer their clients a full range of e-commerce features: web store hosting, electronic payments, advertising and logistics. They are now testing last-mile delivery, as Amazon is doing. These moves all pose threats to the postal industry, as they transfer the delivery decision power from buyers or vendors to huge, centralized e-marketplaces.

Posts must offer the best delivery and logistic services for e-marketplaces in order to encourage them to discontinue development of their own delivery services. Posts also need to be innovative as e-marketplaces are at working on non-traditional delivery options – drones, grocery delivery, collaborative shipping (crowd shipping), etc.

If Posts decide to build a postal e-marketplace, it is recommended that they start with simpler models: own e-shop, hosting, payment gateway and e-mall.

Summary of business models

The table below shows the advantages and disadvantages of each e-commerce portal model:

Table 4.1 - E-commerce portal models

E-commerce portals/ Attributes	Postal e-shop	E-shops in third-party marketplaces	Online postal shopping portal	E-marketplaces	Social media
COST	Low	Low	High	Very low	Low
FLEXIBILITY	Medium	Medium	High	Low	Low
COMPLEXITY	Low-medium	Medium	Medium	Low	Low
SETUP TIME	Short	Short	Long	Short	Short
IT INVESTMENTS NEEDED	Software acquisition and maintenance Internet network connections contract IT security services IT environment operation	Software acquisition and maintenance Partial IT environment operation	Software acquisition and maintenance IT security services IT environment operation	Monthly fees and/or commission per transaction	Monthly fees and/or commission per transaction
APPLICABLE TO	Postal operators Big stores, experienced with e-commerce and with well-trained staff	Postal operators Medium-sized stores with limited staff and resources, but able to deal with e-commerce operations and technology	Postal operators Small and medium companies without expertise in technology and/or with limited human/financial resources – usually, they are new to e-commerce	Small and medium companies Individuals can sell online using e-marketplaces Big stores and brands are also available on e-marketplaces	Any company

The main opportunity for Posts is to go beyond delivery services by offering logistics services for e-shops. Information about the logistics process needs to be provided throughout the sales experience (before, during and after), and this information needs to be integrated into websites.

This means offering plug-ins, tools for calculating shipping and freight prices, and track and trace to Internet service providers and other web hosting companies. The section on data exchange below provides details about this integration.

Posts can also set up an e-commerce portal to increase seller and buyer loyalty in postal delivery services. Moreover, offering hosting services or building e-marketplaces can facilitate e-commerce inclusion of MSMEs, which benefit from the technological simplicity, low cost, and integrated delivery, logistics and payment services, which are all offered by the trusted postal brand.

Posts can start e-commerce hosting services by building their own e-shop to sell postal products and services. After this experience, the web platform can be extended to other sellers. This is a good opportunity in domestic markets, especially with few e-marketplace alternatives for MSMEs.

In well-developed e-commerce markets, Posts must identify and evaluate the business models of other e-shop hosting providers and e-marketplaces. The decision of whether to enter the hosting business segment must take into consideration the Post's capacity to compete with established companies and their expertise in this field. Another option could be to build partnerships with them, avoiding unnecessary competition with players that could actually be postal service customers.

Key elements of payment

Payment is one of the most important components of any e-commerce implementation. However, it is also one of the most complex elements, mainly because of security features that must be put in place. The advice given by the Good Small Business Guide²⁴ still applies today, despite the progress made on regulatory and technical sides, and booming of e-commerce platforms:

“Consumers may be wary of giving credit card details and other personal information online. Your first step must be gaining their trust.”

“Fraud and chargebacks are critical issues that can seriously affect an online business.”

Awareness of financial transaction security and its purpose, as well as payment complexity, has grown in the past few years in order to comply with various central bank regulations in different regions and countries. This security also refers to the technical security of the transactions themselves against fraudulent access.

A variety of electronic payment tools are available to e-commerce merchants. Credit card associations and issuers, banks, e-payment providers (mobile payment providers and fintechs), money transfer operators and postal operators have been improving the security and reliability of payment applications to promote the adoption of e-commerce.

Throughout their existence, Posts have been offering financial services together with core logistical services. Even though fierce competition has arisen from conglomerates such as Amazon, Alibaba and others, Posts continue to enjoy an important competitive edge as most of them provide payment services and delivery worldwide, which can be leveraged to provide a complete e-commerce service, not to mention the intrinsic value gained from the trusted reputation and brand recognition associated with most Posts.

The development of an integrated postal e-commerce offering is crucial to help Posts strengthen their position and stay relevant in the area of e-trade.

Payment gateways

In order to make a payment in an e-commerce transaction, a payment gateway is required. Payment gateways are the middleware between the online shop and the payment processor, which receives the payment from the customer and forwards it to the merchant.

Put simply, payment gateways are in charge of payment authorization. All data entered is encrypted and transmitted securely between the customer and the merchant.

The payment processor is the entity that processes the payment request from the gateway and executes it – by debiting the money from the customer account, depositing it in the merchant account, and notifying the payment gateway on the transaction status (success or failed).

Payment gateways are a main component in enabling e-commerce online transactions to function.

Methods of electronic payments

E-payment is an online financial transaction between the customer and the merchant. Selection of the e-payment method usually depends on several factors:

- FINANCIAL RISK;**
- CONVENIENCE;**
- TRANSACTION FEE;**
- FOREIGN EXCHANGE RATE APPLIED;**
- FRAUD PROTECTION;**
- TRACEABILITY.**

Credit/debit cards

Credit/debit cards are the most popular and simplest form of payment for e-commerce transactions. This option is, however, expensive owing to transaction fees, and is still avoided by many customers owing to lack of trust (i.e. providing card details to an unknown identity).

Virtual credit/debit cards

Virtual cards are becoming more popular as the prepaid amount set when creating the virtual credit/debit card cannot be exceeded, limiting the potential abuse. These cards may have associated extra costs.

Smart cards/chip cards

Typically, smart cards/chip cards are a plastic card with an embedded integrated circuit containing the customer's personal information. The smart card can be loaded with funds from the customer's bank account to pay for online purchases. This method, like virtual credit/debit cards, enables the owner to adjust the amount available, thus reducing the risk and impact of fraud.

Cryptocurrencies

A Recent UPU white paper on postal financial inclusion examined potential use cases of cryptocurrencies by Posts.²⁵

The UPU is examining the role that distributed ledger technology (DLT), blockchain and cryptocurrencies can play in the postal industry, as well as the role of the UPU and its members in enabling efficient delivery of services. We find that there are already some examples of Posts around the world leveraging or experimenting with DLT to provide financial and logistics services.

Based on the current experience, there are three potential use cases that leverage the core strength of the postal network and build upon work currently being done by Posts:

USE CASE 1: low-cost, instantaneous inward remittance;

USE CASE 2: managing direct cash transfer projects; and

USE CASE 3: facilitating g2p payments.

Case: The Tunisian Post

A leading example is the Tunisian Post's eDinar, which allows individuals to have a digital wallet, backed by a physical prepaid smart card, without the need to open a bank account. eDinar is pegged to the national currency and functions like a digital fiat currency. In order to manage the currency circulation and prevent illegal transactions, the Tunisian Post has full control of the circulation and issuance of the eDinar (the Tunisian Post 2019). The Tunisian Post partnered with a Swiss FinTech company in 2015 to implement blockchain technology that moved the national digital currency, eDinar, to a new platform – eDinar Plus. However, given the current regulatory framework of the country, the underlying blockchain is used as a notary mechanism rather than a true cryptocurrency. The major innovation is that, unlike other virtual wallets, the use of a "blockchain-inspired transaction protocol" allows interoperability between various telecom providers through a single shared ledger system (Chakchouk 2017).

E-wallet

An e-wallet (or digital wallet) is a secure prepaid online account that allows the customer to store multiple purses. The customer's bank account can be linked to the e-wallet. Digital wallets are being developed, not only for basic financial transactions, but also to authenticate the holder's credentials.

Mobile payment/mobile money/mobile wallet

Mobile payments are transactions performed using a mobile device as a wireless electronic payment. A mobile wallet is an app that links to information on the customer's card, facilitating digital payments. In many countries, mobile payment solutions have been deployed as a means of financial inclusion.

Post office payment

Some Posts offer banking and postal payment services in their outlets or through mail services. These payment solutions are reliable and widely accessible. The postal payment option established under the UPU Postal Payment Services Agreement and provided by the UPU's worldwide electronic postal payment network (WEPPN) can offer a secure, trusted alternative for e-shopping, especially in countries where the market is still averse to relaying personal and credit card information through the Internet. Before a postal payment for an e-commerce transaction can be processed, ID must be presented.

Payment on delivery

Offering a variety of payment options boosts sales. Payment on delivery (POD) services are one such option linked to postal payments, and the COD (cash-on-delivery) option is often offered by Posts. A good example is the service that is widespread throughout the CIS region.

For consumers still afraid to submit their financial data online, POD services are a safe choice. For sellers, POD services are a secure payment solution, with a very low risk of fraud.

To meet e-commerce demands, POD services need to be reliable, cheap and efficient, and they need to allow for various means of payment. They also require proper technology integration across sites and post offices.

In the case of international transactions, the POD service may also include the collection of taxes and duties, adding value for customers.

25 Potential use cases of cryptocurrencies by Posts <https://www.upu.int/en/Publications/Financial-inclusion/Potential-use-cases-of-cryptocurrencies-by-Posts---A-White-Paper-on-Postal-Financial-Inclusion>

Escrow services are another opportunity for postal operators. With escrow services, the buyer pays the post office, which retains the money until the delivery is made.

Escrow services

Escrow services provide a secure payment solution that collects, holds and disburses funds for the customer's payment of goods purchased online through to the delivery of their parcel. It expands the e-commerce payment by linking product delivery with payment.

To increase trust in e-commerce, an escrow service is used to ensure that the payment is not released until the product is delivered and accepted and the Post acts as a trusted third party in the online buying process. For consumers, it guarantees delivery, while for sellers, it guarantees payment.

As with the e-commerce payment model, the risk of fraud and the rapid processing of reversals are points of great concern. However, these aspects are even more complex in the escrow model, as the Post has temporary responsibility over the property of both parties: the seller's product and the buyer's money.

Globally, Posts have expanded their escrow services to provide additional risk management solutions to their customers across postal financial transactions. Over the past five years, escrow services have seen double-digit growth. The 2017 UPU digital postal survey shows that the global coverage of postal escrow services rose to 17% in 2017, up from 5% in 2015.

Payment business models

Posts have a long history of providing payment services to their customers, mostly through their physical network. The e-commerce payment model extends this postal business, offering a variety of payment options for e-retailers, such as payment at the post office, payment on delivery, electronic payment on websites, and payment via a mobile device.

Postal payment solutions need to be easily integrated with e-shops using an application programming interface (API) with high availability.

Anti-fraud mechanisms are also vital. In many countries, vendors absorb the risks of online sales made by credit card: if a consumer informs the credit card issuer that they did not make the purchase, the payment value is returned to the consumer, at the loss of the seller.

As credit cards are the most common means of making online purchases, a solution is needed for risk analysis of orders paid by credit card. A process for evaluating suspicious requests is also required. These steps can minimize the risk of fraud.

Besides the risk of fraud, reimbursement processes in cases of cancellation, exchange or return need to be designed and executed with care. These situations can result in tension between the buyer, the merchant and the payment provider. It is necessary to quickly resolve problems without neglecting security aspects.

The compensation model is typically per transaction or based on periodic fees, or a combination of the two. Under the per-transaction model, a commission or fixed amount is paid for each payment event. This is the preferred option of retailers, as they only pay when sales are made. In cases where equipment is provided for the processing of payments (e.g. card readers or smartphones), it is also common to apply a periodic fee to cover the cost of those devices.

The business success of all parties depends on a suitable compensation model. When a buyer pays an e-shop, the seller must pay the IT structure, the hosting supplier, the online payment provider, the logistics operator, and so on. While it is not difficult to define a compensation model in domestic markets, international e-commerce transactions bring complexities such as import/export duties, taxes, and bilateral or multilateral agreements.

In the case of the postal industry, existing compensation parameters and processes among UPU members still need to be adjusted to reflect new electronic postal services. As an example, if an item of Post X is sold on the e-shop of Post Y, Post Y needs to be compensated for selling Post X's product. These compensation issues are being studied by the POC committees.

Also worth mentioning is the remuneration among UPU members for cross-border postal items. The postal remuneration system, also known as the terminal dues system, ensures that Posts are compensated for the cost of handling, transporting and delivering bulky letters and small packets across borders. Member countries agreed on the current system during the 2016 Universal Postal Congress in Istanbul. In 2019, the Geneva Extraordinary Congress approved by acclamation to accelerate rate increases to the system used to remunerate the delivery of inbound international bulky letters and small packets, phasing in self-declared rates as from 2020. Under the agreed solution, member countries that meet certain requirements – including inbound letter-post volumes in excess of 75,000 metric tonnes based on 2018 data – would be able to opt in to self-declare their rates starting 1 July 2020.²⁶

It is worth noting that e-commerce exerts strong pressure on Posts' delivery prices because of the attractiveness of free shipping. Pricing and remuneration models need to reflect this pressure.

Key elements of physical services

Logistics services are essential to e-commerce.

Posts are among the largest providers of delivery services in the world and can be major players in the delivery of e-commerce merchandise. Indeed, delivery is one of the biggest challenges faced by e-commerce players, and buyers have high expectations regarding the quality of delivery services.

Logistics extend from responding to orders to managing all the steps down to final delivery, namely:

PRODUCT INQUIRY: initial inquiry about offerings, visit to website, catalogue request;

SALES QUOTE: cost and/or availability;

ORDER CONFIGURATION: selection of items;

ORDER BOOKING: formal order placement, after confirmation of payment;

ORDER CONFIRMATION: confirmation that the order is booked and/or received;

ORDER SOURCING: determination of the source/location of items to be shipped;

ORDER CHANGES: changes to orders, if needed;

SHIPMENT RELEASE: start of shipping process by warehouse/inventory stocking point – may include picking, packing and staging for shipment;

SHIPMENT: shipment and transportation of the merchandise;

DELIVERY: delivery of the merchandise to the customer;

RETURNS: return of merchandise to the seller by the buyer in case of unacceptable items.

The traditional postal network was built for the purpose of delivering letter-mail items. The changing nature of mail traffic from letters to parcels and small packets, occasioned by the rise in e-commerce, has meant that postal infrastructure has had to be adjusted to deliver goods. With the competition and buyers shaping the operational standards and performance expectations of players in the e-commerce environment, postal operators wishing to play a key role in e-commerce have had to acquire digital competencies and dynamic capabilities to meet or exceed market expectations.

Figure 4.3 - E-commerce key physical elements

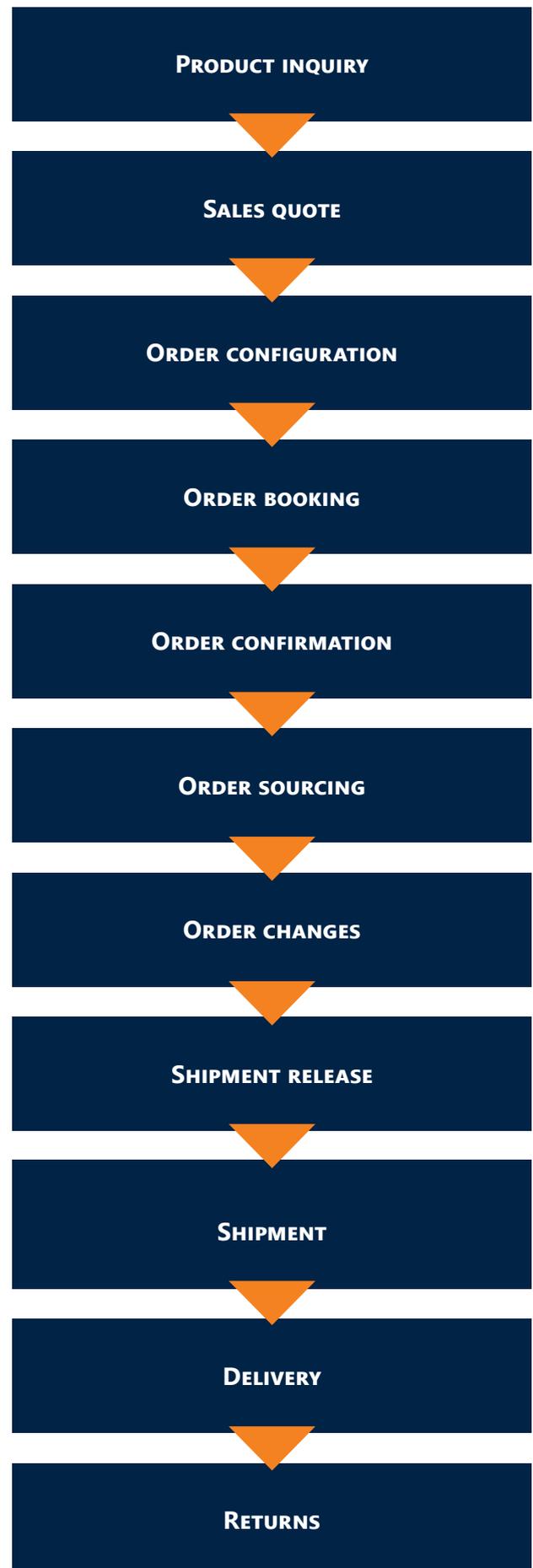


Figure 4.4 - Scales of sorting centre automation



Source: Scales of sorting centre automation²⁸

Within a cross-border e-commerce supply chain for postal operators, distribution and concentration of items in mail hubs to the OE, sorting operations, and last-mile delivery constitute the three largest cost drivers. Other important elements include returns processing and seamless interconnection with key supply chain partners, such as Customs and airlines. Another element that is increasingly gaining importance in the e-commerce environment is returns logistics.

All items for export accepted at any post office in a given country should be able to reach an outbound OE within the same number of days. Similarly, import items should reach the customer within the same period, regardless of where the customer is located in the country. The design of the trunk routes, the placement of mail hubs within the country, and the capacity of the transport fleet are important logistical elements in the mail concentration and distribution operations.

Sorting and shipment preparation – the process of separating items and putting them into consignments ready for transportation to the right delivery address – is the most important activity in terms of its impact on the overall efficiency of the entire supply chain.

The time taken to sort items, whether inbound or outbound, the accuracy or quality of the sorting, and the cost of the sorting operations are key logistical elements for postal operators in the e-commerce environment. Sorting should not only be fast, but it should be cost-efficient and accurate if postal operators are to gain a competitive advantage as e-commerce facilitators.

Once the items have been sorted, the consignment process should quickly assign them to the right transport to ensure their delivery to the consumer at the right time, at the right place, and at the right cost. Sorting operations, falling between mail distribution and last-mile delivery, have an impact on the performance and cost-efficiency of the entire supply chain. Postal operators can be at any of the four levels of automation in sorting operations, as a shown in the diagram below.

Factors determining the level of automation adopted by an operator include cost of equipment and software, volume of items processed, cost and quality of labour available, reliability and cost of energy, and the efficiency of the mail concentration and last-mile delivery operations. An efficient sorting process should supply items to an equally efficient last-mile delivery operation; otherwise, the gains made by one operation within the supply chain would be cancelled out by another.

The last-mile operations – transporting products purchased online from the last upstream distribution point, such as a delivery office or mail hub, to the final destination – often reach or exceed 50% of total parcel costs.²⁸ It is also the most unpredictable element of the postal logistics supply chain in the e-commerce environment due to the variability and uncertainty of the availability of the mail recipient. To manufacturers, the average international cost of the last mile represents between 28% and 55% of the cost of the product, depending on the region.²⁹

The difficulty of final delivery is in sending as many items as possible via the shortest route to widely dispersed customers in a spatially unequal geographic context under complex space and time constraints. This means that last-mile delivery operations require location-specific strategies that take into account drop density, residential density and the customer's socioeconomic profile. For instance, a community with a high ageing rate is ideal for door-to-door delivery.³⁰ Younger consumers are more inclined to pay the significant premiums for same-day and instant delivery over regular delivery, especially for groceries, food and medicine.³¹

27 Kukhnin, A., McGuire, S., Mitchell, J., Kuroda, S., Yates, M., Carrington, L., ... Bell, A. (2017). Warehouse Automation. London: Credit Suisse.

