Measuring postal e-services development. A global perspective

Version 2.0

UPU UNIVERSAL POSTAL UNION

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Index

1 Foreword 4

2 Motivation 4

3 Linkages between postal electronic services and sustainable development goals 5

4 Conceptual framework 6

5 Introduction 6
5.1. Study objective and methodology 6
5.2. Executive summary 7

6 Chapter I – Global and regional trends 9
6.1. Global trends 9

7 Chapter II – Global development of postal electronic services 16
7.1. Defining postal electronic services 16
7.2. Global results 22
7.3. Country-level perspective 24
7.4. Development over the years 31
7.5. Postal e-services under development 35
7.6. Development of mobile applications 36
7.7. Accessing postal e-services 38
7.8. Changing business model for postal e-services 38
7.9. The dissemination of postal e-services: regional analysis 41

8 Chapter III – Postal electronic services strategies 45
8.1. Digital disruption: threats and opportunities for posts 45
8.2. Reasons for launching postal electronic services 49
8.3. Major obstacles to the growth of postal electronic services 54
8.4. Strategies and actions followed for the provision of e-services 59
8.5. The UPU technology radar 64

9 Chapter IV – Measuring the readiness of countries (UPU PES index) 67
9.1. PES 1 67
9.2. PES 2 69
9.3. PES 3 71
9.4. Global PES 73
9.5. Regional perspective 77
9.6. Correlation with external indexes affecting postal electronic services 78

10 Chapter V – Concluding remarks 84

1 Foreword

The 25th UPU Congress approved resolution C 42/2012, which instructed the Union to study electronic services activities in UPU member countries, monitor developments, and provide benchmarking and best practice information.

The present report is recommended to policymakers, leading directors of postal operators and analysts considering the impact that postal e-services can make in the post-2015 era. It is the outcome of a collective effort to shed light on the digital transformation of postal operators worldwide – an effort that goes far beyond the authors' own contributions. Numerous experts from the UPU International Bureau and other institutions have furnished insightful comments and suggestions. The authors also wish to thank the UPU's member countries for providing the information and data that fed their research and studies.

We would also like to thank the USPS Office of the Inspector General for its contribution. The report benefited from substantive inputs provided by Jean-Philippe Ducasse, as well as additional inputs contributed by Paul D. West, Ph.D, Richard Britten and Bethany Lesser.

The release of the report in English and French has been possible thanks to the support of the International Bureau's translation services. The authors thank them wholeheartedly.

A book's layout and design is always a time-consuming and challenging task, so special thanks also go to the International Bureau's publishing team.

2 Motivation

The report provides insights of common themes and different strategies in development patterns among regions and across countries. By tracking the progress of countries globally over time, it seeks to better understand the challenges faced by UPU members in developing their e-services strategies.

The challenges include (a) how to promote greater use of postal e-services while ensuring equal access to services; (b) how to leverage resources to integrate new technologies into traditional development patterns while ensuring that such opportunities are fully utilized; and (c) how to devise appropriate postal e-services strategies and policies.

The report also highlights broad trends among countries and across regions by providing better understanding of the emerging patterns of countries' performance across the world. It contributes to the ongoing discussion of the critical role of information and communication technologies (ICTs) in the postal industry, identifying countries and areas where the potential of ICTs and e-services have not been yet fully exploited.

3 The linkages of postal electronic services and sustainable development goals

The Millennium Development Goals (MDGs) set by world leaders more than ten years ago have made a huge impact on the lives of billions of people. In particular, extreme poverty has decreased in every region and substantial progress has been made in access to safe-drinking water, decent housing and life-saving HIV treatment. Between 2000 and 2011, the world achieved parity in primary education between girls and boys, with more than 40 million children attending school. However, progress has been uneven: more than one billion people still live in extreme poverty and there are persistent challenges in eradicating hunger, improving health, promoting gender equality, enhancing access to clean water and sanitation, among others.

As the United Nations (UN) continues to promote prosperity, equity and peace beyond 2015, a global conversation has begun to define a concrete sustainable development framework that embodies these bold, ambitious and universal values. On 25 September 2015, countries met and had the opportunity to adopt a set of global goals to end poverty, protect the planet, and ensure prosperity for all as part of a new sustainable development agenda. Each goal has specific targets to be achieved over the next 15 years.

In its resolution entitled "The Future We Want", the UN General Assembly reaffirmed the strong need to achieve sustainable development by promoting sustained, inclusive and equitable economic growth, creating greater opportunities for all, reducing inequalities, raising basic standards of living, fostering equitable social development and inclusion, and promoting the integrated and sustainable management of natural resources and ecosystems. It stressed that all levels of government and legislative bodies play an important role in promoting sustainable development. Overall, the goal of sustainable development is to ensure the promotion of an economically, socially and environmentally sustainable future for the planet and for present and future generations. Sustainable development emphasizes a holistic, equitable and far-sighted approach in decision-making at all levels. It rests on integration and a balanced consideration of social, economic and environmental goals and objectives in both public and private decision-making. It emphasizes intra-generational and inter-generational equity (E/2013/69, paragraph 6).