28 Joerss, M., Schröder, J., Neuhaus, F., Klink, C., & Mann, F. (2016). Parcel delivery: the future of last mile. McKinsey & Company.

29 Kannoth, S. (2019). Getting past the hurdles to the last mile. Retrieved June 4, 2019, from Logistics Update Africa: www.logupdateafrica.com/getting-past-the-hurdles-to-the-last-mile-trade-e-commerce

30 Xiao, Z., Wang, J., Lenzer, J., & Sun, Y. (2017). Understanding the diversity of final delivery solutions for online: A case of Shenzhen, China. Transportation Research Procedia, 985 – 998. doi:10.1016/j.trpro.2017.05.473.

31 Joerss, M., Schröder, J., Neuhaus, F., Klink, C., & Mann, F. (2016). Parcel delivery: the future of last mile. McKinsey & Company.

Warehouse and fulfilment

Warehouses are facilities used for the temporary storing and handling of merchandise before its distribution for sale or export. In general, warehouses are large plain buildings located in industrial areas with easy transportation access. They are also focal points for product and information flow between sources of supply and transportation providers.

The warehousing processes are quite extensive: they include supply and inventory management, planning, order fulfilment, and preparation for transportation. Order fulfilment is the process of responding to orders and managing all the steps down to final delivery.

An emerging trend is fulfilment outsourcing to third-party logistics providers. These providers are highly specialized and efficient, and can optimize fulfilment costs based on economies of scale, thus saving money for companies. Global logistics players, such as UPS and DHL, are good examples.

Posts could explore the opportunities for totally or partially managing clients' fulfilment process.

Customs

The growing e-commerce market means that an unprecedented number of parcels and small packets are being exchanged across borders, making seamless collaboration between Posts and Customs more necessary than ever. The UPU works actively with partners in the supply chain to keep mail moving across borders to ensure that these mail items reach their destination safely and on time.

Postal customs processes and regulations have not yet fully caught up with the e-commerce boom.

The new market demands engagement and collaboration with international customs and transportation authorities (World Customs Organization (WCO), International Air Transport Association, International Civil Aviation Organization) in order to maintain a seamless, frictionless and secure global logistics chain.

To that end, it is important to improve some aspects related to Customs:

Electronic advance information for airlines, customs administrations and border security using the UPU's ITMATT, CARDIT, PREDES, PRECON and EMSEVT V3 messaging standards. This data enables authorities and partners to identify high-risk dispatches and increases security and efficiency;

Priority lanes for e-commerce parcels when data is available and shared between Customs and Posts through joint WCO-UPU message standards (CUSITM and CURSP) and the UPU Customs Declaration System or their national equivalent;

Prioritization of advance customs information for delivery duty paid;

Reduced bureaucracy for importing/exporting through trade facilitation models such as Easy Export and Easy Import, designed in particular to help MSMEs sell their products in other countries.

Transmission of customs information in advance to the delivery country should be an integral part of postal solutions for global e-commerce and should trigger lower delivery costs. In other words, a reduction in delivery rates would provide incentive for pre-advice, even if this advance information is not mandatory. E-tailers should be grouped according to their level of compliance with pre-advice standards. Those that provide accurate data in advance could have faster clearance processes and cheaper delivery rates.

Customs compliance challenges for DOs in international e-commerce

Customs clearance is the accomplishment of the customs formalities necessary to allow goods to enter home use, to be exported, or to be placed under another customs procedure.³²

A survey by the International Trade Centre³³ found that there are significant barriers to cross-border delivery of both goods and services. Bottlenecks from customs procedures (total of 27%) were also reported as a major challenge, which includes cumbersome customs procedures and rules for the application of duties and taxes (11%), difficulty in preparing required documentation (7%), and difficulty in anticipating the amount of duties and taxes payable (9%).

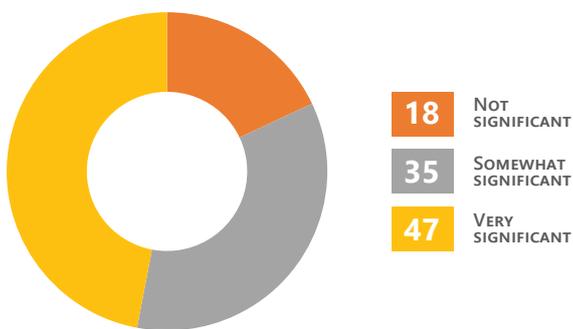
32 <https://www.upu.int/en/Postal-Solutions/Programmes-Services/Postal-Supply-Chain/Customs>

33 [www.intracen.org/uploadedFiles/intracenorg/Content/Publications/New%20Pathways%20to%20E-commerce_Low%20res\(2\).pdf](http://www.intracen.org/uploadedFiles/intracenorg/Content/Publications/New%20Pathways%20to%20E-commerce_Low%20res(2).pdf)

The UPU digital economy report³⁴ also revealed that customs compliance and clearance is one of the frequently identified challenges for digital postal development in e-commerce. Globally, 47% of DOs indicated that customs compliance and clearance is a very significant challenge, often perceived as an obstacle to digital postal development in e-commerce. In addition, the challenge is considered as somewhat significant by 35% of Posts. However, 18% of respondents stated that customs clearance is not a significant challenge to digital services related to e-commerce³⁵ (see figure below).

GLOBAL: DOES CUSTOMS CLEARANCE REPRESENT A SIGNIFICANT BARRIER TO INTERNATIONAL SALES, COMPARED WITH NATIONAL SALES?

Figure 4.5 - Challenges of customs clearance



Source: "The digital economy and digital postal services – a global panorama", UPU 2019

Across the UPU regions, customs clearance is indicated as a barrier that makes international sales harder to fulfil than national sales. Survey respondents in all regions perceive the barrier that customs procedures pose as being very significant, as shown in the figure above. This is particularly true for Asia-Pacific (60% vs. 47% globally), for example, coming in slightly above the figure for Latin America and the Caribbean (58%), industrialized countries (43%), Africa (28%) and the Arab region (33%).³⁶

Customs security and risk management requirements

E-commerce has become transformative in the international trade arena. One may argue that it is just another form of trade, but Posts need to keep pace with the changes it brings to the online trade environment, and provide innovative solutions to deal with them. Efficiency of clearance and delivery of low value and small parcels is crucial. To manage e-commerce transactions, customs administrations need to

engage with all relevant stakeholders to collectively define the appropriate approach to adopt, both from a trade facilitation and customs security perspective.

Security and risk management are key areas of focus for customs authorities and are subject to evolving requirements. The WCO Framework of Standards to Secure and Facilitate Global Trade (SAFE Framework) was adopted in 2005 by the WCO Council to act as a deterrent to international terrorism, secure revenue collections and promote trade facilitation worldwide. Its 2018 edition³⁷ references UPU security standards S58 and S59. SAFE Framework objectives are defined as follows:

Establish standards that provide supply chain security and facilitation at a global level to promote certainty and predictability;

Enable integrated and harmonized supply chain management for all modes of transport;

Enhance the role, functions and capabilities of Customs to meet the challenges and opportunities of the 21st century;

Strengthen cooperation between customs administrations to improve their capability to detect high-risk consignments;

Strengthen cooperation between customs administrations, for example through exchange of information, mutual recognition of controls, mutual recognition of authorized economic operators (AEOs), and mutual administrative assistance;

Strengthen cooperation between customs administrations and other government agencies involved in international trade and security, such as through a single window;

Strengthen customs/business cooperation; and

Promote the seamless movement of goods through secure international trade supply chains.

³⁴ "The digital economy and digital postal services – a global panorama" UPU 2019. <https://www.upu.int/en/Publications/Digital-services/The-digital-economy-and-digital-postal-activities---a-global-panorama>

³⁵ Ibid

³⁶ "The digital economy and digital postal services – a global panorama" UPU 2019. <https://www.upu.int/en/Publications/Digital-services/The-digital-economy-and-digital-postal-activities---a-global-panorama>

³⁷ 2018 Edition WCO SAFE Framework of Standards www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/instruments-and-tools/tools/safe-package/safe-framework-of-standards.PDF?la=en

Further, the SAFE Framework consists of four core elements: first, it harmonizes the advance electronic cargo information requirements on inbound, outbound and transit shipments; second, each country that joins the SAFE Framework commits to employing a consistent risk management approach to addressing security threats; third, it requires that at the reasonable request of the receiving nation, based upon a comparable risk targeting methodology, the sending nation's customs administration perform an outbound inspection of high-risk cargo and/or transport conveyances, preferably using non-intrusive detection equipment such as large-scale X-ray machines and radiation detectors; and fourth it suggests benefits that Customs will provide to businesses that meet minimal supply chain security standards and best practices.

WCO–UPU cooperation

WCO–UPU cooperation focuses on collaborating on issues related to the efficient clearance of postal items through Customs, while ensuring compliance with various regulatory requirements. Both organizations recognize that the nature of postal traffic is specific because of its mass volumes and the restricted nature of postal items. The UPU has contributed to the recent development of the WCO's Framework of Standards on Cross-Border E-Commerce.

The WCO's Revised Kyoto Convention came into force on 3 February 2006, including a new chapter on postal traffic contained in a specific Annex J, Chapter 2, which provides for specific customs procedures in respect of postal items, such as the recognition of the special CN 22/23 declaration forms as standard goods declarations for customs clearance of postal items.

The WCO–UPU Joint Contact Committee was established in 1965 following a resolution adopted by the UPU at its 15th Congress held in Vienna in 1964. It develops procedures and publications to guide Post–Customs work at the national and international level. The two organizations also engage in joint capacity-building projects, providing training workshops and joint regional and national technical assistance missions on postal customs issues for their members.

A memorandum of understanding between the WCO and UPU was signed on 5 July 2007, which provides a broad framework for cooperation between both organizations, including in the following areas:

Promoting the role of Customs and Posts as vehicles for economic growth, social development and trade facilitation through capacity-building and technical assistance;

Combating drug trafficking by post and contributing to mail security while abiding by the fundamental principles of the international postal service, in particular the freedom of transit;

Collaborating in the detection of postal items that might contain prohibited and restricted materials, and facilitating the rapid processing of mail while maintaining customs control measures;

Seeking a better understanding of postal administrations and customs authorities' tasks and problems, thereby facilitating a productive exchange of information between the two parties;

Facilitating the exchange and use of electronic data interchange systems between Posts and Customs, such as through the development of the joint WCO–UPU electronic data interchange (EDI) messaging standards CUSITM–CUSRSP, or through the joint WCO–UPU guidelines on EAD;

Identifying and addressing the training needs of their member countries in areas of common interest;

Pursuing the development of minimum security standards, such as the WCO SAFE Framework and the UPU's S 58/S 59, while developing procedures to facilitate the overall security of the international mail transport network and expedite the customs clearance process;

Encouraging Posts and Customs to form joint Customs–Post committees at the national level;

Updating the joint WCO–UPU publications (Postal Customs Guide, Guidelines on EAD, and Data Capture Guidelines).

The WCO Cross-Border E-Commerce Framework of Standards was developed through a multi-stakeholder Working Group on E-Commerce (WGEC), including the UPU and a number of DOs alongside other stakeholders in the e-commerce supply chain.³⁸ In summary: "The Framework of Standards is intended to provide global baseline standards to assist Customs and other relevant government agencies in developing e-commerce strategic and operational frameworks supplemented by action plans and timelines. Overall, the framework:

Establishes global standards to promote certainty, predictability, transparency, safety and security, and efficiency in the e-commerce supply chain.

Promotes a harmonized approach to risk assessment, clearance/release, revenue collection and border cooperation in relation to cross-border e-commerce.

Establishes a standardized framework for advance electronic data exchange between e-commerce stakeholders and Customs and other relevant government agencies with the aim of facilitating legitimate shipments, providing a more level-playing field for various stakeholders.

Seeks to strengthen cooperation between customs administrations, other relevant government agencies and other stakeholders involved in cross-border e-commerce."

UPU technology solutions for Customs

The Customs Declaration System (CDS), created by the UPU's Postal Technology Centre (PTC), helps streamline customs clearance by allowing Posts and Customs to exchange advance data and calculate required duties and taxes. The UPU CDS can now be interfaced with UNCTAD's ASYCUDA system, which is used by around 100 customs administrations worldwide, thereby enabling data exchanges between Posts and Customs and facilitating the transition towards a paperless postal customs process.

For packages dispatched, the UPU regulations require Posts to share information about the sender, contents and value with customs authorities. This information used to be sent by means of a paper form, but CDS now allows Posts to share it via EDI messaging before the package is dispatched. This advance information can help Customs decrease its own processing times.

CDS also enables customs authorities to send EDI messages to Posts. For example, Customs can use the platform to notify Posts if an item has been rejected during the screening process. This, in turn, allows Posts to better track packages as they make their way through the supply chain.³⁹

The UPU's prohibitions search tool serves as an interface enabling the Post's customers to identify import obligations, restrictions and prohibitions at destination by querying the UPU prohibitions repository, which is the relevant vehicle for UPU member countries to extend the general prohibitions on international mail (provided for in article 19 of the UPU Convention). Posts can easily integrate the prohibitions search tool on their websites, as the Cayman Islands Postal Service (www.caymanpost.gov.ky) has already done.

The screenshot shows the Cayman Islands Postal Service website. The main content area displays a table titled "& Restriction Details" with the following data:

Restrictions	Notes where applicable	Website Info
Please check on the destination customs website, for any other restrictions and prohibitions		http://www.zoll.de/EN/Private-individuals/Postal_consignments_internet_order/postal_consignments_internet_order_node.html
Pharmaceuticals, Medicines	May only be imported by companies with license	https://www.bfarm.de/EN

The sidebar on the right contains the following sections:

- Sending Mail**
 - Local Delivery
 - Overseas Delivery
 - Parcel Post
 - More about Sending Mail
- Tracking Mail**
 - EMS
 - Parcels and Registered mail
- Electronic Declarations (Waybills)**
 - Start filling declaration
 - Note:** If no pop-up window appears, click on this link
 - Check for any prohibitions or restrictions at destination

³⁸ WCO Cross-Border E-Commerce Framework of Standards www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/activities-and-programmes/ecommerce/wco-framework-of-standards-on-crossborder-ecommerce_en.pdf?la=en

³⁹ <https://www.upu.int/en/Universal-Postal-Union/Activities/Physical-Services/Supply-Chain-Coordination>

The image on the page 45 shows a screenshot of a search done on this tool for “Glutamine” import prohibitions in Germany. The search result shows that pharmaceuticals may only be imported by companies holding a licence and provides a link to Germany’s Federal Institute for Drugs and Medical Devices website.

Delivery

There is no e-commerce without robust and reliable delivery services. E-retailing requires quality logistics and quick delivery services to meet modern-day requirements for speed. At the same time, there is no room for significant cost increases. Regularity and affordability are vital, and Posts are in a good position to bring these characteristics to delivery services.

Parcel and small packet delivery are the most basic – and also the most important – service that the postal industry needs to offer to e-commerce.

They consist of collection, transportation, distribution, exchange and return of products purchased in e-shops.

To meet the demand in e-commerce markets, a range of delivery options need to be offered, from non-express delivery to same-day or even immediate delivery (for local delivery).

Another point to consider is that free shipping is one of the main motivators for online shopping. Consumers are usually happy to accept non-express delivery if the shipping is free. However, other shipping and delivery options should be available to meet a variety of customer needs.

To reflect today’s more hectic lifestyle, Posts are offering new delivery options that go beyond traditional postal delivery: parcel lockers; delivery outside regular times; scheduled delivery; change of delivery address; and notice of delivery via e-mail, SMS or social media.

In international e-commerce, high export, logistics and distribution costs deter many companies from venturing into e-commerce. In addition, bureaucratic customs processes and a lack of familiarity with customs procedures and foreign market regulations are among the main factors holding back companies from sending merchandise abroad.⁴⁰ Posts should extend their services to act as import/export facilitators,⁴¹ helping online sellers deal with international trade barriers (e.g. calculation of import/export taxes, and advice on product restrictions, standards and legal requirements).

Package pickup

Package pickup refers to the service whereby the Post picks up parcels directly from the seller’s warehouse or premises, thus saving time, as sellers do not need to go to a postal outlet to ship orders. The postal operator needs to provide tools that facilitate and optimize pickup, especially for large operations.

The Post will ideally provide at least two pickup options: by demand or by scheduled pickup. In the first case, the Post collects the parcels when it receives a request from the seller. This is a good option for small vendors. In the scheduled pickup model, designed for higher-volume sellers, a collection schedule is agreed between the Post and seller.

For larger e-commerce operations, Posts can create outposts inside the premises of e-shops for shipping preparation and parcel collection. In these outposts, Posts’ resources (employees and equipment) prepare the load for shipping at its origin. This value-added service optimizes and streamlines the collection process.

Merchandise return services

In many countries, legislation allows buyers to return ordered merchandise that is unacceptable or no longer required by the customer. The UPU merchandise return service (MRS) helps sellers get back products from buyers and ship an acceptable or substitute order. This service represents a good opportunity for Posts.

International returns, however, are challenging because they are regulated on a country-by-country basis and are far more expensive than domestic returns. The ability for postal organizations to handle returns effectively and with limited cost will likely become a critical characteristic customers and retailers will look for when making cross-border e-commerce purchases in the future. Posts must also determine how to address duties and tax reimbursement in the returns process,⁴² which is challenging for Posts due to new customer expectations: 30% of all items bought online are returned, so an increasing number of consumers and e-tailers are looking at returns capabilities when evaluating a delivery provider. Up to 75% of consumers check the returns arrangements, and 81% would shop more with a retailer that facilitated returns.⁴³ Offering exchanges and returns is one of the largest difficulties for cross-border e-commerce retailers.

The most successful e-shops usually extend the conditions for return, offering more than the legislation itself requires. This practice generates greater consumer confidence, which implies an increase in sales. Therefore, parcel services need to take into account merchandise returns, not only as a business opportunity for the Post (which indeed it is), but also as a basic need.

40 Paul Donohoe and Matthieu Boillat, The postal sector – a key facilitator of global commerce for SMEs.

41 Easy Export: <https://www.upu.int/en/Universal-Postal-Union/Activities/Trade-Facilitation>

42 UPU (2019). IPP review 2021 – 2024.

43 Accenture. (2016). Differentiating delivery: How to win the eCommerce battle.

In some cases, the return of products is paid for by the vendor, not by the purchaser. The buyer requests the return or exchange of items, and the seller, using tools provided by the Post, sends the buyer a document for return shipping at a post office.

There are two models for this merchandise return process:

SIMPLE RETURN OR NON-SIMULTANEOUS

EXCHANGE: the seller authorizes the buyer to ship the product. The buyer then posts the returning parcel via any facility available for posting (post office, parcel locker, pickup at home, etc.), and the merchandise returns to the seller. In case of an item exchange, the seller will then ship the new product.

SIMULTANEOUS EXCHANGE: the seller sends the buyer a new product, asking the Post to make delivery upon receipt of the product being returned, which is then sent back to the seller. This exchange can happen at a post office or at the buyer's home. This model is difficult to implement in cross-border transactions owing to customs complexities, but it is suitable for domestic e-commerce.

In cases where the buyer must pay for the return, it will be up to the seller to manage the process of identifying the return and exchange, in direct agreement with the buyer. For the Post, it will be a simple post by the buyer, addressed to the seller.

After the establishment of basic reverse logistics, optimizations can be undertaken. An example is the inclusion of a checklist of content to be returned, to ensure that all the right items are being returned.

Another optimization is the provision of return management services: instead of items being returned directly to the seller, they are returned to a facility of the Post, where they can be repaired, resold, returned to the e-shop, or even properly discarded.

The return or exchange of merchandise in cross-border operations creates the risk that customs authorities will mistakenly tax the product as a new import. A return label for customs has already been developed by the UPU and is included in the MRS.

UPU physical services

The following table lists UPU physical services used for e-commerce:

Table 4.2 - **UPU physical services**

E-COMMERCE CUSTOMER REQUIREMENTS	UPU PHYSICAL SERVICES
Non-priority, no frills, low-cost, reliable service	Small packets
Non-priority, low-cost, reliable service + tracking, liability and signature	Parcels
Priority service, no features	Small packets
Priority service + tracking	Small packets + tracked delivery service ECOMPRO parcels
Priority service + proof of posting + liability + signature on delivery	Small packets + registered
Priority service + proof of posting + liability + signature on delivery + tracking	Parcels
Priority service + proof of posting + signature on delivery + insurance	Small packets + insured
Priority service + proof of posting + signature on delivery + insurance + tracking	Parcels + insured
Premium service, fast, fully featured	EMS

E-commerce physical business models

There are various possible e-commerce business models for Posts, which are not mutually exclusive and may be combined to suit the Post's capabilities and the characteristics of the market.

To facilitate the analysis of e-commerce models for the postal industry, it is important to define a target audience for the e-commerce solution. To begin with, the public can be defined according to the type of e-commerce relationship:

Table 4.3 - E-commerce relationship model

E-COMMERCE RELATIONSHIP MODEL	DESCRIPTION
Business-to-business (B2B)	Companies doing business with companies
Business-to-consumer (B2C)	Companies selling merchandise and services to consumers
Business-to-employee (B2E)	Companies selling merchandise and services to employees
Consumer-to-consumer (C2C)	Individuals selling merchandise and services to individuals
Government-to-business (G2B)	Governments offering services to businesses
Government-to-citizen (G2C)	Governments offering services to citizens
Government-to-government (G2G)	Government institutions offering services to other government institutions
Business-to-me (B2Me)	Companies selling customized merchandise and services to me
Consumer-to-me (C2Me)	Individuals selling merchandise and services to me
Government-to-me (G2Me)	Governments offering services to me

The traditional postal business model is a push model. As the situation is changing, it means that the Posts must effectively exploit new ways of doing business to fully exploit the rise of e-commerce.

Each type of relationship demands different logistics to meet the needs and expectations of the parties involved in the e-commerce process, as shown in the table 4.8.

Once the e-commerce relationship model has been defined, it is necessary to define the target audience. On the basis of the target audience, the Post can identify client profiles: geographic location, needs, types of products wanted, habits and restrictions. The Post can then separate the target audience into segments according to similar client profiles.

With the target audience and segments defined, the Post's competitiveness in providing e-commerce solutions on the market should be assessed. Common tools for analysis of competitiveness include the SWOT analysis and the Porter's Five Forces analysis.

These analyses are important in order to provide a clear vision of how competitors work and what Posts' opportunities and competitive advantages are, as well as to define a market position (leader, follower, complementary or niche market). The defined market position will form the basis for the business model selected.

Implementing e-commerce business models

Parcel delivery

An e-commerce parcel delivery service encompasses the collection, transportation, distribution, exchange and return of products purchased on the web. Delivery is the most basic (and also most important) service the postal industry offers to the e-commerce market.

The parcel delivery model can be applied to any e-commerce relationship model. However, each relationship model requires different service attributes. Delivery services linked to B2C, B2E, G2C and C2C websites are characterized by the following: small and medium parcels, without customization, delivered to various regions, express or non-express, and unscheduled demand.

On the other hand, delivery services for B2B, G2B and G2G websites tend to be characterized by larger consolidated volumes, with customization, non-express, and scheduled demand.

As already discussed above in the "Delivery" section, e-commerce clients demand more features and information than other customers of postal services.

E-commerce parcel delivery calls for quality, connectivity, agility, reliability, technology integration, and the lowest price possible.

Table 4.4 - E-commerce process model

RELATION	DEMAND	PARCEL PROFILE	DELIVERY	SELLER(S)	CONSUMERS	DISTRIBUTION	NEGOTIATION
B2B	Regular – scheduled and predictable demand	Grouped items	Non-express	One	Known	Concentrated	Flexible pricing Case-by-case negotiations are common
B2C	Irregular	Small packages	Express and non-express	One	Unknown	Diffuse	Non-flexible pricing
B2E	Irregular	Small packages	Express	One	Known	Concentrated	Non-flexible pricing
C2C	Irregular	Small packages	Express and non-express	Many	Unknown	Diffuse	Flexible pricing Online auctions and face-to-face negotiations are optional
G2B	Regular	Small packages	Express	One	Known	Diffuse	Non-flexible pricing
G2C	Irregular	Small packages	Express	One	Known	Diffuse	Non-flexible pricing
G2G	Regular	Grouped items	Non-express	One	Known	Concentrated	Flexible pricing
B2Me	Irregular	Small packages	Express and non-express	One	Known	Diffuse	Flexible pricing Online auctions and face-to-face negotiations are optional
C2Me	Irregular	Small packages	Express and non-express	One	Known	Diffuse	Flexible pricing Online auctions and face-to-face negotiations are optional
G2Me	Irregular	Grouped items	Non-express	One	Known	Concentrated	Flexible pricing Online auctions and face-to-face negotiations are optional

QUALITY

E-commerce consumers have very high expectations in terms of quality – they want to be sure that they will receive, and in most cases to pay in advance for, what they have ordered, and that there will not be unexpected delays.

A best practice for e-commerce is the establishment of a service-level agreement (SLA) to better organize the relationship between the Post and the retailer and increase the latter's confidence. An SLA defines deadlines, expected performance, bonuses and fines.

From a consumer perspective, delivery deadlines must take into account the processing time of payment confirmation, as well as the preparation, collection, shipping and, finally, delivery of the order.

CONNECTIVITY

Connectivity is the ability to reach all endpoints connected to the Internet without restriction. E-commerce business demands robust connectivity to enable postal customers to run an application to access data-package purchased online. Connectivity allows postal operators connected with their customers to inform them about a product. It helps customers connect with the product or service directly using remote sensing, i.e. reading data from a distance. Connectivity also allows postal operators to connect with marketing trends (what is the benefit for the postal sector?), connect with technology (how can we further exploit the Internet?) and connect with competitors (what are they doing and how? cooperate or conquer?).

Once a postal operator has established an adequate level of connectivity, it can integrate its business processes with another firm. This enables both businesses to react to customer behaviour in a swift and flexible way and be ready to apply proactive business strategies.

AGILITY

Agility is the ability to react swiftly and effectively to changes in the environment.

The e-commerce market is highly competitive, and services must be quickly adjusted to meet customer needs. This is a particular challenge for postal operators, which must contend with organizational decisions, as well as restrictions related to hiring, resource allocation, and the equitable treatment of all customers (adjusted services must serve the entire market equally). It can therefore be difficult to make quick adjustments to meet the specific needs of particular customer groups.

RELIABILITY

The e-commerce business greatly depends on the buyer experience: if the transaction is not successful, the likelihood of the client using the service again diminishes. Problems are unavoidable, but the way they are resolved can significantly minimize the drop in consumer confidence. It is therefore important to build a customer service framework to deal with problems and provide solutions.

The following elements should be included in building a reliable service: enhanced reverse logistics services, order tracking, a customer service structure, process verification and troubleshooting channels, and indemnities. Finally, problems need to be recorded and services continuously improved, based on lessons learned.

TECHNOLOGY INTEGRATION

For e-commerce, information about delivery is just as important as actual delivery. The seller needs to have access to delivery information through a user-friendly, standardized and widely available IT structure. It is therefore important to develop an API and protocols for integrating processes between postal operators and e-shops.

The technological integration should cover all the processes involving the Post, the seller and the buyer. As this requires a wide range of system integrations, the gradual deployment of the technology framework is recommended. The suggested order is listed below:

TRACK AND TRACE;

DELIVERY TIME CALCULATION;

POSTAGE PRICE CALCULATION;

SHIPPING PREPARATION (pre-authorization and shipping label);

PACKAGE PICKUP;

DOMESTIC RETURN OF MERCHANDISE;

CUSTOMS INFORMATION (including pre-advice, import/export information harmonization and restrictions, duty calculation and payment, delivery duty paid (DDP) solutions);

INTERNATIONAL RETURN OF MERCHANDISE.

It is not usual to charge for the use of an API. IT costs can be built into the price of the parcel service.

LOWEST POSSIBLE PRICE

High competition and the attractiveness of free shipping for buyers exert pressure on delivery prices in the e-commerce market. On the other hand, it is necessary for Posts to preserve a sustainable business model.

The best way for postal operators to seek a better competitive position while avoiding an unsustainable financial situation is by continuously improving processes to optimize quality of service and operational productivity, and reduce costs. For example, for large e-commerce operations, Posts can skip steps in the operational process by receiving advance information electronically and consolidating loads.

Posts can offer multiple shipping options with different service agreements. Merchants can choose to offer their customers a choice in terms of shipping options and associated delivery prices.

DEDICATED DELIVERY SERVICES

The decision of whether to create new delivery services dedicated to e-commerce is a strategic one that needs to be properly evaluated by the postal operator because it has a significant impact in the short, medium and long term.

Dedicated e-commerce delivery services can be applied to new markets, where Posts can build services together with a small group of players. This makes it easier to adjust the new services without affecting established services used by the majority of clients, which still do not sell online.

In established markets where the Post has a low market share, new services dedicated to e-commerce can be created to increase market share quickly. A new service designed for the e-commerce market communicates a strong message that the postal operator wants to be a major supplier to this market.

With dedicated e-commerce services, there is a risk of cannibalizing other delivery services, given the service overlap. Moreover, this overlap can make it difficult for clients to understand the delivery service portfolio.

One way to avoid these problems would be to adapt services that already exist and that are familiar to the market. Given that e-commerce is the main emerging customer segment of the parcel business, it would be good to consider adapting the entire portfolio of services to the needs of the e-commerce market.

Logistics provider

In this model, the Post provides services beyond the physical delivery of merchandise. It manages all or part of the seller's logistics chain: e.g. warehouse, inventory, order processing, fulfilment, delivery and after-sales (see the "Warehouse and fulfilment" section above).

Under the logistics provider model, customized solutions are developed for each client as part of a fully integrated system. Thus, the remuneration model encompasses a variety of activities, ranging from storage of items to after-sales activities, such as return and exchange of merchandise.

This business model can also be applied to any e-commerce relationship model; however, the format will vary depending on the vendor's characteristics. A warehouse can be dedicated to a single large vendor in B2B, B2C, G2B, G2C and G2G operations. On the other hand, a warehouse can be shared by a number of smaller vendors for B2B, B2C, B2E, G2B, G2C and G2Me websites.

The logistics model is not ideal for C2C websites, given the fragmentation of items and tax complexities involved. This model would only be recommended when vendors' items are under the management of an e-commerce intermediary, which acts as a proxy for a large number of individual sellers. The model seeks to increase market dependency on postal services, establishing entry barriers for new competitors and enabling e-shops to focus on their core business – selling online.

The parcel delivery model is predominantly a "best service" strategy. It drives innovation and aims to offer the best solution for the market, with a view to becoming a market leader. Parcel delivery solutions should take into consideration the increasing dependence of customers on postal services. This means finding innovative ways to meet customer needs. On the other hand, the logistics model considers each customer's needs to arrive at a "total solution".

The two models are compared in the table 4.5:

Table 4.5 - Parcel delivery model versus logistics model

	PARCEL DELIVERY	LOGISTICS
BUSINESS STRATEGY	Best service: achievement of competitive advantage through service innovation and quality. Operational process improvement is important to reduce costs and prices. Services offered are standardized and geared to an extensive target audience.	Total solution: creates strong bonds with customers to meet their needs in a custom-ized manner. Complete solution based on customer savings (reduced total cost of the supply chain). Prices are calculated for each contract, according to specific operational modelling.
SCOPE	Pre-shipping, posting and delivery of parcels within the set limits for weight and dimensions.	Entire supply chain
PRODUCT PORTFOLIO FORMAT	Standardized parcel delivery service, with some options with respect to level of service. It is possible to provide special services for customers meeting certain criteria.	Customized
SERVICE ELEMENTS	Pre-shipping (packaging and labelling) Posting Transportation Delivery Reverse logistics	Logistics planning Management of incoming supplies Warehouse management Inventory management Order fulfilment Pick and pack logistics Issuing of tax documents Shipping Customized transport management Customized distribution Customized reverse
COMPLEXITY	Medium	High

Data exchange

Logistics operations require flow of merchandise and information. For e-commerce, however, information has greater relevance than in other businesses. The volume of transactions, the continuous flow of sales, the various parties in different places, the automated processes, and the integration of pre-sale/sale/post-sale activities require intense data exchange.

Incorrect or missing information results in decreased productivity. It is therefore important to establish a data-sharing framework that is efficient, secure, reliable, affordable and always available.

Interconnection with other supply chain networks: Customs and airlines

Another important element related to logistics for postal operators in the e-commerce environment is the smooth interconnection and frictionless flow of items across networks of Posts, Customs and airlines. A primary need for both sending and receiving postal organizations is for the origin Post to transmit electronically content data for postal items containing goods to the receiving customs agencies prior to the items' physical arrival in the receiving country. Most importantly, from 2021, it will be mandatory for all member countries to send EAD for postal items containing goods.⁴⁴

The implementation of EAD for all postal items containing goods will enable the customs administration of the destination Post to perform pre-arrival clearance or prepare for import clearance, thereby increasing clearance speeds and reliability of delivery windows. EAD will also provide advance decision support to airlines on what items to load on the plane. Emerging competitors are establishing relationships with commercial customs brokers which expedite customs clearance and enable them to provide a next-day cross-border delivery experience.⁴⁵

⁴⁴ Ibid

⁴⁵ Ibid

Track and trace

Customers want to be able to track their shipment. A track-and-trace system recording precise information on order status is essential and must show the entire order lifecycle, from booking to return. Tracking information should be clear, accurate and, preferably, in real time. Track-and-trace systems can also help find misrouted orders, delayed orders and other bottlenecks in the delivery chain that affect the quality of e-commerce transactions.

An order can be deployed in multiple deliveries, usually at the request of the seller, not the buyer. The postal operator has to provide the e-shop with the corresponding tracking numbers. This helps the buyer monitor orders and reduces the number of after-sales requests related to the status of delivery.

Online customs declaration

Customers can provide the necessary information (CN 22, CN 23, CP 72) through the postal website to the relevant authority before importing or exporting an item. This is a new service to support the expansion of e-commerce.

Online customs declaration services are among the postal e-services that saw their usage increase over the past few years. The 2017 UPU digital postal survey shows that provision of a postal online customs declaration service rose to 33% in 2017 from only 14% in 2015.

Interconnectivity standards

Before starting data exchange between the parties involved in e-commerce transactions, it is necessary to establish standards. This is all the more relevant considering the worldwide network of postal operators within the UPU. Without well-established standards of interconnectivity, certain e-commerce processes will not be possible.

In addition to promoting the necessary integration between the parties, standards simplify the process of deploying e-commerce solutions. By disregarding established and tested standards, companies waste time and money reinventing what is already built, at the risk of isolating themselves. The following data exchange standards are available in the Catalogue of UPU Standards:

In addition, there are well-accepted technical standards for improving an e-shop's visibility. The use of Extensible Markup Language (XML) and Simple Object Access Protocol (SOAP) standards to build interoperable platforms that can easily share data (product, client, logistics, etc.) are examples of good industry practice. These standards and protocols form the building blocks of web services, which enable integration of different applications, even if the applications are built on different technology platforms. Sellers should consider such standards and protocols when implementing their own e-shopping platforms.

Table 4.6 - Data exchange standards

STANDARD	DESCRIPTION
EMSEVT V3	This new version of EMSEVT for postal items now contains elements that are important for e-commerce shipments, e.g. product options, better track and trace, and return options.
ITMATT	This message carries electronic customs declarations between postal operators.
CUSITM/ CURSRP	These messages carry electronic customs declarations from postal operators to Customs and the reply message from Customs to Posts.
S43 – SECURE ELECTRONIC POSTAL SERVICES (SEPS) INTERFACE SPECIFICATION	<p>This standard comprises two parts:</p> <p>S43 Part A: Concepts, schemas and operations</p> <p>This document specifies a standard XML interface that will enable software applications to connect to a secure electronic postal service provided by a postal operator. It also describes the functionality and edit rules of the actual technical specification artefacts, which are represented by an XML Schema (XSD) and an associated Web Services Definition Language (WSDL) specification.</p> <p>S43 Part B: EPCM service</p> <p>This document specifies a secure electronic postal service, referred to as the electronic postal certification mark (EPCM) service, which provides a chain of evidence, stored by an operator as a trusted third party, to prove the existence of an electronic event, for a certain content, at a certain date and time, and involving one or more identified parties.</p> <p>EPCM is a technology that applies trusted time stamps issued by a postal authority to an electronic document, validates electronic signatures, and stores and archives all non-repudiation data needed to support a potential court challenge.</p> <p>E-commerce-related documents could apply the EPCM on:</p> <p>ELECTRONIC ORDERS; RECEIPTS; PAYMENT TRANSACTIONS; OTHER ELECTRONIC MESSAGES BETWEEN VENDOR AND BUYER.</p> <p>EPCM offers solid proof of legal status and non-repudiation on e-commerce transactions.</p>
S52 – FUNCTIONAL SPECIFICATION FOR POSTAL REGISTERED ELECTRONIC MAIL	<p>This standard defines the functional specification of a secure electronic postal service, referred to as the postal registered electronic mail or PREM service. PREM provides a trusted and certified electronic mail exchange between mailer, DO and addressee/mailee. In addition, evidence of corresponding events and operations within the scope of PREM will be generated and archived for future attestation.</p> <p>The S52 standard is intended to foster standardization of registered mail services and to help the postal community move from its traditional physical markets to electronic services, given that Posts are well positioned to take advantage of those services.</p> <p>In e-commerce, this standard provides safe e-mail communication between vendor, seller and other parties.</p>

Application programming interfaces

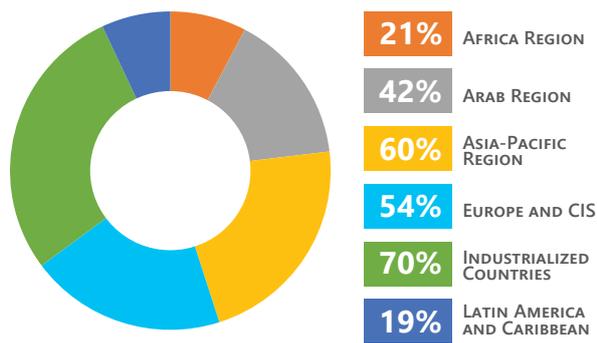
E-commerce systems need to communicate with each other using defined standards and protocols for information sharing. There are many ways to do so, from file sharing to web services. The best way is to build interfaces that enable data exchange, such as an API.

An API allows one web-based application to interact with another application. Online merchants can use APIs from vendors or free services to improve their store's features, add site content, or communicate more readily with customers and partners.

One relevant type of API is the web API, which is the application programming interface for both the web server and the web browser. It gathers definitions, procedures and protocols to help communication between different computer software programmes. A web API is a type of web service and as such, it can be used to connect a website to several other systems and applications.

It is now common for Posts to develop APIs to enable external users such as e-marketplaces to integrate postal databases into their platform, or to provide access to postal services. Nearly 60% of Posts surveyed in 2017 have integrated APIs into their services. The survey reveals that on average, 55% of DOs worldwide have implemented APIs in their service delivery (see figure 4.11).

Figure 4.6 - DOs providing APIs



Source: 2017 UPU digital postal services survey

Product, customer and order information

E-shops can consider using tools to export their product information to other websites, for example, to share item descriptions and price information. These tools enhance the visibility of the e-shop, thereby improving its sales potential.

Consumers should have full access to information on the manufacturer/importer of the product, item features and payment terms, as well as manuals, data sheets, and so on.

Data on consumers may only be disclosed to third parties with the express consent of consumers themselves. It is important to remember that the security of information provided by consumers is the responsibility of the company that is offering the products or services; the company must answer for any damage caused to consumers by the violation and misuse of such data. Site security is vital to an online business, to avoid lawsuits and ensure the success of the venture.

Electronic advanced data capture

The EAD project targets international mail items and enables the enhancement of postal capabilities in the areas of quality of service, supply chain and security.

The EAD project supports the conversion of UPU postal labels for customs declarations (CN 22 and CN 23) – provided by the senders of the postal items – into electronic format, in order to enable customs authorities in destination countries to use the information for expedited clearance in conformity with their national legislation.