As we near the 2015 deadline for the MDGs, the ground is being prepared for the next steps in the global sustainable development agenda with the adoption of a set of global goals to end poverty, protect the planet, and ensure prosperity for all. The postal sector must deliver, equitably and efficiently, essential services that meet citizen needs, provide opportunities for economic growth, and facilitate citizen engagement and participation in public policymaking and service delivery, so as to promote the empowerment and well-being of all people. Digital innovation can provide significant opportunities to transform the postal industry into an instrument of sustainable development.

Through innovation, designated operators (DOs) can help different stakeholders in their countries, such as the following:

- Public administrations: Around the world, public administrations can become more efficient, provide better services and respond to demands for transparency and accountability through the postal network. Postal e-services can help governments go green and promote effective natural resource management, as well as stimulate economic growth and promote social inclusion, particularly of disadvantaged and vulnerable groups.

- Micro, small and medium enterprises (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, especially in the e-commerce area.

- Citizens: At the UPU Strategy Conference that took place in Geneva in April 2015, Achim Steiner, Executive Director of the United Nations Environment Programme, underlined the role of the postal sector as an essential driver of the global economy and sustainable development. The UPU also helps its member countries to introduce or develop inclusive and sustainable financial services. As an information and technical assistance platform for the postal sector, the UPU is an ideal partner for lending institutions and donors in the effort to make postal financial services accessible to the most disadvantaged populations.

4 Conceptual framework

Since its inception in 2012, the conceptual framework of the UPU postal e-services survey has adopted a holistic view of postal e-services development resting on three important dimensions: (i) the scope of e-services provided; (ii) the external environment; and (iii) innovation capacity. The methodological framework has remained consistent across survey periods, while its components have been carefully updated to reflect evolving successful postal e-services strategies, best practices and innovative approaches to tackling common challenges for the digital transformation of the postal industry.

The conceptual framework of the UPU postal e-services survey is based on the following guiding principles: first, postal e-services in this survey are considered to be the means to an end, the end being development for all. It is considered to be a strategic product and services, which, if applied effectively, can contribute substantially to serve citizens, businesses and governments. It is intended to support the development efforts of UPU member countries; second, the survey and its results must be placed in the context of the overall pattern and level of development of each country concerned; and lastly, the survey assesses the readiness of postal e-services worldwide, taking the view that the ultimate objective remains the innovation, integration and inclusion of all.

5 Introduction

5.1. Study objective and methodology

Every four years, the Regulations, Economics and Markets Directorate (DREM) of the UPU International Bureau publishes the Measuring Postal E-Services Development Report. The report, which is based on a survey, provides a snapshot of e-services development of UPU member countries.

1. Study objectives

- Benchmark the development of postal e-services in UPU member countries.
- Identify and evaluate the impact of possible barriers and trends affecting the development of postal e-services.
- Evaluate the development and strategic importance of postal e-services at a global level since the 2012 report.
- Develop a framework of postal e-services strategies.

2. Definitions

Definition of Posts: In this study, Posts are the designated operators (DOs) of UPU member countries.

- The postal e-services provided in a country are considered to be the ones provided by its DO directly or through agreements with third parties, such as governments or businesses.

- Definition of postal e-services: In this study, we refer to postal electronic services (e-services) as services delivered by Posts to their end-customers (individuals, businesses or governments) through digital channels. The Internet is the main e-service delivery channel, while other telecommunications channels (e.g. mobile phones, tablets, call centres or televisions) are also considered. The use of ICTs for the sole objective of automating the internal postal process, such as the use of sorting machines, is not within the scope of this study.

3. Methodology

– *Designing the survey:* Initially, 13 task force members from the Product and Services Development Group identified 42 postal e-services to be included in the survey. The e-services were divided into four categories: e-post and e-government; e-commerce; digital financial and payment solutions; and support services. A Post can integrate some of these services and provide them as one service. To assess the availability and value of these e-services at the country level, a survey was developed, in which Posts were asked to indicate whether they provided each of these services, the service's name, if the service was under development, if it was accessible to customers residing in other countries, if it could be accessed via a mobile app, the end user of the service, and the source of revenue. While the study measures the number of e-services offered by Posts and reflects their importance from the postal organization's perspective, it does not assess the success of these services in terms of market adoption or customer satisfaction. The survey also asked more general questions related to Posts' strategy for the development of new e-services.