More specifically, one of the goals of the EAD project is to use simple information technology solutions to capture customs declaration data directly from both individual and commercial senders of postal items.

The UPU report provides an analysis of an online survey on the current technical conditions and needs of the UPU DOs and the feasibility of the use of mobile technology for EAD data capture. To do so, it examines the global postal IT network and its characteristics, the current EAD data capture channels, and the preferred technology platforms for mobile solutions.

It also reports on the feedback received on a mock-up mobile app designed by cross-functional experts from the UPU's International Bureau.

Briefly, the report concludes that:

THE UPU'S POSTAL IT NETWORK IS REACHING BROADER MATURITY, EVEN AT REMOTE OR LOW VOLUME POSTAL ACCESS POINTS. Technology solutions, designed to match the characteristics of the specific postal environment, can be extended to support more postal services. As such, the electronic capture of customs information at all postal access points is feasible.

MOBILE NETWORKS WITH GOOD BANDWIDTH ARE AVAILABLE AT AN INCREASING PROPORTION OF POSTAL ACCESS POINTS (COVERING WIDE GEOGRAPHICAL AREAS), SO MORE POSTAL SERVICES CAN BE SUPPORTED VIA MOBILE NETWORKS AND PLATFORMS ALONE. As such, postal services provided over dedicated IT networks can be replaced or enhanced by solutions delivered over mobile networks.

RECOGNIZING THAT THERE ARE SEVERAL WAYS TO CAPTURE CUSTOMS INFORMATION, THE NEEDS AND CHARACTERISTICS OF THE SENDING CUSTOMER DETERMINES THE MOST OPTIMAL WAY TO CAPTURE CUSTOMS INFORMATION. As such, a multi-channel strategy and approach should be developed based on the profiles of the target customers of each designed postal operator.

FINALLY, THE PROVISION OF A UPU-DESIGNED MOBILE APP, WITH SIMPLE AND CLEAR USABILITY FOR EAD DATA CAPTURE AND MANAGEMENT, IS A WORTHWHILE OBJECTIVE. Features which ensure compliance with the UPU standard data elements (ITMATT) will be the priority objective, with the capability for advanced features based on specific UPU DO needs.

The report reveals that for the choice of mobile platform technology, there is a clear preference for the Android platform across all UPU regions, with a 75% usage rate. However in the Western Europe region, Android and iOS platforms were equally preferred. The Windows platform, although less than 43% overall, was the preferred choice in Africa and the Americas, at 65% and 46% respectively. This indicates that a multi-platform approach is necessary, with priority given to the Android platform.

Security

The UPU recognizes that the safety and security of the postal sector as part of the global supply chain is critical to supporting worldwide commerce and communication. To facilitate the development and implementation of security standards and best practices among Posts, the UPU has established the Postal Security Group (PSG) to improve physical security, and the .POST Group for digital security.

Physical security

Developing measurable standards of security for the postal sector helps to protect postal employees, assets and postal items in general, contribute to the security of the mode of transport used to carry mail items, and secure the overall supply chain.

The physical and procedural security standards developed under the auspices of the PSG are applicable to critical facilities in the postal network:

S58 POSTAL SECURITY STANDARDS – General security measures defining the minimum physical and process security requirements applicable to critical facilities within the postal network;⁴⁶

S59 POSTAL SECURITY STANDARDS – Office of exchange and international airmail security defining minimum requirements for secure operations relating to the transport of international mail.⁴⁷

Prohibited items

The safety of postal employees and customers is a critical element of managing the entire postal supply chain. As a result, a number of items are prohibited from travelling through the mail.

UPU letter-post and parcel-post regulations clearly stipulate the type of items that cannot be sent by post internationally. Posts inform customers of these prohibited items, but the onus is on customers to certify that the packages and mail items they send through the mail do not contain items that could cause harm or danger to postal employees and customers.

The list of prohibited goods includes illicit drugs, counterfeit or pirated articles, explosive or flammable goods, and live animals, among many other things.⁴⁸

In some exceptional cases, Posts can transport live animals such as bees, leeches, silk worms and fruit flies between officially recognized institutions for purposes of control and biomedical research.

If customers are unsure about what can and cannot be sent through the mail, they should consult their local Post.

Digital security

Cybersecurity is the set of preventative methods used to protect organizational information and resources from being stolen, compromised and attacked by cybercriminals through the use of computers and the Internet. The e-commerce sector is becoming increasingly vulnerable to cybersecurity risk through enhanced technology connectivity and dependency, exposing them to significant financial losses, theft of intellectual property, operational disruption and reputational damage.

The impact of cyberattacks on the e-commerce industry is substantial. The sector is one of the most lucrative targets for cybercriminals. According to a study by McAfee, the total cost of cybercrime reached 600 billion USD in 2018, about 1% of global GDP. No business seems immune to cyberattacks but online stores are more vulnerable to the threat. Unfortunately, it is no longer a question of if, but when, a business will be targeted.

Importance of cybersecurity for e-commerce

As more and more businesses move online, there has been a steady increase in the instances of cybercrime. Cybersecurity is a key concern for the e-commerce sector because online retailers are particularly at risk as hackers search for consumers' payment information and other private data.

There is a real threat for postal e-shops as an attack can permanently damage a postal e-commerce business and its reputation. As the e-commerce market continues to grow at a rapid pace, the amount of malware increases each year as well.

⁴⁶ www.upu.int/en/activities/postal-security/security-standards/s58-general-security-measures.html

⁴⁷ www.upu.int/en/activities/postal-security/security-standards/s59-office-of-exchange-and-international-airmail-security.html

⁴⁸ www.upu.int/en/activities/postal-security/dangerous-goods.html

Research by the EPC Group in 2018 highlights the cost of cybersecurity:

Annual cybercrime damage costs will reach 6 trillion USD in 2021;

Cybersecurity spending will exceed 1 trillion USD from 2017 to 2021;

A hacker attack occurs every 39 seconds.

Cybersecurity in modern e-commerce cannot be more important and it is a key priority if the postal operator's target market is going to be largely online. Postal operators in the e-commerce business need to take proactive measures to secure and protect their online stores, websites and online payment systems from cyberattacks that could seriously compromise their data.

Cybersecurity and postal e-shops

Cybersecurity represents the most important e-shop feature. As postal e-shops become more prevalent, online customer data protection is increasingly vital. This puts pressure on postal operators to respond to this need with various innovations to make e-shopping and receiving parcels safer.

To protect their e-commerce platform, postal operators must, as a priority, secure e-shop websites and customer data. This is important to safeguard themselves, but also to provide their consumers with an experience where they do not have to worry about the safety of their information.

As more consumers are becoming aware of such risks, they are growing wary of online shopping where businesses do not offer tangible security features and options. Regarding the important features that online shoppers are considering before they buy online, trustworthiness and credibility are key issues.

The perceived trustworthiness of an online shop is deemed crucial for turning e-shop site visitors into buyers. When engaging in online transactions, customers have to rely on the promises made by the online retailer. Therefore, an atmosphere of trustworthiness is one of the key factors customers look for when they access an e-shop venue for the first time.

Cybersecurity and online payment

Online payment is actually very convenient and quick. However, the losses from cyberattacks on online payment systems are both financial and reputational. Without the existence and implementation of proper protocols, postal e-shops put themselves and also their customers at risk of payment fraud.

Many users make purchases through their credit cards and this information is usually stored in a cloud storage-backed platform. For this reason, e-shops need to ensure that their business is safe and secure and faces no risks from cyberattacks that could seriously compromise this data.

Types of cyber threats and their target area

While e-commerce certainly offers a great number of benefits and opportunities to businesses, security issues are a major drawback. An e-commerce business needs to be shielded well from all types of cyber threats. The first step to building a sustainable shield is becoming acquainted with the types of threats possible and their sources.

Phishing

Phishing is one of the most common cyber threats and presents itself in the simplest form. The source of this cyber threat is mainly an e-mail or message.

E-commerce often suffers an attack from a group or an individual who sends an e-mail, which can be under the shroud of a customer or a trusted employee. This form of cyberattack basically spams the online portal for the business in order to 'phish' out important data either from the business or the clients of the business.

Payment fraud

Managing the risk of fraud is essential for companies and agencies to ensure that their mission, resources, and integrity are not compromised. When expanding an e-commerce platform, it is important to understand the access and transactional flows that a customer will experience when entering the website. A network perimeter needs to be established using a series of multi-layered security mechanisms in order to protect from various attacks.

Payment fraud can be in the form of credit, debit, bank account or PayPal type data used to purchase products or services. Often, this type of financial information can be retrieved illegally via the dark web. Once this payment data is acquired, postage and/or product can be purchased using the compromised payment data. If payments are not identified as fraud and cancelled, chargebacks often incur which may lead to high costs to the organization.

Payment fraud for postal products, including address labels, is typically associated with various scams which include but are not limited to the following:

ROMANCE SCAM: Use of stolen or counterfeit postage to move various forms of payments and merchandise.

MYSTERY SHOPPER SCAM: Use of stolen or counterfeit postage to move counterfeit cashier's checks, counterfeit money orders, mystery shopper letters and instructions to unwitting work at home victims.

ONLINE MARKETPLACE OVERPAYMENT SCAM: Use of stolen or counterfeit postage to move counterfeit cashier's checks and/or counterfeit money orders to sellers on the marketplace. The payment is typically more than the asking price of the merchandise and the seller is directed to wire funds to someone controlled by the fraudulent party.

Another form of fraud can come in the form of identity fraud in which the fraudster may steal the personally identifiable information of current account holders on your platform. This can be accomplished by various phishing schemes or can also be purchased on the dark web. Several card forum or hacking forums sell account usernames and passwords for various postage options such as [stamps.com](https://www.stamps.com), [endicia.com](https://www.endicia.com) and [usps.com](https://www.usps.com).

A strategy for preventing fraud can be summarized as follows:

PREVENTION: Mitigating controls that prevent or reduce the risk of customers and the business sustaining loss and/or unauthorized access to confidential organizational and personal data.

DETECTION: Processes to monitor the effectiveness of mitigating controls in place and to discover any fraud resulting from a breakdown or lack of such controls.

RESPONSE: Protocols for analyzing, investigating or reacting to suspected or confirmed fraud.

Current trends observed

FRAUDULENT USE OF VARIOUS POSTAL PRODUCTS TO COMMIT IDENTITY THEFT AND CREDIT CARD FRAUD, INCLUDING THE USE OF INTERNET CHANGE OF ADDRESS AND INTERNET HOLD MAIL TO DIVERT THE CREDIT CARD DELIVERY TO THE ORIGINAL ADDRESS FOR THE CUSTOMER – IF THESE SERVICES ARE AVAILABLE.

Fraudsters often use compromised credit cards or prepaid cards to make the payment for the change of address request. It is recommended that industry standard identity verification be introduced in front of any Internet change of address or hold mail request.

FRAUDULENT USE OF ONLINE PACKAGE INTERCEPT TO REDIRECT MERCHANDISE PURCHASED WITH STOLEN CREDIT CARDS OR ONLINE MARKETPLACE ACCOUNT TAKEOVERS. THE ORGANIZATION SHOULD NOT ALLOW CREDIT CARD PAYMENTS FOR PACKAGE INTERCEPTS TO BE REDIRECTED TO ANOTHER DOMESTIC ADDRESS.

It is recommended that if the organization allows package intercepts to only allow credit card payments for intercepts that request "Return to Sender" or "Hold for Pick-up at Post Office".

FRAUDULENT USE OF NO POSTAGE OPTION LABELS. IF THE ORGANIZATION OFFERS NO POSTAGE LABELS FOR CUSTOMERS, IT INCREASES THE RISK FOR FRAUDSTERS TO MANIFEST THE LABEL WITHOUT POSTAGE AND LATER MANIPULATE THE LABEL BY PHOTOSHOPPING VARIOUS FORMS OF ELECTRONIC POSTAGE EMBEDDED IN THE LABEL.

The embedded postage is counterfeit and therefore the label is counterfeit and the organization receives no payment for the mail item. Another form of no postage is often found when a company allows customers to print "test" labels without postage. This is another fraudulent method for facilitating the movement of mail.

DDOS

DDOS stands for distributed denial of service. An authentic form of cyber-attack, DDOS targets the bandwidth of the e-commerce business site. This is a multiple-source attack, targeted at the traffic generation of the specific business portal. This disrupts the entire function of the business, severely disrupting traffic, as well as the existing database of the customers.

Malware

Malware is a type of software used for cyberattacks, which allows an individual or a group to gain private access to any system without the supervision of its authority. In e-commerce, malware is used to gain access to information relating to various customers, as well as confidential details about the business itself. Here are some of the most common types of malware used in cyberattacks:

- **Ransomware**
- **Trojan horses**
- **Adware**
- **Spyware**
- **Viruses**
- **Worms**

In conclusion, in order to combat cyber threats and payment fraud in e-commerce, an understanding is required of the Post's risk exposure profile. Postal operators should identify critical business processes and assets that are at risk by conducting an in-depth assessment of current processes, data, systems and connection points. Once the exposures have been identified, postal operators should take action to reduce inherent risks stemming from process inefficiencies.

Posts can build the necessary capabilities to protect the postal services' information, resources and financial assets by applying a risk-based framework organized around four key elements: strong controls, ongoing monitoring, staff education and effective incident response.

Customer relationship management

Customer relationship management (CRM) helps organizations to acquire and retain customers by understanding and fulfilling their needs and expectations, including managing interactions with current and potential future customers.

CRM often involves using technology to organize, automate and synchronize sales, marketing, customer service and technical support. CRM uses data analysis on customers' history with a company to improve business relationships with customers, focusing specifically on customer retention and ultimately driving sales growth.

Call centre

Trust is essential in e-commerce, since there is no face-to-face interaction and customers must wait to receive their purchased goods. E-shops must demonstrate their credibility and quality of service, providing clear and useful information about themselves and their products, in addition to fulfilling orders promptly and correctly.

Call centre services are an important means of providing information and enhancing customer trust and confidence. In addition to responding to client queries, call centres can act as selling centres, complementing online sales and helping customers make purchase decisions.

Moreover, some customers still prefer to complete their online purchase through a call centre because they are concerned about submitting personal and banking information online.

Customer data analysis

Organizational processes and technologies can be used to gather information about online client behaviours and preferences, as well as personal data. The goal is to identify opportunities, better understand customers, improve interactions, and deliver the right products and services. Customer data mining and analysis is essential to CRM; the resulting information feeds personalization, sales and support mechanisms. However, CRM technologies for customer data mining and analysis can be complex and expensive, so it is advisable to break down CRM implementation into smaller, more manageable sections.

The best way to get customer data is through the client registration process and the monitoring of online shopping behaviours and interactions. Interactions through call centres are another source of information.

However, there are legal and ethical considerations. Consumers must first be informed about what the website is doing with all the collected data, and they also need to authorize any use of their information. Vendors need to publish clear data privacy policies on their websites, and these policies must comply with the legislation and reflect best practices.

Performance reports and analytics

The Post provides e-merchants with customized performance reports (on returns, delays and delivery times, for example) to help them manage costs, operations and customer experience.

The Post has increased its performance reports and analytics service to improve postal development. Between 2015 and 2017, the service has seen modest growth. The 2017 UPU digital postal survey shows that postal performance reports and analytics services rose to 28% in 2017 from 20% in 2015.

Sales

The sales element involves strategies to attract and keep clients, ensuring that they have positive purchasing experiences through the e-shop. To this end, vendors must address issues such as pricing, promotions, content management and customer support.

The website is the main sales point. Internet consumers tend to demand clear and useful information, low prices, payment options and client support. To address these expectations, sellers should invest in sales tools such as:

EASY-TO-USE PAGES: the content must be organized in an attractive, simple and customer-oriented way. The point of view of visitors should take precedence over that of graphic designers or technical staff. Text must be objective, concise and up to date. Information must be useful and as complete as possible.

WEB CONTENT PERSONALIZATION: websites can collect information on their customers' personal behaviours and preferences and then offer them selected information based on their particular needs. Personalization can save customers valuable time by displaying relevant content quickly.

COLLABORATIVE INFORMATION: websites can enrich their content by making it possible for users to post their reviews and comments.

PAYMENT OPTIONS: the more payment options that are available, the easier it is for clients to complete online transactions.

MULTI-CHANNEL CUSTOMER SUPPORT: e-mail, live chat/instant message, social media and call centres are all means by which e-shops can provide customer support in order to increase the number of completed transactions.

E-commerce consulting

In addition to marketing, content management, shopping, logistics and CRM issues, e-commerce businesses should consider aspects such as legal restrictions, taxation, export/import regulations and security. Many MSMEs will struggle to deal with these aspects – especially when doing business internationally – which is where consulting comes in.

Successful e-commerce initiatives, especially in developing countries, require consulting structures that support stakeholders with expertise, best practices, training and capacity building.

Marketing channels

A marketing channel is a series of activities needed, essentially, to transfer the ownership of goods from a producer to a consumer. Like any business endeavour, e-commerce success is dependent on well-conceived digital marketing and advertising of a product.

Posts need to identify their online customers, the market properties and niches/segments, as well as their key competitors. The e-commerce market is characterized by high competition density and low client loyalty. Customers will easily move their business to other online companies and products to meet their needs.

Posts should thus design a marketing strategy before a technology or operational plan. A marketing plan can guide all further planning efforts. It is also important to integrate the e-commerce marketing strategy with the overall organizational business strategy, to complement offline marketing activities.

Marketing channel tools improve product visibility and are essential for a successful digital marketing strategy. However, postal operators can also explore all forms of marketing tools – indeed, they can maximize results by combining physical and electronic marketing efforts.

Chapter V:
E-commerce strategies



Postal e-commerce strategies

While consumer needs evolve, postal operators must prioritize customers' convenience in order to serve emerging needs. As tech giants in the field continue to create innovative solutions for the e-commerce market, so must the Post. In their role as partners to the government, citizens and enterprises, there is a growing trend for postal operators to promote inclusive e-commerce by providing e-commerce platforms and payment and delivery possibilities, especially for MSMEs.

In 2017, for example, 74% of postal operators rated e-commerce services as having a positive impact on their revenue generation from postal business, showing that e-commerce is enabling Posts to exploit profits from digital services.

Emerging e-commerce strategies

The postal business is changing fast. Declining volumes of mail, which has traditionally been the core business for most postal operators, coupled with an increasing demand for parcel delivery is forcing postal operators to review all elements of their business.

Going forward, postal operators must be prepared to not only embrace evolving e-commerce business models, but also actively pivot their businesses to seize new revenue and growth opportunities. Postal operators may shift from being the delivery provider to being the ones driving the e-commerce market.

Some of the emerging trends in the growth of e-commerce business models, where users access goods and services in a continuous recurring stream are:

Online platform business models

This is a business model that creates value by facilitating exchanges between two or more interdependent groups, usually consumers and producers. An e-commerce business model is incomplete without an online platform that acts as both the retailer and provider of digital marketplaces, bringing buyers and sellers together online. For example, businesses such as Uber and Alibaba do not directly create and control inventory via the supply chain in the way traditional businesses do, but they create the means of connection.

Matching platform business models

Using machine learning, this mechanism enables buyers and sellers to find each other in a way that is satisfactory to both parties, reducing transaction and search costs for customers and improving their utility. Matching is the process of signalling to the buyers of goods who the sellers with the inventory of most interest are, and, likewise, the process of signalling to sellers who the most appropriate buyers for their goods are likely to be.

Subscription business models

Another e-commerce business model that is of increasing interest is the subscription model. The subscription model relates to the recurring purchase of digital goods and services, or a combination of both digital and physical products. As a front runner in the field, Amazon, for example, has long been very successful with the Prime model. This a subscription-based model, where there is a fixed monthly fee for all deliveries. A key benefit to this model is that it promotes loyalty.

Public warehouse business models

In this new era, logistics services play a critical role in generating sharing economies and flexible co-makerships in e-commerce environments. Public warehouses are owned by the logistics service provider and share the same warehouse with computing brands or brands of a virtual organization.

Under Armour and Patagonia, for example, share the public warehouse of DSV in Venlo-NL.⁴⁹ The advantage of this business model is that it provides flexibility in space and sharing of fixed costs, as suppliers pay for the exact square metres used and they share the transportation costs. This applies when sales volume is low, demand variability is high, and there is a low requirement for customer service, security and physical control.

Omnichannel logistics business models

The modern customer uses different purchasing channels, i.e. physical store, online, mobile and social media. Omnichannel models integrate the sales channels to converge into a single channel of orchestrated product flow. The omnichannel approach is more complex than the traditional multichannel approach because the customer experience in every channel must be identical, and switching from one channel to another must be seamless.

Logistics and supply chains are the backbone of every omnichannel strategy. They are the key enablers to consistently and cost-effectively deliver personalized service and flexible fulfilment. They also enable retailers to achieve cross-channel inventory visibility and optimization (crucial to the success of omnichannel implementation) and to meet customer expectations, generating higher satisfaction and loyalty.

Cross-chain order fulfilment business models

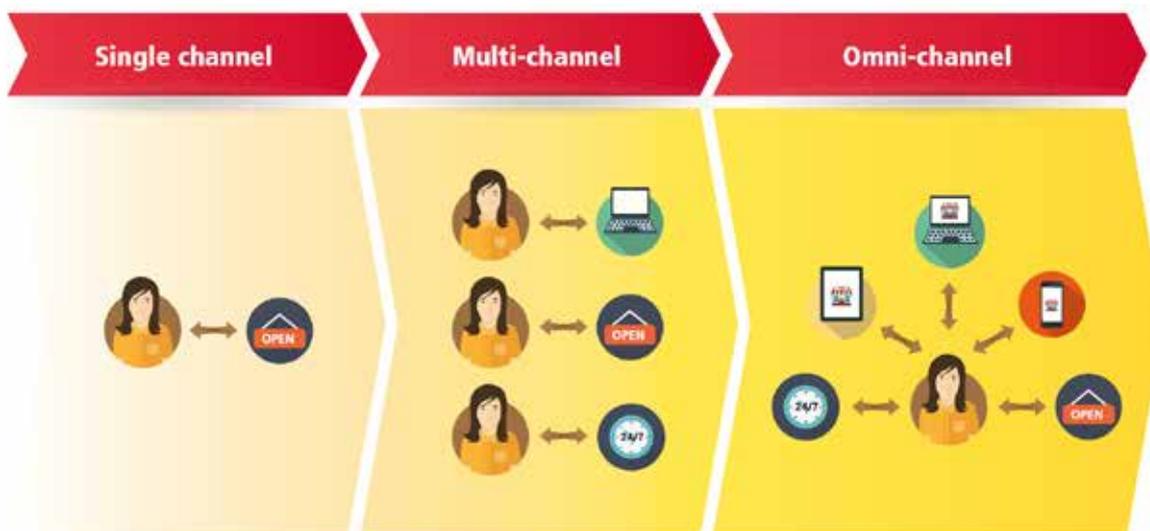
Cross-chain order fulfilment is designed to improve the coordination of products flows, providing a physical and IT network for coordination of the delivery and return of online orders. It focuses on cross-chain control centres by integrating e-commerce sales channels:

MULTI-CHANNEL STRATEGIES: design inventory and delivery strategies that make use of interchanges of products between the bricks-and-mortar channel and the e-commerce channel.

AN E-COMMERCE INFORMATION PLATFORM allows exchange of information in a standardized manner.

BETTER CONSUMER EXPERIENCE BY INTEGRATING IT AND LOGISTICS INFRASTRUCTURE between companies and between online and offline channels, resulting in the integrated delivery of orders.

Figure 5.1 - Omnichannel logistics



Source: Omnichannel delivers a seamless customer experience across all channels⁵²

49 www.dhl.com/content/dam/downloads/g0/about_us/logistics_insights/dhl_trendreport_omnichannel.pdf

50 www.dhl.com/content/dam/downloads/g0/about_us/logistics_insights/dhl_trendreport_omnichannel.pdf

Physical Internet business models

Physical Internet is an open global logistics system founded on physical, digital and operational interconnectivity, through encapsulation, interfaces and protocols. The physical Internet is intended to replace current logistical models.⁵¹ It is a concept that Internet data transfer applies to the physical transfer of goods:

PLACE GOODS IN STANDARD BOXES CONTAINING ENCAPSULATED INFORMATION, USUALLY VIA RFID TO IDENTIFY THE PACKAGE AND TO ROUTE IT TO THE RIGHT DESTINATION;

ORGANIZE FOR DYNAMIC ROUTEING OF STANDARD BOXES;

MERGE STANDARD BOXES TO FORM THE ORIGINAL COLLECTION OF PRODUCTS AT THE DESTINATION.

THE MODEL PROVIDES: BETTER CAPACITY UTILIZATION OF TRANSPORT RESOURCES DECREASED THROUGH PUT TIME BY INTEGRATION WITH COMPETITOR LOGISTICS PROVIDERS

The table 5.1 summarizes the main strategies that encompass one or more postal business format in e-commerce, including a brief description and the most common forms of remuneration.

Partnerships

Considering the strong competition in the e-commerce market with plenty of well-prepared players, it is crucial to consider the possibility of establishing partnerships in order to accelerate business model implementation. Time to market is essential for e-commerce.

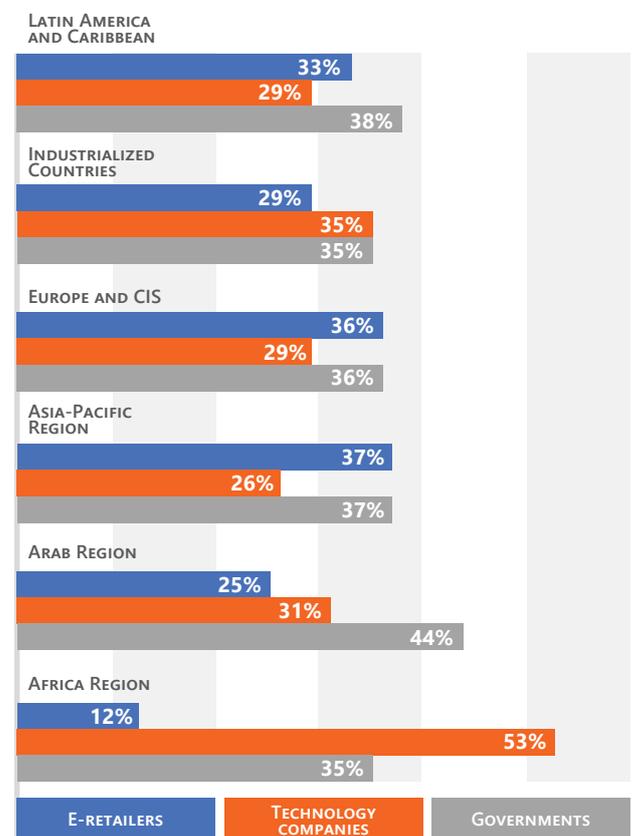
The UPU Guide on Public Private Partnerships for E-Services in the Postal Sector provides comprehensive content on how to plan and execute partnerships for postal electronic services, including e-commerce. Regarding partnerships, the guide provides definitions, types, options, financing structures, requirements and, finally, practical recommendations and successful cases.⁵²

With the rise of digital technologies and e-commerce, postal customers expect DOs not only to modernize their services and improve quality, making innovation a necessity, but also to enhance the interoperability of network infrastructure and e-commerce partnerships.

The 2017 UPU digital postal survey indicated that, globally, 47% of DOs have encouraged third-party developers and start-ups to propose new digital postal services. However, more than half of the DOs did not respond to the question as to whether they apply the methodology, which aims to build partnerships for digital postal services.

The following table shows the third-party digital services developers that postal operators have made partnerships with – governments, technology companies, e-retailers, web stores, etc. – for the provision of postal services related to e-commerce.

Figure 5.2 - Postal operator partnerships with third parties



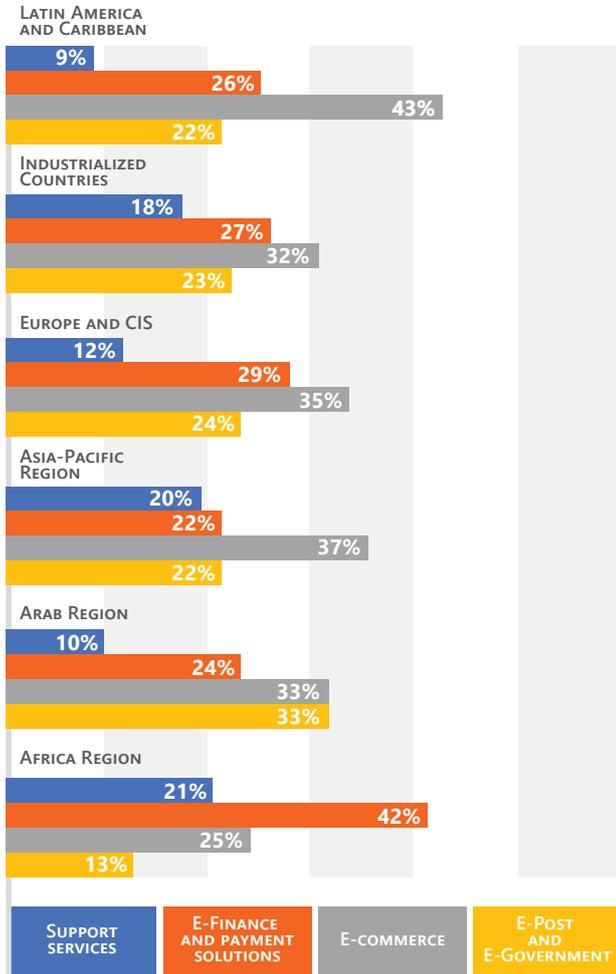
Source: 2017 UPU digital postal survey

51 www.cirrelt.ca/DocumentsTravail/CIRRELT-2011-03.pdf

52 <https://www.upu.int/en/Publications/Digital-services/Guide-to-public-private-partnerships-for-e-services-in-the-postal-sector>

Another strategic area that is present in all regions is the partnerships between postal operators and third parties offering digital services, with e-commerce having the largest share, as shown in the table below.

Figure 5.3 - Postal operator partnerships with third parties by category of digital services



Source: 2017 UPU digital postal survey

Logistics and supply chains are the backbone of every omnichannel strategy. They are the key enablers to consistently and cost-effectively deliver personalized service and flexible fulfilment. They also enable retailers to achieve cross-channel inventory visibility and optimization (crucial to the success of omnichannel implementation) and to meet customer expectations, generating higher satisfaction and loyalty.

Table 5.1 - Postal business format in e-commerce

STRATEGIES	POSTAL BUSINESS CATEGORY	DESCRIPTION	EXAMPLE PRODUCTS	REVENUE
PHYSICAL E-COMMERCE LOGISTICS	PARCEL DELIVERY	National, regional or international delivery services for shops, e-malls and e-marketplaces	E-SUBSCRIPTION: The Post provides subscription services for recurring purchase of digital goods and services, or a combination of both digital and physical product	Buyer pays fixed monthly, half-yearly or yearly subscription fees
	LOGISTICS PROVIDER	The Post manages all or part of the seller's logistics chain, e.g. the warehouse, inventory, order processing, fulfilment, delivery and after-sales	SMART LOGISTICS: The Post can provide a shared logistic facility for computing firms, including inventory management, physical inventory counts and shipping functionality	A combination of storage fees and inbound and outbound transaction fees
			DYNAMIC ROUTEING: The Post places standard boxes containing encapsulated information, usually via RFID to identify the package and to route it to the destination	Buyer pays fees for product purchased and for integrated delivery of orders
PAYMENTS E-COMMERCE PAYMENTS	POSTAL E-PAYMENTS	The Post provides electronic or physical payment services for e-shops	Dynamic routing to e-payment platform(s) for payment for goods and their transportation	Per transaction and/or periodic fees
DIGITAL E-COMMERCE PORTALS	POSTAL E-SHOP	The Post has an e-shop to sell products and postal services on the Internet		Buyer pays for product purchased and also for the delivery of any physical items
	E-SHOP HOSTING	The Post provides hosting services for e-shops		Monthly, half-yearly or yearly fees
	POSTAL E-MALL	The Post provides an e-mall for e-shop hosting and product advertising	CROSS-CHAIN ORDER FULFILMENT: The Post can act as a multi-channel platform by integrating the IT and logistic infrastructure	Buyer pays fees for cross-chain service and for integrated delivery of orders
	E-MARKETPLACE	The Post acts as intermediary for e-commerce transactions	OMNICHANNEL LOGISTICS: The Post can integrate the sales channels to converge into a single channel of orchestrated product flow	Buyer pays for product purchased and also for the delivery of any physical items

Source: UPU

Chapter VI:
**UPU enablers
for e-commerce**

The e-commerce market requires the UPU to take a global, integrated approach with a market and customer focus in order to develop an intelligent postal network for cross-border e-commerce. In this context, the UPU has developed technical assistance projects to support DOs in three dimensions: operational, digital and financial (payments):

OPERATIONAL READINESS FOR E-COMMERCE (ORE);

DIGITAL READINESS FOR E-COMMERCE (DRE);

PAYMENT READINESS FOR E-COMMERCE (PRE).

The table 6.1 summarizes the three technical assistance project.

Table 6.1 - Three key UPU technical assistance projects

	SCOPE	KEY PILLARS	TIME-FRAME	DELIVERABLES
ORE	Modernize operational processes and use all available IT standardized tools and E2E systems to implement operational solutions, which meet e-commerce requirements	<p>VISIBILITY: IT tools, EDI messages and reports for e-commerce</p> <p>DATA QUALITY: data compliance with UPU standards</p> <p>SUPPLY CHAIN INTEGRATION: Customs, international transport, security, logistics and warehousing</p> <p>E2E RELIABILITY: E2E reporting, Global Customer Service System (GCCS), certifications</p>	10 months	<p>ORE ASSESSMENT of operational plans and IT tools usage</p> <p>ORE ROADMAP and action plan</p> <p>FINAL REPORT with proposals and recommendations</p>
DRE	Enhance digital capabilities and use all available tools to implement digital solutions that meet e-commerce requirements	<p>POLICY FRAMEWORKS: e-commerce policy (policy and regulatory framework for the participation of the Post in e-commerce)</p> <p>DIGITAL STRATEGY: postal e-commerce and digital strategy (strategy, digital economy)</p> <p>DIGITAL TRANSFORMATION: implementing digital capabilities (cybersecurity, product and services, and strategy)</p>	10 months	<p>DRE ASSESSMENT of digital capabilities</p> <p>DRE TRANSFORMATION toolkit (enablers)</p> <p>EVALUATION of postal digital strategy</p> <p>FINAL REPORT with proposals and recommendations</p>
PRE	Enhance payment capabilities and use all available tools/ services to implement e-payment solutions, which meet e-commerce requirements	<p>POLICY FRAMEWORK: payment/e-payment policy (policy and regulatory framework for the participation of the Post payment for e-commerce)</p> <p>PAYMENT STRATEGY: postal payment strategy (strategy and business model)</p> <p>PAYMENT DEVELOPMENT: implementing payment strategy (products and services)</p>	10 months	<p>PRE ASSESSMENT of payment prerequisites</p> <p>PRE DEVELOPMENT of strategy and roadmap</p> <p>FINAL REPORT with proposals and recommendations</p>

Operational readiness for e-commerce (ORE)

The UPU International Bureau decided to implement regional cooperation projects to coordinate and improve quality of service through an integrated postal supply chain. This approach aims to help DOs modernize operational processes and use all available IT standardized tools and E2E systems to implement operational solutions, which meet e-commerce requirements.

By improving E2E reliable delivery performance, and by providing consumers with more visibility through EDI message exchanges and more customer-oriented solutions (delivery options, data capture at source, returns solutions, simple customer services), postal operators will contribute to further growth of the e-commerce market.

The UPU's main goal is to ensure the operational readiness of Posts for seamless cross-border e-commerce, using the multifunctional integrated postal infrastructure to provide all the world's citizens with simple, reliable access to postal services, thus meeting the aspirations of member countries that have made e-commerce their top priority.

ORE objectives

The ultimate objective is to ensure that online merchants have adequate distribution infrastructure to develop their business through Posts. ORE also aims to establish an integrated cross-border e-commerce ecosystem, which is provided by postal operators through physical e-commerce hubs interfaced with online e-commerce platforms via a suite of innovative UPU standards and IT tools.

ORE process review concept



Through the activities included in the key pillars, the project offers support for DOs to implement a reliable, traceable and affordable integrated UPU product portfolio to meet the needs of customers and e-retailers in order to achieve:

- | **BETTER VISIBILITY THROUGH TRACK AND TRACE;**
- | **CONSISTENT, TRUSTWORTHY AND RELIABLE E2E DELIVERY TIMES;**
- | **TRANSITION FROM PAPER-BASED TO ELECTRONIC-BASED PROCESSES;**
- | **SEAMLESS CUSTOMS PROCEDURES;**
- | **ABILITY TO CHOOSE A DELIVERY LOCATION;**
- | **SIMPLE AND RELIABLE RETURNS PROCESS;**
- | **FLEXIBLE CUSTOMER SERVICE PROCESS.**

ORE key pillars

The table 6.2 summarizes the key pillars of ORE.

Table 6.2 - **Key pillars of ORE** (continued on next page)

MINIMUM OPERATIONAL REQUIREMENTS	VISIBILITY	DATA QUALITY
<p>Implement minimal OPS product standards;</p> <p>Implement quality structure and policy;</p> <p>Define E2E process mapping and critical times;</p> <p>Establish E2E project standards for each segment and for each of the three legs in the pipeline;</p> <p>Update the information published in the compendia for each of the postal products and Customs;</p> <p>Migrate to IPS.post or latest IPS version for international postal management;</p> <p>Implement the first phase of the integrated product plan by affixing a single barcode identifier on small packets containing goods, in compliance with UPU technical standard S10 and transmitting cross-border electronic pre-advice;</p> <p>Offer delivery choice and provide return service;</p> <p>Implement postcode and addressing system;</p> <p>Offer payment solutions for e-commerce.</p>	<p>EDI messages:</p> <ul style="list-style-type: none"> Adopt UPU messaging standards for mandatory EDI messages, events and data elements, using the applicable versions at item, dispatch and consignment levels; Capture address and customs data at source; Transmit electronic data in a timely manner and share it with DOs and supply chain partners such as airlines and Customs. <p>Use of IT standardized tools & reporting systems:</p> <ul style="list-style-type: none"> Use all available IT tools, such as IPS, CDS, the Internet-Based Inquiry System (IBIS), Registered Article Inquiry System (RAIS), International Financial System (IFS), Secured Transfer of Electronic Financial Information (STEFI), E-commerce payments (COMPAS), etc.; Use all available reporting systems with E2E segmental reports, such as Quality Control System (QCS), Integrated Quality Reporting System (IQRS), Global, Global Monitoring System (GMS Star), etc.; Implement inbound and E2E GMS using radio frequency identification technology (RFID). 	<p>Compliance monitoring:</p> <ul style="list-style-type: none"> Provide all mandatory EDI messages and tracking events in accordance with EMSEVT v3, including the applicable data elements; Provide timely response for item tracking events: RESDIT, RESCON, RESDES and item attributes messages (ITMATT); Comply with the codes and specifications of the international mail processing centres (IMPCs), as provided in UPU code list 108b; Ensure EDI messages comply with the applicable UPU technical standards and the applicable tracking events and data elements; Comply with the applicable targets and standards for timeliness. <p>Compliance reporting:</p> <ul style="list-style-type: none"> Use new reporting tools (business intelligence); Maximize benefits of EDI by extracting and using data in domestic IT system for continuous reporting and monitoring.

SUPPLY CHAIN INTEGRATION

Transport:

Design routing and accounting plans with airlines using the available flight schedules, through IPS/IPS.Post or the Transit Compendium;

Review and implement the Framework Service Agreement between Posts and airlines following the agreed guidelines between the UPU and IATA;

Comply with the new requirements regarding the provision of EAD to partners by maximizing the exchange of CARDIT and RESDIT messages with airlines and e-CSD leg 2 reports on item, dispatch and consignment levels, in order to improve international transport processing times;

Test and establish seamless systems for transport processing and accounting.