This 2014 version of the questionnaire is an enhanced version of the one that served as reference for the report published in 2012, which has been revised by rearranging the list of e-services and adding new ones relevant to the market in 2014. However, the same structure has been used, so as to enable results to be compared with the 2012 report and the evolution of postal e-services developments to be documented.

– *Study participants:* The survey was sent by letter to the Posts of the UPU's 192 member countries. The restricted unions and UPU regional project coordinators were informed of the survey. Participants were asked to return their responses to the UPU International Bureau by post, e-mail or fax. Eighty-seven Posts responded to the questionnaire.

– *Regional groups of countries:* Participating countries were grouped into regions, based on the UPU's geographical and economic development regions: industrialized; Europe and Commonwealth of Independent States (CIS); Asia and Pacific; Arab countries; Africa; and Latin America and the Caribbean. The 87 survey participants represented 22 African countries, 8 Arab countries, 12 Asia-Pacific countries, 16 Europe and CIS countries, 14 Latin America and Caribbean countries, and 15 industrialized countries.

5.2. Executive summary

This study presents an analysis of the deployment of postal e-services in UPU member countries. The aim is to understand the evolution of postal e-services and explore their drivers and impact on the postal business since the last report was published in 2012.

The report outlines key opportunities and challenges of postal e-services:

– Much progress has been made in four years
  › Qualified optimism;
  › Postal electronic services are widely seen by Posts as a key driver of their long-term sustainability;
  › As a tool to diversity, to protect the core, and to leverage trust and competences;
  › As a revenue generator, 60% of Posts say they can make money from selling digital services;
  › High awareness of the technological environment, such as big data analytics and payment technologies, handheld terminals.

– Significant progress in the take-up of postal e-services
  › On the part of late adopters of basic technologies such as track and trace, online contact and customer services, or e-post services such as e-cards, electronic notification, or hybrid mail;
  › On the part of advanced Posts supplementing their portfolio with next generation services: mobile apps, digital identity, website integration;
  › Progress in capabilities: 60% have increased funds dedicated to digital, 60% have developed a new dedicated digital market strategy, hired digital experts.

– Increased focus on services that support e-commerce and other core services
  › Four of the five top services are services that support the core business;
  › E-commerce services are top of the agenda in Posts' product innovation plans (website integration and payment solutions, and online management of delivery options);
  › But many Posts continue to remain without those basic building blocks.

- Postal electronic services at the crossroads
  - There has been a strong development of e-post and e-government services in countries where environment is favourable;
  - Africa hopes it can compensate for losses in mail revenue and has focused on hybrid mail;
  - Arab countries benefit from strong government support;
  - Many industrialized countries (such as Switzerland) have expanded services building on long-established expertise.

- However, a number of uncertainties remain
  - Signs of retrenchment from some countries may confirm that digital products are not always a success;
  - Few countries say that innovative services (such as e-health or e-administration) are in preparation;
  - Penetration rates for services leveraging trust in the Post remain low (digital identity: 22%);
  - Only 1/3 of countries have dialogue with governments with regard to postal e-services.

- Multiple competing models reflecting different environments (reasons for launch, obstacles to launch)
  - Government-driven (Arab countries);
  - E-commerce-driven (Singpost);
  - Strictly supporting the core (USPS);
  - Mature vs catching up (early vs late adopters);
  - Emerging regional leaders (Mauritius, etc.).

- Strategies: overcoming obstacles to launch
  - Internal barriers dominate (financial, cultural, expertise);
  - Significant efforts are being made to grow new capabilities in these areas;
  - However, worrying discrepancies remain between strategic intents and reality. 42% say they are well positioned to digitize government processes, but only 17% provide e-administration services; only 37% seek ideas for new e-services from consumers and other stakeholders.

- Getting ready for the future
  - Big data as a competitive advantage: The major shift from traditional to digital shopping practices is creating a growing demand for optimized logistics and personalized parcel delivery. Advances in scanning technologies and tracking applications are producing rich data sets that enable marketers, merchants and service providers to understand consumer trends and optimize business models, increasing efficiency and consumer satisfaction. Efficiency can help drive down operational costs at every link in the value chain. Data can be integrated into mailing and shipping products to induce consumer feedback and help industry players fully comprehend and meet customer needs. 54% of the respondents claimed that big data was a key trend impacting on postal organizations.
  - Embracing digital technology: the increasing empowerment of consumers comes directly from their access to digital technology and interaction with the Post through other channels, such as mobile. Over 50% of the respondents indicated that certain services (e.g. e-cards, postal electronic mailbox, online management of documents/ merchandise delivery options) could be accessed using a mobile app.
  - Greater need for public-private partnerships (PPP): 44% said that PPP was the most common strategy for the provision of digital services.
  - Digital services business models: the change of paradigm presented by digital services should be studied and addressed by the postal industry.