Customs:

Develop operational plans and policy for customs processing of postal items;

Implement CDS;

Exchange customs information with postal partners using ITMATT messages;

Transmit customs declarations via CUSITM messages and receive replies to customs declarations via CUSRSP messages, in order to analyze time in Customs with the aim to reduce the time taken for customs clearance and improve the efficiency of mail processing;

Develop and implement a memorandum of understanding between Customs and the Post at the national level, as agreed between the UPU and the WCO

Security:

Implement the physical and procedural security standards applicable to the following critical facilities in the postal network:

- *S58 Postal security standards:* General security measures to define the minimum physical and process security requirements applicable to critical facilities within the postal network;

- *S59 Postal security standards:* OE and international airmail security to define minimum requirements for secure operations relating to the transport of international mail.

Standards and addressing:

Implement the applicable UPU technical and EDI messaging standards that are necessary for effective postal operations and to interconnect the global postal network.

Implement a postal addressing system at national level in accordance with the S42 international addressing standard, including postal address components and country-specific address templates.

E2E RELIABILITY

E2E service reliability:

Establish E2E standards and targets for each of the three legs with all postal partners;

Monitor performance results and maximize their use for quality measurement and improvement with internal and external parties;

Implement all operational product specifications and standards in accordance with the applicable rules and regulations;

Provide customer service response quality using the applicable Internet-based inquiry system;

Implement adequate remuneration systems, such as the UPU supplementary remuneration programme for registered, insured and tracked items and the inward land rates bonus system for the delivery of incoming parcels;

Obtain UPU certification for quality management, addressing and postal security.

ORE methodology

Process review Phases



ORE deliverables

- **ORE assessment of operational plans and IT tools usage;**
- **ORE roadmap and action plan;**
- **Final report with proposals and recommendations.**

Further inquiries regarding ORE should be sent to ORE@upu.int.

Digital readiness for e-commerce

Digitalization is changing supply chains and how customers buy online. These innovations are fostering considerable change in Posts' strategic objectives by requiring them to increase their predictability, transparency, security and efficiency to meet new customer requirements.

In this context, the UPU International Bureau has developed capacity-building and technical assistance projects to coordinate and improve the digital capacity and capability of Posts. The integrated approach of these projects aims to help DOs modernize digital strategies, use all available digital tools and implement digital solutions, which meet e-commerce requirements.

The UPU's main goal is to ensure the digital readiness of Posts for seamless cross-border e-commerce, where government policy is aligned with the Post's e-commerce strategy and uses the digital enablers to provide all citizens with simple, reliable digital access to postal services, meeting the aspirations of member countries that have made e-commerce their top priority.

DRE objectives

The objective is to capitalize on key existing digital capacity and identify possible additional future capacity needed to achieve DRE. The ultimate goal is to ensure that online shoppers have suitable e-commerce delivery infrastructure to develop their business through Posts. DRE aims to create a cross-border e-commerce ecosystem, provided by Posts through digital marketing, sales and web hosting and interfaced with online e-commerce platforms via a suite of innovative UPU standards and IT tools.

The project offers, through activities included in three key pillars (see right), support for DOs to implement a reliable, traceable and affordable integrated UPU product portfolio to meet the needs of customers and e-retailers.

DRE process review concept



DRE key pillars

The following table summarizes the key pillars of DRE.

Table 6.3 - **Key pillars of DRE**

MINIMUM OPERATIONAL REQUIREMENTS	POLICY FRAMEWORKS
<p>RECOMMENDED ACTIONS</p> <p>Establish COUNTRY PROJECT TEAM;</p> <p>Create CONTACT LIST (CEOs, all TT members, IB experts, Regulator, Ministry);</p> <p>Create ROADMAP and ACTION PLAN</p>	<p>RECOMMENDED ACTIONS</p> <p>Ensure that legal and regulatory frameworks allow digital opportunities to be seized;</p> <p>Develop legal and regulatory frameworks that support ICT co-ordination across the public sector;</p> <p>Include the digital dimension in regulatory impact assessments.</p> <p>ENABLERS ASSISTANCE</p> <p>Policy and regulatory package for government and regulators;</p> <p>Proposal for innovative regulations for postal sector participation in the e-commerce;</p> <p>Study on strategic positioning of the Posts in E-Commerce</p>

POSTAL DIGITAL STRATEGY	DIGITAL TRANSFORMATION
<p>RECOMMENDED ACTIONS</p> <p>DIGITAL STRATEGY;</p> <p>COORDINATION MECHANISMS: Linking the postal digital strategy to the national digital strategies;</p> <p>Define the ROLE OF YOUR ORGANIZATION in the digital economy;</p> <p>Evaluate CASE STUDIES of the digital transformation</p> <p>ENABLERS ASSISTANCE</p> <p>METHODOLOGY to assess Digital Strategy and digital transformation strategies;</p> <p>COORDINATION MACHANISM with the International Community and Governments;</p> <p>UPU FLAGSHIP REPORT "Digital Economy and Postal Digital Activities";</p> <p>UPU CASE STUDY LIBRARY</p>	<p>RECOMMENDED ACTIONS</p> <p>Develop INTERNAL DIGITAL SKILLS;</p> <p>Manage CYBER RISK;</p> <p>MOBILE APPS;</p> <p>Implementation E-SHOP</p> <p>ENABLERS ASSISTANCE</p> <p>TRAINPOST E-services e-learning Course/ New E-commerce and digital transformation e-learning Course;</p> <p>.POST Cyber monitoring and reporting services;</p> <p>MOBILE APP specification (generic);</p> <p>VIRTUAL MARKETPLACE guidelines</p>

Minimum requirements

- **Establish country project team;**
- **Create contact list (CEOs, IB experts, regulator, ministry);**
- **Create roadmap and action plan.**

E-commerce policy and stakeholder engagement

Table 6.4 - **E-commerce recommended actions**

RECOMMENDED ACTIONS	ENABLERS/ASSISTANCE	IMPLEMENTATION/ACTIONS
Ensure that legal and regulatory frameworks allow for digital opportunities	Policy and regulatory package for government and regulators	Countries can refer to the International Bureau programme about use of the enabler (upon request)
Develop legal and regulatory frameworks that support ICT coordination across the public sector	Proposal for innovative regulations for postal sector participation in e-commerce	Countries can refer to the International Bureau programme about use of the enabler (upon request)
Include the digital dimension in regulatory impact assessments	Study on the strategic positioning of Posts in e-commerce	Countries can refer to the International Bureau programme about use of the enabler (upon request)

Postal e-commerce and digital strategy

Table 6.5 - **Postal e-commerce digital strategy**

RECOMMENDED ACTIONS	ENABLERS/ASSISTANCE	IMPLEMENTATION/ACTIONS
Digital strategy	Methodology to assess digital strategy and digital transformation strategies	The UPU may use a mixture of internal experts and external consultants to undertake reviews (upon request, depending on securing funds)
Coordination mechanisms: linking postal digital strategy to national digital strategies	Coordination mechanism with the international community and governments to highlight the Post's role in implementing the digital economy	The UPU will facilitate contact at different levels to ensure dialogue
Define the role of the organization in the digital economy	UPU flagship report – Digital Economy and Postal Digital Activities (on UPU website) – and policy briefs/guidelines for e-commerce implementation – UPU E-commerce Guide (on UPU website)	Countries can refer to the International Bureau programme about use of the enablers (upon request)
Evaluate case studies of digital transformation	UPU case study library	The International Bureau can provide case studies to countries on specific areas of transformation (upon request)

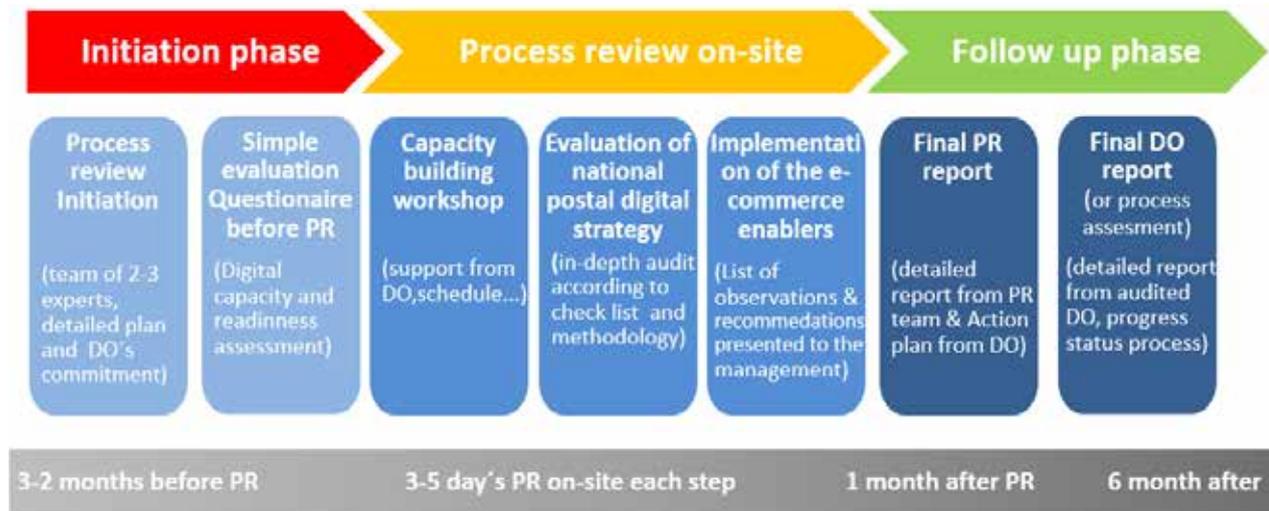
Implementing digital capabilities

Table 6.6 - Implementing digital capabilities

RECOMMENDED ACTIONS	ENABLERS/ASSISTANCE	IMPLEMENTATION/ACTIONS
Develop internal digital skills	TRAINPOST e-services e-learning course/new e-commerce and digital transformation e-learning course	UPU programme can provide access to courses on TRAINPOST platform with the objective of reskilling staff
Manage cyber risk	.POST cyber monitoring and reporting services	UPU programme encourages and evaluates the adoption of .POST via webinars and one-to-one meetings to inform and support the onboarding process for interested countries
Mobile apps	Mobile app specification (generic)	In line with DRE methodology, countries can chose to implement the specification directly, can seek support from the UPU for twinning with others, or can request the PTC develop a cooperative solution (depending on securing funding)
Introduce e-shop	Virtual marketplace guidelines	UPU programme encourages and evaluates the adoption of .POST via webinars and one-to-one meetings to inform and support the onboarding process for interested countries

DRE methodology

Process review Phases



DRE deliverables

- **DRE assessment of digital capabilities;**
- **DRE transformation toolkit (enablers);**
- **Evaluation of postal digital strategy;**
- **Final report with proposals and recommendations.**

Further inquiries regarding DRE should be sent to eservices@upu.int.

Payment readiness for e-commerce

Digitalization is changing the mindset of customers and the culture of purchasing. These innovations are fostering considerable change in Posts' strategic objectives by requiring them to increase their offer to meet customer requirements.

In this context, the UPU International Bureau has developed capacity-building and technical assistance projects to coordinate and improve Posts' postal payment services offering and their capability of helping DOs modernize their payment strategies and implement integrated electronic/digital payment solutions to meet e-commerce requirements.

PRE objectives

The objective is to capitalize on key existing payment service providers and solutions and identify possible additional future capacity needed to achieve PRE. The ultimate goal is to ensure that online shoppers have suitable e-commerce payment infrastructure to develop their business through Posts. PRE aims to enable Posts to create a payment gateway/platform in line with recent trends and interfaced with online e-commerce platforms via a suite of innovative UPU standards and IT tools.

The project offers, through activities included in four key pillars (see below), support for DOs to implement a reliable and affordable integrated quality payment portfolio to meet the needs of customers and e-retailers.

PRE process review concept



Table 6.7 - Key pillars of PRE

MINIMUM OPERATIONAL REQUIREMENTS	POLICY FRAMEWORKS
<p>Establish COUNTRY PROJECT TEAM with representatives of main stakeholders (Ministry, Regulator and Designated Operator);</p> <p>Existing ROADMAP and ACTION PLAN</p>	<p>RECOMMENDED ACTIONS</p> <p>ENSURE THAT LEGAL AND REGULATORY FRAMEWORKS ALLOW E-PAYMENT OPPORTUNITIES TO BE SEIZED: Develop legal and regulatory frameworks that support e-commerce;</p> <p>ENSURE DESIGNATED OPERATOR'S ABILITY TO PROVIDE PAYMENT SERVICES FOR E-COMMERCE: Country signatory of the Postal Payment Services Agreement</p> <p>ENABLERS ASSISTANCE</p> <p>Study on the e-payment legal and regulatory framework and recommendation on needed regulatory enhancements</p> <p>Proposal on inclusion of postal sector participation in financial regulations</p>

POSTAL PAYMENT STRATEGY	POSTAL PAYMENT IMPLEMENTATION
<p>RECOMMENDED ACTIONS</p> <p>Creation of the POSTAL STRATEGY AND BUSINESS MODEL for the payment services and products offering to enable e-commerce payments;</p> <p>Creation of the POSTAL PAYMENT ROADMAP and planning;</p> <p>Ensure preparation of contacts for potential partnerships to potential payment services and solutions providers.</p> <p>ENABLERS ASSISTANCE</p> <p>STUDY on the existing payment services and products and potential new services to be offered in connection to e-commerce payments</p> <p>Development of the POSTAL BUSINESS MODEL FOR E-COMMERCE PAYMENTS</p>	<p>RECOMMENDED ACTIONS</p> <p>Ensure the contracting/partnership with POTENTIAL PAYMENT SERVICES and SOLUTION PROVIDERS;</p> <p>Ensure development/enhancement of the E-COMMERCE PAYMENT SOLUTIONS gateway/platform and integration in the e-commerce platform;</p> <p>Develop INTERNAL PAYMENT SKILLS and MARKETING.</p> <p>ENABLERS ASSISTANCE</p> <p>Support in establishment of partnerships/creation of NEW PRODUCTS AND SERVICES;</p> <p>Support in development/acquisition of the PAYMENT SERVICES PLATFORM;</p> <p>Preparation of TRAINING and MARKETING TOOLS.</p>

Minimum requirements

- **Establish country project team with representatives of main stakeholders (ministry, regulator and DO);**
- **Existing roadmap and action plan.**

PRE e-commerce payment policy and stakeholder engagement

Table 6.8 - PRE policy and stakeholder engagement

RECOMMENDED ACTIONS	ENABLERS/ASSISTANCE	IMPLEMENTATION/ACTIONS
Ensure that legal and regulatory framework allow for e-payment opportunities	Study on e-payment legal and regulatory framework and recommendations on regulatory improvements required	Develop or complement legal and regulatory frameworks that support e-commerce Countries can refer to the International Bureau programme about use of the enabler (upon request)
Ensure DO's ability to provide payment services for e-commerce	Proposal for postal sector participation in financial regulations	The UPU encourages countries to sign the UPU Postal Payment Services Agreement, enabling provision of basic payment services, where not already signed Countries can refer to the International Bureau programme about use of the enabler (upon request)

Postal e-commerce payment strategy

Table 6.9 - PRE payment strategy

RECOMMENDED ACTIONS	ENABLERS/ASSISTANCE	IMPLEMENTATION/ACTIONS
Create postal strategy and business model for payment services and products enabling e-commerce payments	Study on existing payment services and products and potential new services to be offered in connection to e-commerce payments	The UPU may use a mixture of internal experts and external consultants to undertake reviews (upon request, depending on securing funds)
Evaluate case studies of implemented payment solutions	Collection of case studies	The UPU may use a mixture of internal experts and external consultants to provide case studies to countries on specific areas of transformation (upon request)
Create postal payment roadmap and plan	Development of postal business model for e-commerce payments	The UPU will engage contacts at different levels to ensure dialogue
Ensure preparation of contacts for potential partnerships to potential payment service and solution providers		The UPU will engage contacts at different levels to ensure dialogue

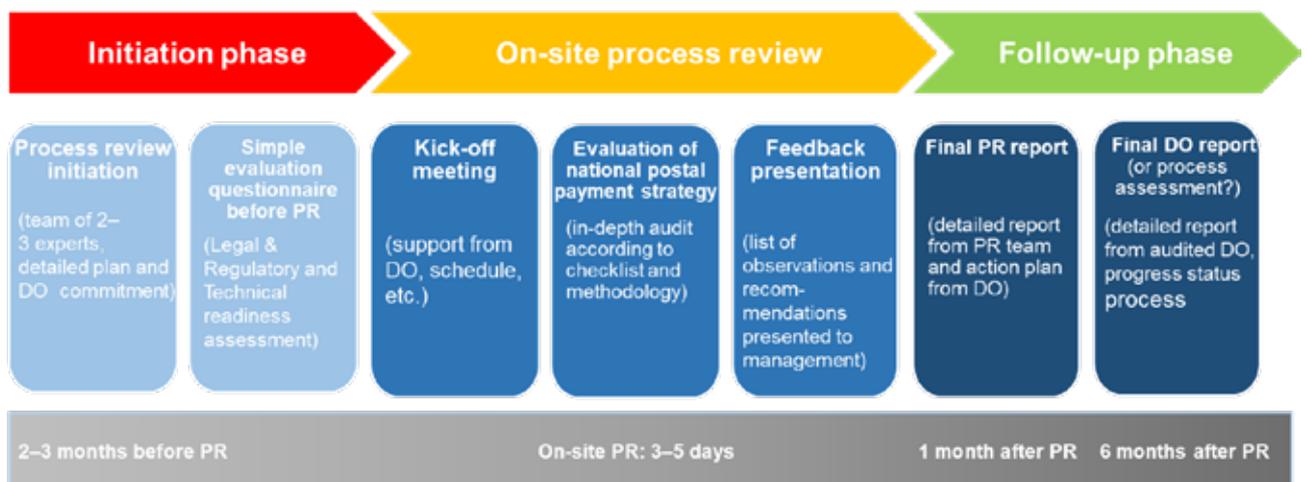
Postal payment implementation

Table 6.10 - PRE payment implementation

RECOMMENDED ACTIONS	ENABLERS/ASSISTANCE	IMPLEMENTATION/ACTIONS
Ensure contracts/partnerships with potential payment service and solution providers	Support in establishment of partnerships and creation of new products and services	The UPU programme can support the establishment of contacts and preparation of agreements with potential payment service and solution providers
Ensure development/enhancement of e-commerce payment solutions gateway/platform and integration in the e-commerce platform	Support in development/acquisition of the payment services platform	In line with the PRE methodology, countries can choose to implement the specification directly, can seek support from the UPU for twinning with others, or can request that the PTC develop a cooperative solution (depending on securing funding)
Develop internal payment skills and marketing	Preparation of training and marketing tools	The UPU programme can provide access to TRAINPOST platform courses or send an expert for on-site training with the objective of reskilling staff

PRE methodology

Process review Phases



PRE deliverables

- **Assessment of payment capabilities;**
- **PRE development roadmap;**
- **Evaluation of postal payment strategy;**
- **Final report with proposals and recommendations.**

Further inquiries regarding PRE should be sent to PFS@upu.int.

Other UPU technical assistance for e-commerce



The UPU provides technical assistance to Union member countries for e-commerce during project assessment, formulation and implementation phases. During these phases, the country is provided with technical support in the areas of: developing ORE; improving quality of service and supply chain techniques; offering a range of e-commerce products and services; providing the right technological tools, systems, EDI and virtual marketplaces; and establishing how project components should work in an integrated manner.

Despite the exponential rate of Internet penetration globally over the past 20 years, as shown in the map below, and the rapid growth of e-commerce, Africa is not growing at the same rate as the worldwide trend.

With a population of more than 1.2 billion people, Africa is the second most populous continent on the planet behind Asia, and has the second largest number of Internet users, at 400 million, after China. However, according to a 2018 UNCTAD report, only 21 million people in Africa bought goods online, representing 2% of global online shoppers.

Figure 6.2 - Percentages of goods bought online

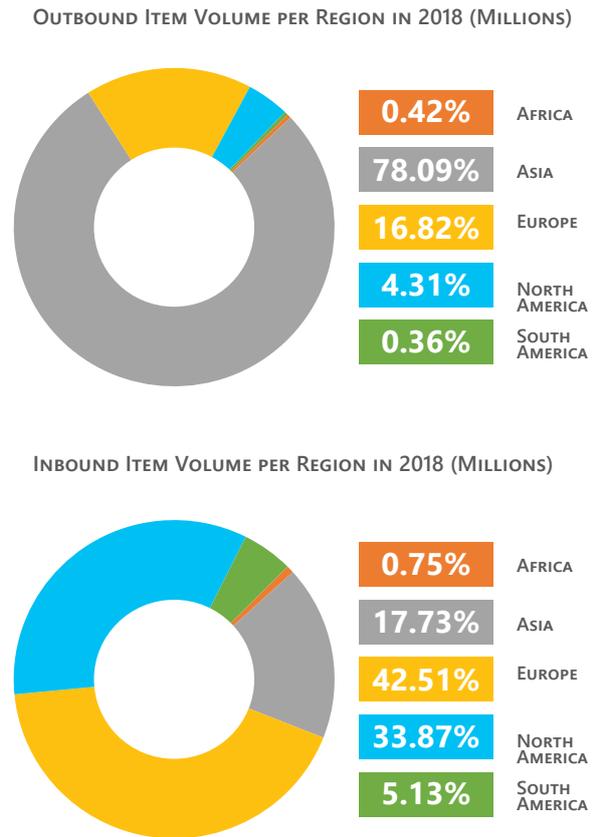
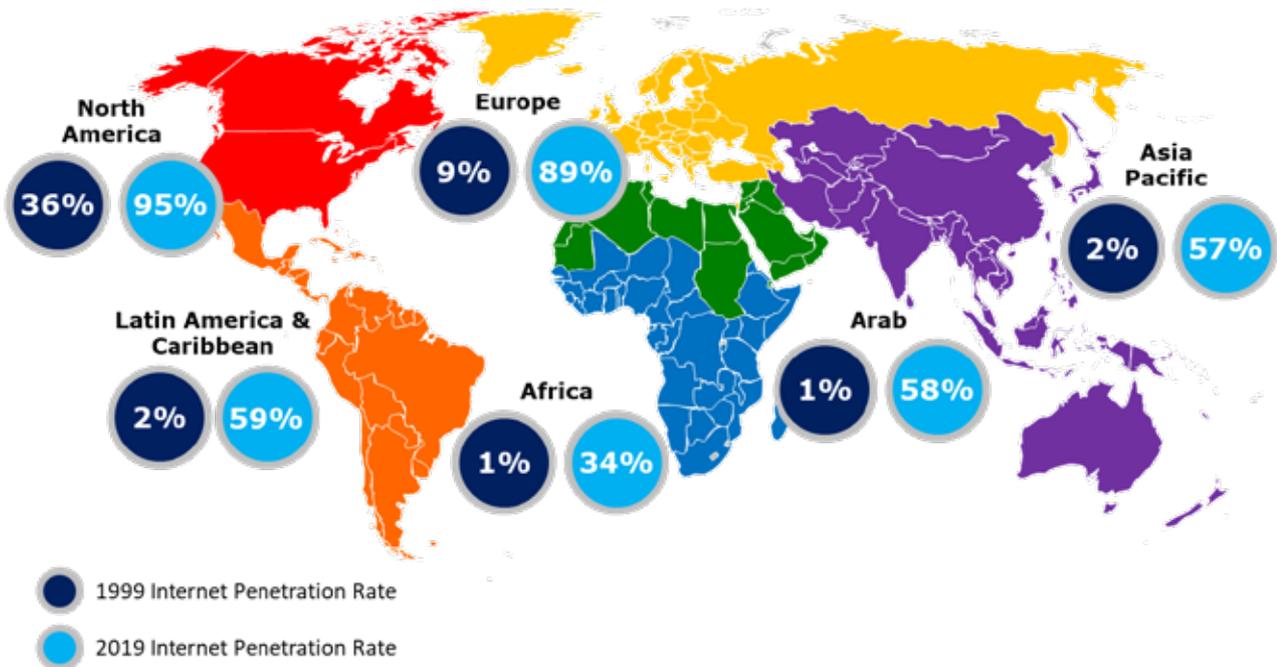


Figure 6.1 - Global Internet penetration rates over the past 20 years



Sources: The World Bank, We Are Social, The Colography Group Inc. and other secondary sources

Another study shows that 84% of cross-border items bought online weigh less than 2kg and that, currently, postal operators dominate this market segment, delivering about 70% of this category of items (IPC Online Shopper Survey 2017). However, DOs in Africa, carrying less than 1.2% of the global inbound and outbound postal traffic (as shown in the graphs), are struggling to integrate e-commerce into their operations.

For these reasons, the Ecom@Africa initiative was started in order to enhance the role and capacity of UPU DOs in Africa as key enablers of e-commerce by establishing Posts as partners to the government, as well as citizens and enterprises that are excluded from e-commerce.

The 21,700 post offices and 138,000 post agents in Africa represent an expansive distribution network that can offer immense support to Africa's e-commerce growth.

Specific objectives of the initiative

To strengthen the universal service obligation placed on DOs to ensure that standard postal services are reasonably accessible to all people in a country, enabling them to buy and sell online on an equitable basis, wherever they reside or carry out business.

To enable rural and underserved communities to sell online and have their products efficiently delivered to domestic and overseas consumers.

To enable rural and underserved communities to buy online from local and overseas merchants.

To establish hubs for regional e-commerce development via the UPU international postal network.

To facilitate sharing and integration of innovative solutions and capabilities by Union member countries.

Expected benefits of the initiative

Implementation of Ecom@Africa is expected to bring the following benefits to the UPU member countries concerned and their DOs:

IMPROVEMENT IN OPERATIONS AND QUALITY OF SERVICE TO SUPPORT E-COMMERCE;

FULL VISIBILITY OF QUALITY WITHIN THE NETWORK AND WITH SUPPLY CHAIN PARTNERS;

IMPROVED QUALITY OF DATA TO SUPPORT E-COMMERCE OPERATIONS;

INCREASED E2E RELIABILITY TO ENSURE DEPENDABLE DELIVERY TIMES FOR MAIL;

ENHANCED SECURITY OF POSTAL SERVICES;

BETTER CUSTOMER SERVICE AND HIGHER QUALITY PERCEIVED BY CUSTOMERS;

MORE EFFICIENT USE OF RESOURCES.

Methodology: key components and technical assistance to countries

The governments of Union member countries and their DOs are the two main stakeholders of the initiative. Other public or private stakeholders can join the initiative by forming partnerships with the government or the operator. The UPU's role is to bring all these stakeholders around one unifying vision and to provide a common implementation framework and methodology.

The first step for a Union member country that wishes to be part of the Ecom@Africa initiative is to write a letter of intent, signed by the ministry responsible for the postal sector, outlining the objectives and interest of the country in implementing the initiative. The government drives the initiative, while the postal operator is the main entity responsible for implementation. As the Ecom@Africa initiative is funded by each interested member country, the letter must state the government's commitment to fund implementation in the country.

The project is then carried out in four phases:

■ **Assessment;**

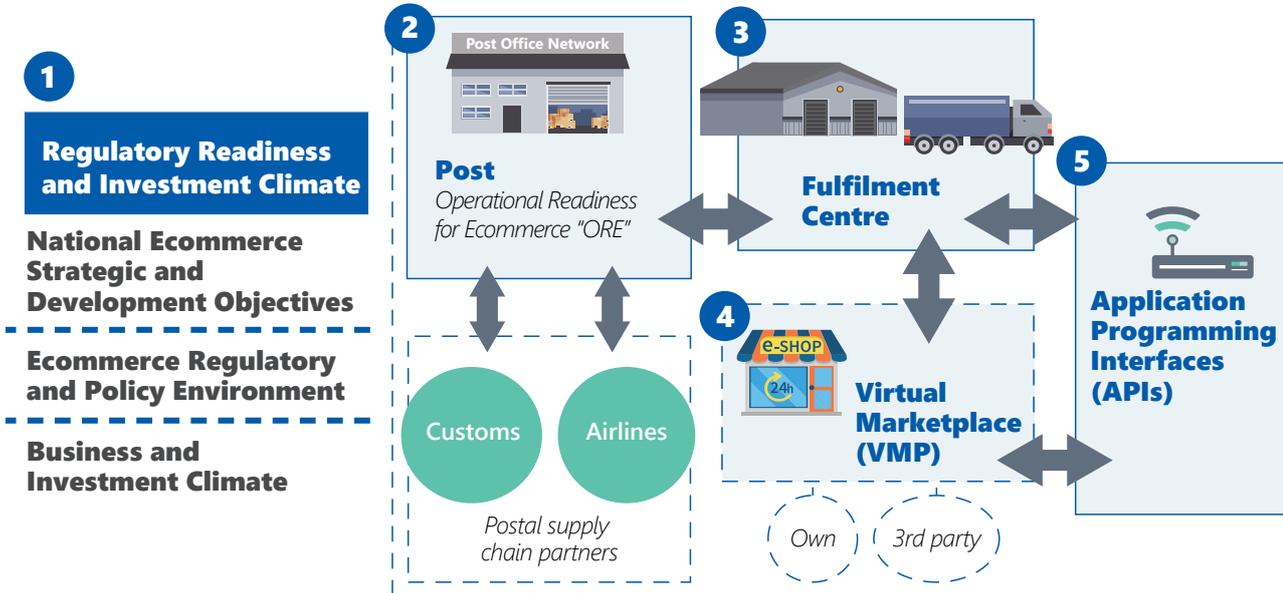
■ **Formulation;**

■ **Implementation;**

■ **Monitoring.**

The UPU provides technical assistance during the assessment and project formulation phases. During these phases, the country is provided with technical support in the areas of: developing ORE; improving quality of service and supply chain techniques; offering a range of e-commerce products and services; providing the right technological tools, systems, EDI and virtual marketplaces; and establishing how project components should work in an integrated manner as shown below.

Figure 6.3 - ORE processes



Countries need to have a conducive regulatory environment and investment climate in place to support the development of the project, as well as national policies and strategies to promote e-commerce. For countries that may not meet all the necessary conditions to implement the initiative (at the onset), the results of the information analysis and on-site situation analysis are used to design and develop a tailored plan, approach and technical assistance to enhance the country's capacity to implement the initiative in the future. It is in the UPU's interest for all its members to be able to support e-commerce and facilitate trade for SMEs by strength-ening the capacity and operational efficiency of the entire postal network.

Further inquiries regarding [Ecom@Africa](mailto:Ecom@Africa.upu.int) should be sent to ecmafrica@upu.int.



Financial Inclusion Technical Assistance Facility

In 2017, the UPU established the Financial Inclusion Technical Assistance Facility (FITAF), with support from the Gates Foundation and Visa.

FITAF provides technical and financial resources (up to 150,000 USD) to designated postal operators to deepen the digitization of postal financial services by leveraging technology (mobile, cards, apps, etc.) to offer more relevant and accessible financial services to further expand financial inclusion and meet the needs of unbanked individuals and small businesses. FITAF has a goal to support 20 projects by 2021.

To date, FITAF has supported 11 postal operators in Africa, Asia, the Middle East, Pacific and the CIS region. Most of these projects involve the launch of e-wallets linked to prepaid cards to facilitate domestic and international payments and transfers, allowing individuals and small businesses to send money and purchase goods and services electronically, therefore supporting e-commerce too.

Further inquiries regarding FITAF should be sent to fitaf@upu.int.

Easy Export

In most countries, both developed and developing, governments, development agencies and United Nations agencies are trying to alleviate trade barriers that hinder the internationalization of MSMEs. There is demand for access to international markets via affordable but efficient national and international logistics solutions offered by specialized service providers.

Often, however, international trade remains inaccessible to MSMEs. With its widespread geographic reach and three-dimensional network of physical, financial and electronic services, the postal sector can help provide greater openness to international trade.

On the basis of the experience of the Exporta Fácil programme first pioneered by Brazil and later implemented by other South American countries, the UPU has launched the UPU Easy Export Programme to replicate the already tested methodology and model, with necessary adaptations, in other regions. Between 2002 and 2008, Exporta Fácil enabled over 10,000 small businesses in Brazil, which had never previously exported, to access international markets.

The programme aims at developing a simplified and harmonized export service for MSMEs by using postal infrastructure. The expected outcomes are:

TO INCREASE THE NUMBER OF SMALL BUSINESSES IN THE COUNTRY'S PORTFOLIO OF EXPORTERS;

TO CREATE A SIMPLIFIED POSTAL EXPORT PROCESS THAT CAN BE EASILY USED BY SMALL BUSINESSES AND CORRESPONDS TO THE CHARACTERISTICS OF THE COUNTRY;

TO IMPROVE AND MODERNIZE INTERNATIONAL TRADE PROCESSES THROUGH THE POSTAL CHANNEL WITH THE INSTITUTIONS INVOLVED IN THE PROJECT;

TO DIVERSIFY THE RANGE OF PRODUCTS EXPORTED AND INCREASE THE NUMBER OF DESTINATION COUNTRIES;

TO RAISE THE PROFILE OF THE POSTAL SECTOR AS AN IMPORTANT COMPONENT OF THE ECONOMY.

This programme fits into the strategic push by governments for export and import promotion in the MSME sector, to support employment creation, wealth creation and poverty reduction. It would also support the formulation of appropriate policy interventions by governments to include postal infrastructure in their national strategies for economic and social development.

At the same time, the project fits into postal operators' commercial strategies. With declining mail volumes and stiff competition in the communications market, there are tremendous opportunities for postal operators to support e-commerce-driven trade flows and to position themselves as trusted, reliable and affordable business partners for MSMEs.

Depending on the country, implementing the programme might involve the following stakeholders, as well as others to be duly identified and brought into the process: international trade agencies; customs authorities; the ministry responsible for the postal sector (infrastructure, transport or communications); ministry responsible for trade and/or small enterprises; ministry responsible for foreign affairs; institutions and associations supporting small businesses; and financial market or foreign exchange (forex) regulators. It is therefore important that the project is coordinated effectively.

Further inquiries regarding Easy Export should be sent to tradefacilitation@upu.int.



.POST, a top-level domain (sTLD), is available exclusively for the postal sector. It is a secure and trusted Internet-based electronic infrastructure to serve the needs of the global postal community in cyberspace. .POST will immediately identify legitimate postal services and avoid confusion for individuals, business and stakeholders. .POST aims to integrate the physical, financial and electronic dimensions of postal services to enable and facilitate e-post, e-finance, e-commerce and e-government services.

Lack of trust for cross-border e-commerce is a major concern for online shoppers. In 2017, 82% of online buyers were concerned about their privacy regarding cybercriminals.⁵³

Quality in .POST is based on three pillars:

EXCLUSIVE POSTAL BRANDED INTERNET SPACE: APPLICANTS FOR A .POST DOMAIN NAME MUST SET OUT CERTAIN REQUIREMENTS TO BE ELIGIBLE;

PRIVILEGED VERIFIED TREATMENT OF POSTS: ENSURE ALL POSTS PROTECT THEIR BRANDS BEFORE GENERAL AVAILABILITY;

CONTROLLED ASSIGNMENT AND SUPERVISED USE OF GENERIC DOMAIN NAMES (NAMING MANDATES): SOME NAMES SUCH AS POSTAL, POST OR E-COMMERCE.POST ARE SPECIALLY PROTECTED FOR INDUSTRY ACTIVITIES.

A .POST-enabled website recognizes the postal services provider protects their brand and adds value to their postal businesses through:

- **Trust:** Cyber protection give greater confidence in postal websites;
- **Visibility:** Unmistakably indicates the location of postal services;
- **Access to new markets:** Raises the profile of your business far beyond national frontiers;
- **Enable new service and business models:** Create enhanced services and new business models.

Further inquiries regarding .POST should be sent to secretariat@info.post.

UPU IT tools supporting e-commerce

UPU IT tools, specifically IPS, IFS and CDS, provide extensive functionality to support the UPU postal supply chain. Traditionally, these applications have played a back-office role at postal international OEs, airmail facilities and call centres.

However with the need to improve operational and data quality, the UPU has, over two consecutive Congress cycles (Nairobi 2009–2012, Doha 2013–2016), extended the functionality to cover some front-office roles typically provided by third-party software or manual processes.

This includes first and last mail data capture, counter sales, customs clearance, returns and domestic capabilities. Further, new UPU IT tools have been developed which hasten the settlement of accounts between UPU DOs (e.g. PPS* Clearing, UPU–IP and IPS integration with UPU*Clearing).

By combining the individual capabilities of these UPU IT tools, the UPU can offer a standard platform for online business interactions in the areas of logistics, payments, customs and service information.

This standard platform is in the form of a set of APIs, which provide a stable, maintained and consistent integration point for e-commerce websites and e-merchants.

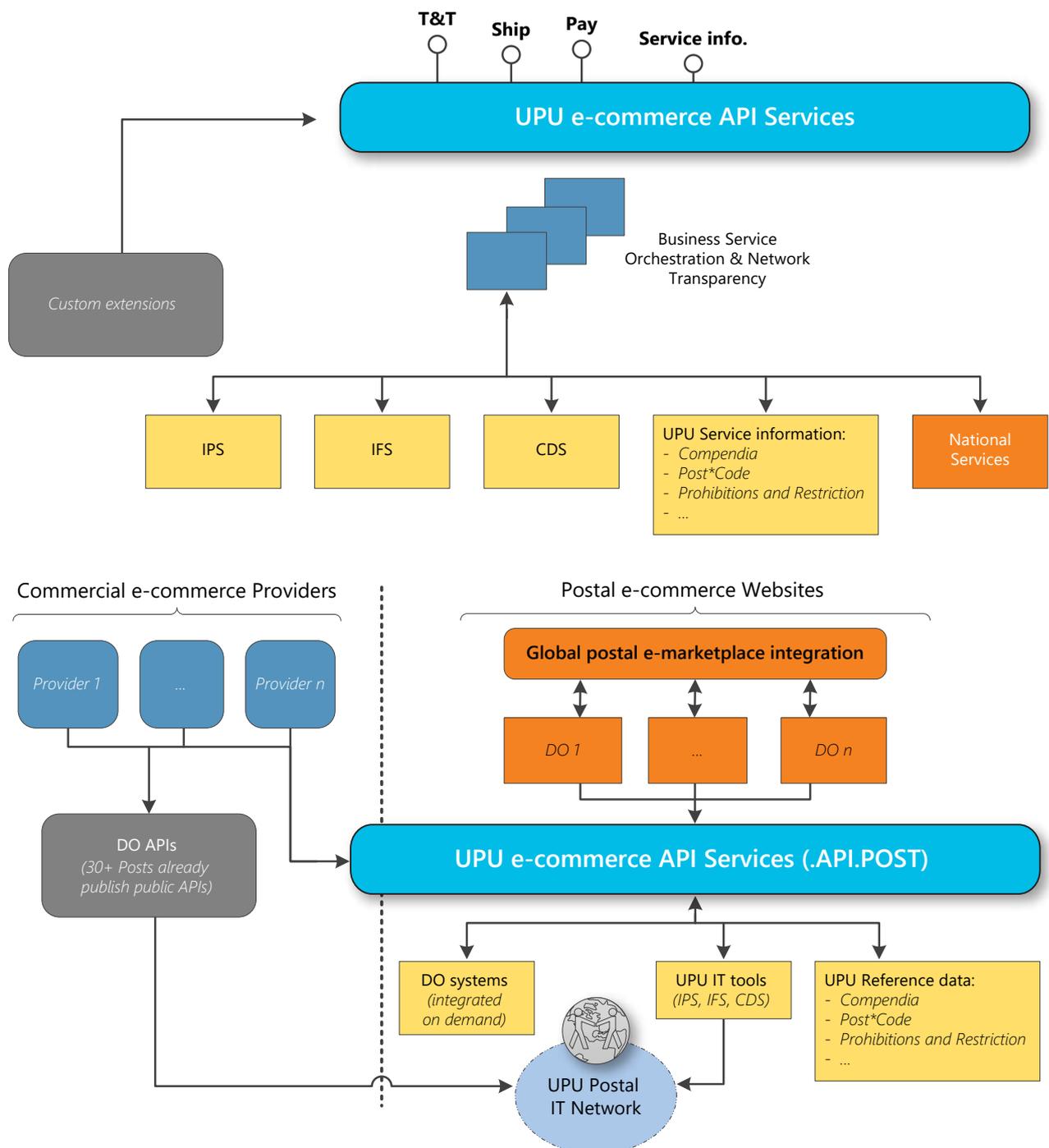
It should be noted that over 30 Posts make shipping APIs readily available to third-party developers and e-merchants. The standard platform could therefore potentially serve the remaining 162 designated operators.

UPU e-commerce API services

This standard platform is referred to as the UPU e-commerce API services. This product will be available to be installed on-site at the Post, within the PTC–UPU shared infrastructure or the dedicated PTC–UPU cloud service.

The following diagram provides a complete overview of the UPU e-commerce API services strategy, encompassing the existing UPU designated operator API integration with commercial e-commerce providers, and the integration with the UPU IT tools.

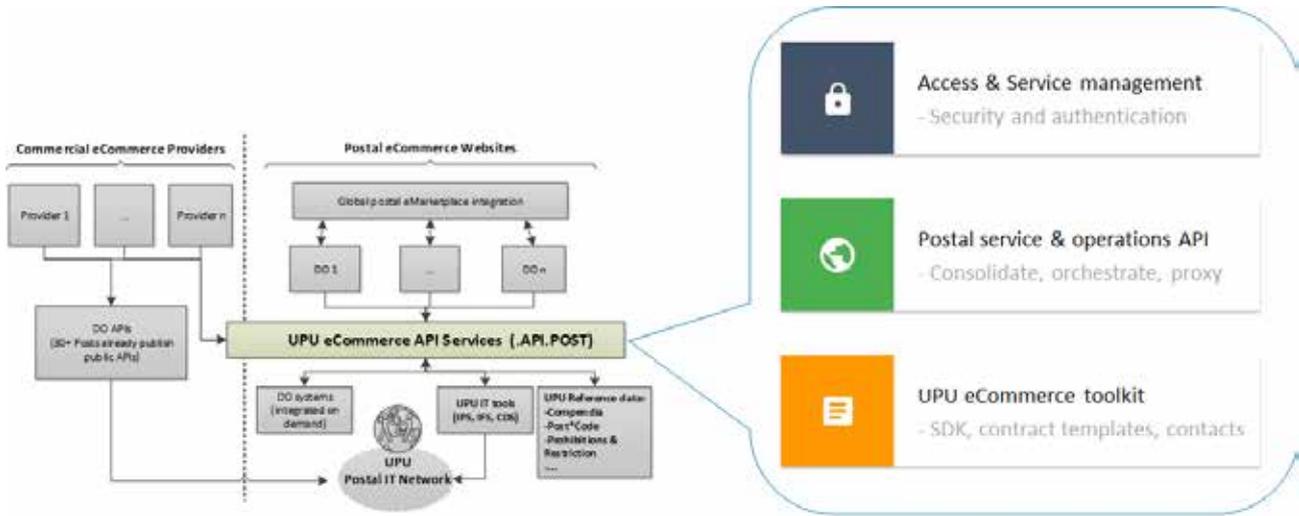
Figure 6.4 - Overview of the UPU e-commerce API services strategy



Source: UPU

The UPU e-commerce API services provides three distinct services to ensure all the public and commercial virtual marketplaces can seamlessly connect to the UPU IT tools.

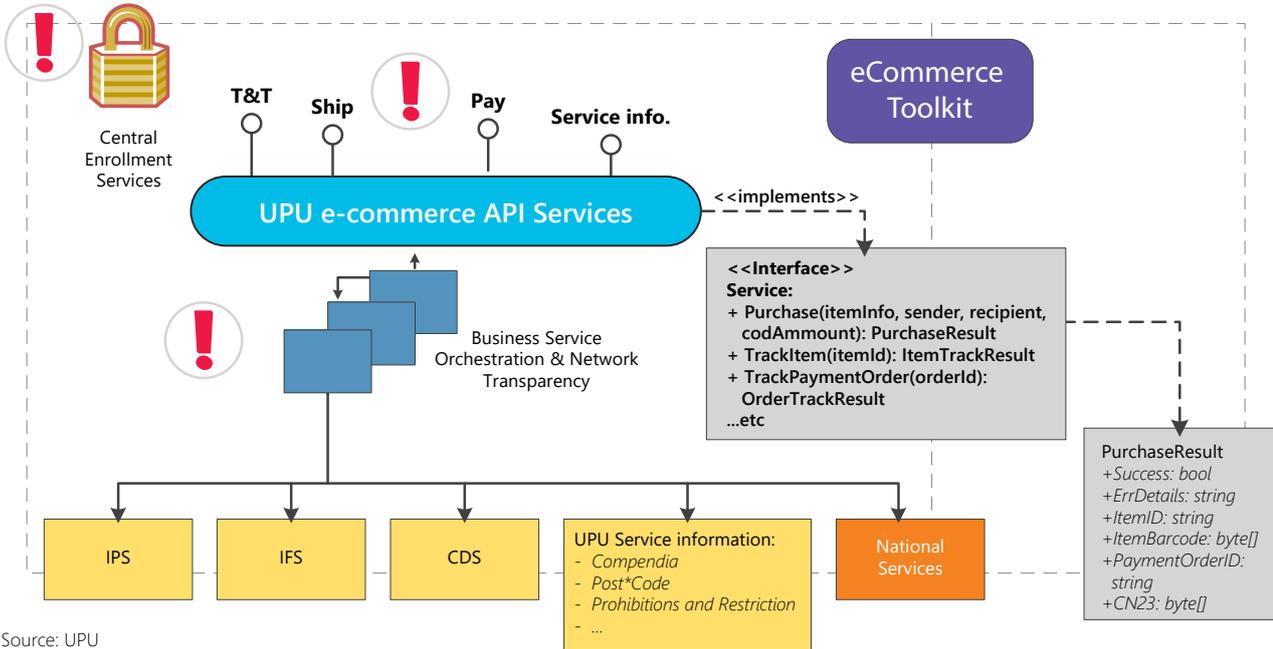
Figure 6.5 - UPU e-commerce API services



Source: UPU

UPU e-commerce toolkit: To provide external partners with the necessary functional & technical information required to successfully connect their e-commerce website to the UPU e-commerce API services. This collection of technical standards, URL endpoint descriptions and code examples will be made available to the DO for distribution to their commercial partners.

Figure 6.6 - UPU API services e-commerce toolkit



Source: UPU

Access & service management: Access & service management sets and ensures compliance with the contractual relationship between the UPU and the DOs, and between the DOs and external partners in accessing the APIs of the UPU IT tools.

To access APIs provided by PTC products and services, the DO must be in a position to authorize each request and subsequent connection made by external partner IT systems. To support the non-repudiation of the authorizing action, the DO will use prior enrolled devices over a two-way SSL connection.

Further, the DO should be able to track the use of the interface by the external IT system and have the ability to revoke this access at any time.

Postal operations: Common business operations are required to complete an e-commerce order and successfully lodge the ordered postal item into the UPU postal supply chain. These business operations may use APIs that are cross functional and composed of composited interfaces provided by the UPU IT tools.

The following e-commerce actions are based on an amalgamation of the public APIs currently provided by leading DOs. These actions, when completed, directly affect the logistics operation, including payments, of the designated operator and commits it and its delivery partner to a promise of good service to the online customer.

The ultimate aim of the listing is to provide a set of UPU standard e-commerce-related APIs which would help reduce the integration costs for the postal industry in general.

Understanding the implementation of e-commerce related APIs is complex; a minimum set of features will be implemented and set as the acceptance criteria.

The functional specifications developed from these requirements will specify in detail which UPU IT tool will fulfil each acceptance criteria.

The following table summarizes the actions required by e-commerce websites that must be fulfilled to provide a complete online customer experience.

Table 6.11 - E-commerce requirements

E-commerce action	API capability	UPU IT tools
Track & Trace	Status of UPU standard S10 barcoded item	GTT, IPS Web Tracking
	Proof of delivery information	IPS Web Tracking
	Payment status	IFS
Shipping information	Assign S10 barcode	IPS
	Create shipping labels	IPS (according to UPU S67)
	Lookup return services	IPS
	Transmit customs declaration	CDS
	Validate prohibitions and restrictions	CDS
	Look up landed costs	CDS
	Look up postage costs	IPS
Payment information	Make postal payment	IFS, UPU-IP
	Lodge purchase order	IFS,COMPAS
	Check payment status/release postal item for final delivery	IFS, COMPAS
Addressing	Postcode lookup	IPS
	Validate address format information	POST*CODE (lookup S42 format API)

Postal service information: Postal service information is the data that an e-commerce website uses to set customer expectations with regard to the ability of the postal network to fulfil the delivery of the postal item. However, it does not directly impact the logistics or supply chain operations of the DOs.

The UPU International Bureau publishes postal service information to UPU member countries and DOs (e.g. Postal Export Guide, Parcels Compendium, etc.). This is done not only in fulfilment of the universal service obligation provisions, but also as baseline of the capabilities of the DOs to provide reliable and consistent services to each other.

This service information includes, crucially, delivery standards information, which sets the expectations for the customer delivery experience.

This information is currently provided via printed media and online web pages. The requirement now is to provide APIs for e-commerce stakeholders to look-up postal service information and display to its online customers.

The service information is broadly divided into the pre-order and after-purchase experience of an online customer.

Table 6.12 - E-commerce pre-order and after-purchase experiences

E-commerce action	API capability	
Pre-order	UPU DO product and service options	UPU product offered for delivery (EMS, letters, parcels, ECOMPRO)
	Delivery standards	Anticipated E2E delivery time of the order
	Policy on return of items	Returns accepted and expiration
After-purchase	Delivery standards	Anticipated E2E delivery time of the order
	prEDI delivery prediction	Concept outlined in UPU document POC C 2 AEMRG 2015.1–Doc 7

To ensure the identified UPU e-commerce APIs are able to support the complete e-commerce experience of both the seller and the customer (cataloguing, searching, ordering, paying, settlement, lodging, transport, customs clearance, delivery and returns), business process maps have been developed to describe the flow of data between the importing and exporting UPU DO in the proceeding sections.

Priority processes

The basic interaction between the online seller and buyer typically involves only the e-commerce website and the collection and delivery operators. Within the context of the UPU supply chain, the collection and delivery operators are the UPU DOs located in different territories.

The online seller is typically an MSME and the buyer is a citizen served by the local DO and potentially accessing an online virtual marketplace service managed by the DO or a commercial merchant.

Given the highly developed and competitive nature of national and international commercial e-markets, the added value for the UPU DOs lies in providing a trustworthy service for local buyers making online purchases.

In addition, local payment methods such as invoicing and cash-on-delivery are low-cost solutions which provide a higher degree of protection for the buyer. The ownership or domicile of the e-commerce website therefore plays a very important role in determining the level of the buyer's trust.

The following matrix outlines the basic characteristics of cross-border e-commerce from the view of the MSME and the buyer.

The emphasis on national and international purchases refers to the access type of the corresponding party to online services (e.g. a buyer in South Africa accessing an e-commerce site in Tunisia – international), and the types of payment possibilities available to the buyer.

By looking at the characteristics of the virtual marketplace, the payment options and logistics provider, the priority of the business model for adding value for the UPU can be determined (i.e. higher trust and more protection for the buyer equates to added value).

Table 6.13 - Priority processes

		Buyer's purchases	
		National	International
MSME sales	National	<p>PRIORITY 2 (MSME national goods are available in the buyer's national market)</p> <p>Virtual marketplace – single Payments – local (e.g. mobile, invoice, COD)</p> <p>Logistics – local DO</p>	<p>PRIORITY 3 (MSME national goods are available in the buyer's international market)</p> <p>Virtual marketplace – collection DO (local to MSME)</p> <p>Payments – international (e.g. Visa, PayPal)</p> <p>Logistics – collection & delivery DO</p>
	International	<p>PRIORITY 1 (MSME international goods are available in the buyer's national market)</p> <p>Virtual marketplace – delivery DO (local to buyer)</p> <p>Payments – local (e.g. mobile, invoice, COD)</p> <p>Logistics – collection & delivery DO</p>	<p>(Commercial e-commerce)</p>

The first priority of the UPU e-commerce APIs is therefore when the buyer accesses a local e-commerce website which has catalogues of goods of MSMEs in the international markets. The buyer pays for the purchase locally and interacts with the local Post to ensure the delivery of the goods.

Process maps

The following process maps describe the Priority 1 and Priority 2 areas in the matrix above. The maps aim to review the interaction of the main actors in the e-commerce E2E transaction, highlighting which specific UPU e-commerce APIs are required to support the online process.

Note. – The integration of two virtual marketplaces to ensure the catalogue of goods is transferred across does not fall under the scope of the process map.

Figure 6.7 - Priority 1

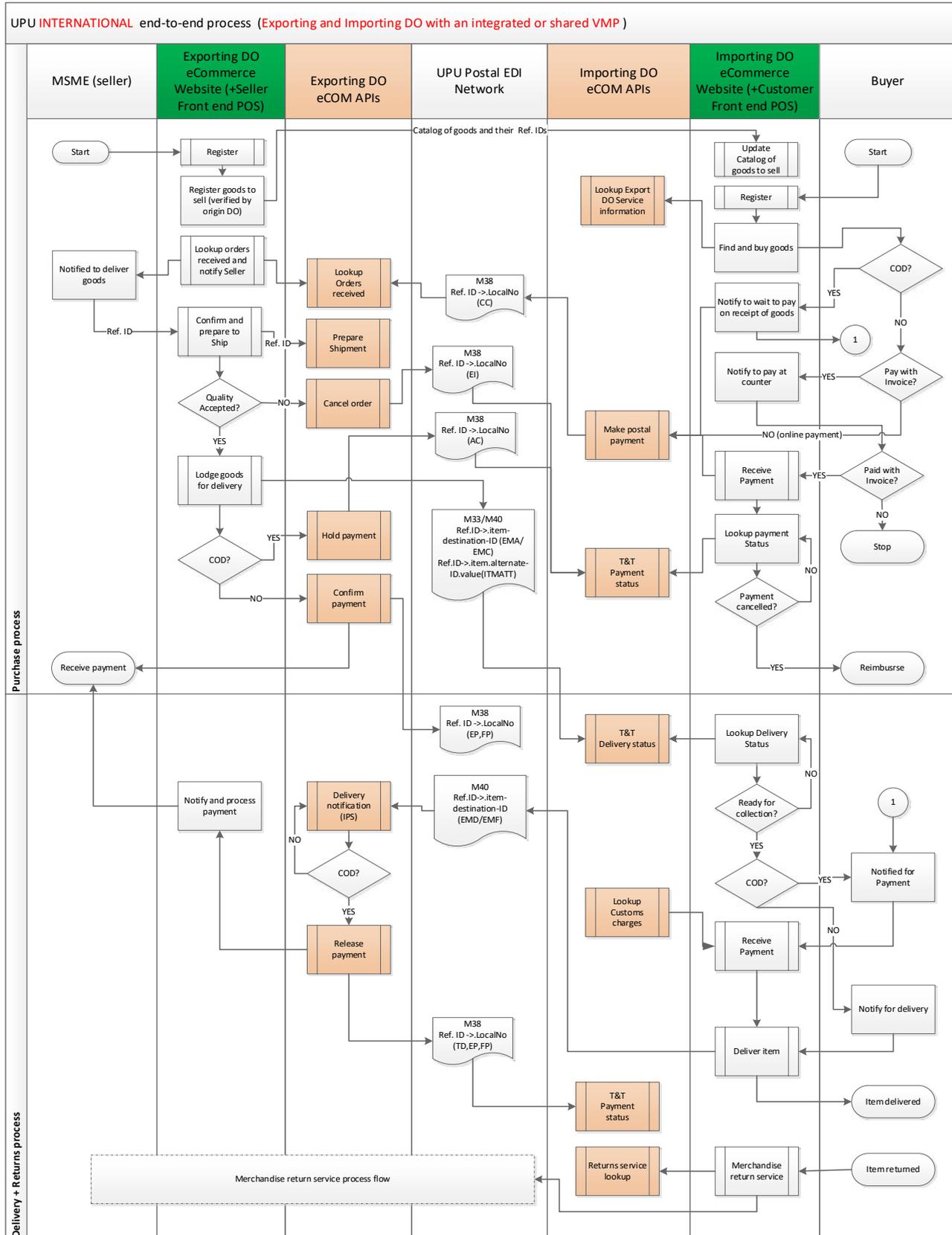
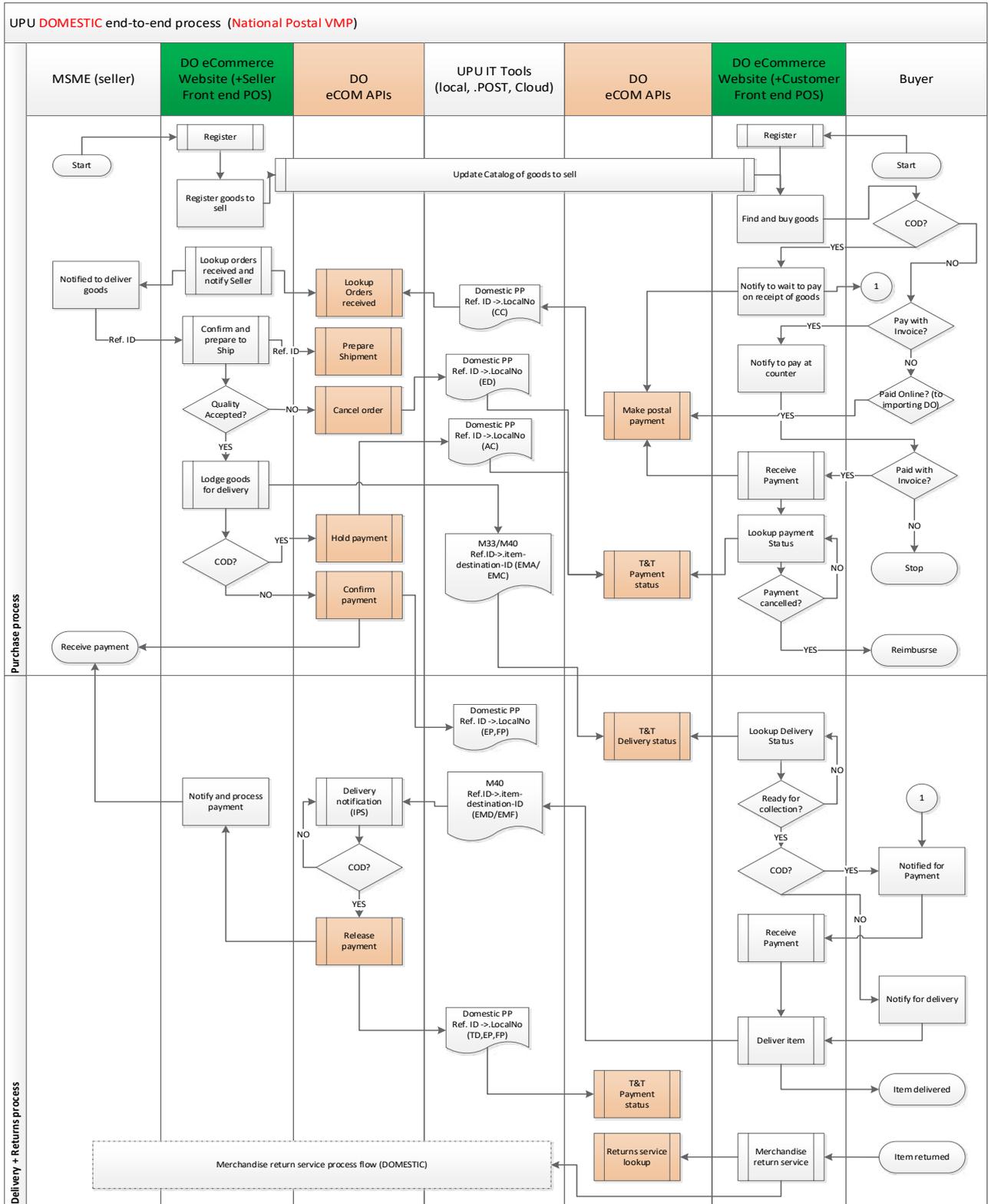


Figure 6.8 - Priority 2



Further inquiries regarding IT tools should be sent to ptc.support@upu.int.





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