6 CHAPTER I: Global and regional trends

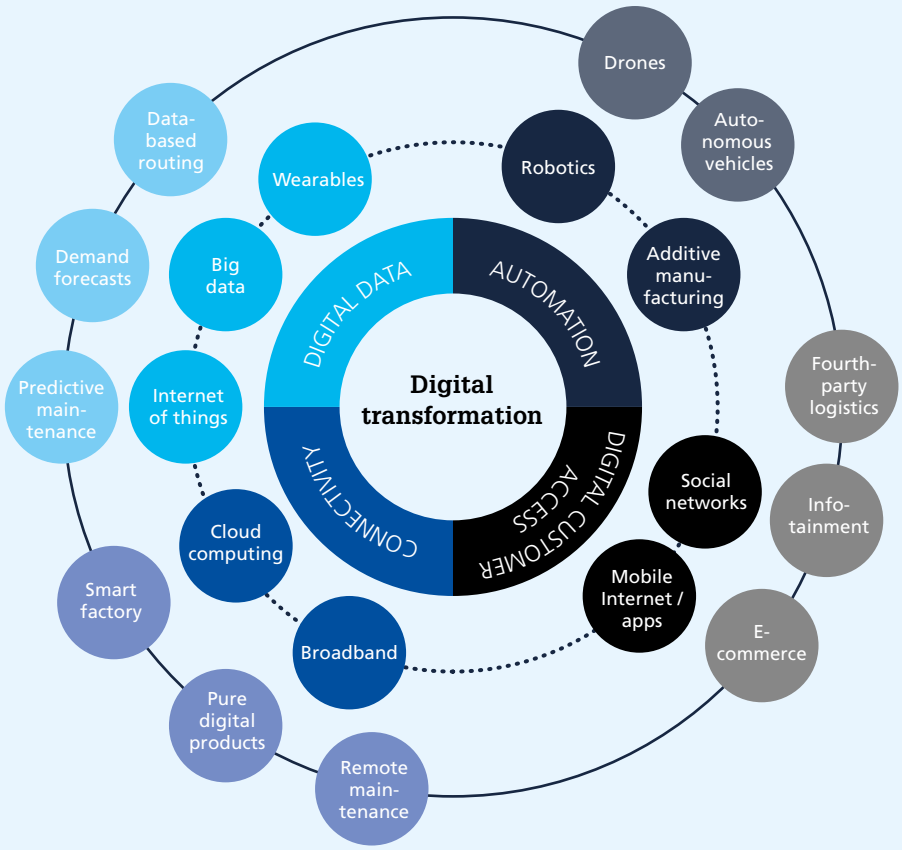
6.1. Global trends

The 2012 report identified some key trends in the technological and market environments of postal e-services, such as Internet, mobile and social media innovations. This chapter summarizes recent developments and reviews some of the main external trends that have affected the development of postal e-services in the past few years.

While the impact of digitization is not new, the digital economy is entering a new phase that presents new challenges and opportunities. Digital tools are changing how companies are structured and how they communicate, and sell. This has triggered the digital transformation of the postal industry.

The graph below shows the main enablers of the digital transformation that large companies worldwide – including postal operators – are going through. Some of them, such as broadband Internet, mobile and social networks are long-term trends that started at the turn of the century. Others, such as the "Internet of Things" or big data, embody a new wave that will increasingly impact e-postal strategies in the coming years.

Table 6.1. Drivers of digitalization



··· Enablers
— Propositions

Source: Roland Berger (2015)

1. Trust: Digital privacy and security

Awareness and concern about security incidents and threats has also become top of mind among consumers, businesses and governments. In short, few risk issues are as all-encompassing as cybersecurity. Media reports of security incidents have become very common, and over the past 12 months virtually every industry sector across the globe has been hit by some type of cyber threat. According to the latest data available (year-on-year growth, 2013–2014), global security incidents grew by 48% and global smartphone users grew by 22%. *

Establishing a legal framework to secure digital postal services (domestically and internationally) has been a priority in recent years. The postal industry has responded with several products and services, including the establishment of the top-level domain .post, which is intended to be used as a platform and governance framework for the provision of secure digital postal services. **

2. Digital identities and e-authentication

There are several initiatives at a regional level with the objective of creating a regulatory environment to enable seamless electronic interactions, enhancing trust in cross-border transactions, and ensuring high levels of data protection.

During the last few years, the postal sector has developed a framework of e-IAS postal products that will be even more relevant in the future as a result of these high-level agreements.

Table 6.2. Current offering of postal products related to identity and data protection

	Post ID (p46)	Digital Signature	EPCM (S43a/b-RL263)	PReM (S52-RL64) + Postal Mailbox (RL 265)		.post (via DNSSEC)
e-ID						
e-Signature						
e-Seal						
e-Timestamp						
e-Delivery						
Website authentication						

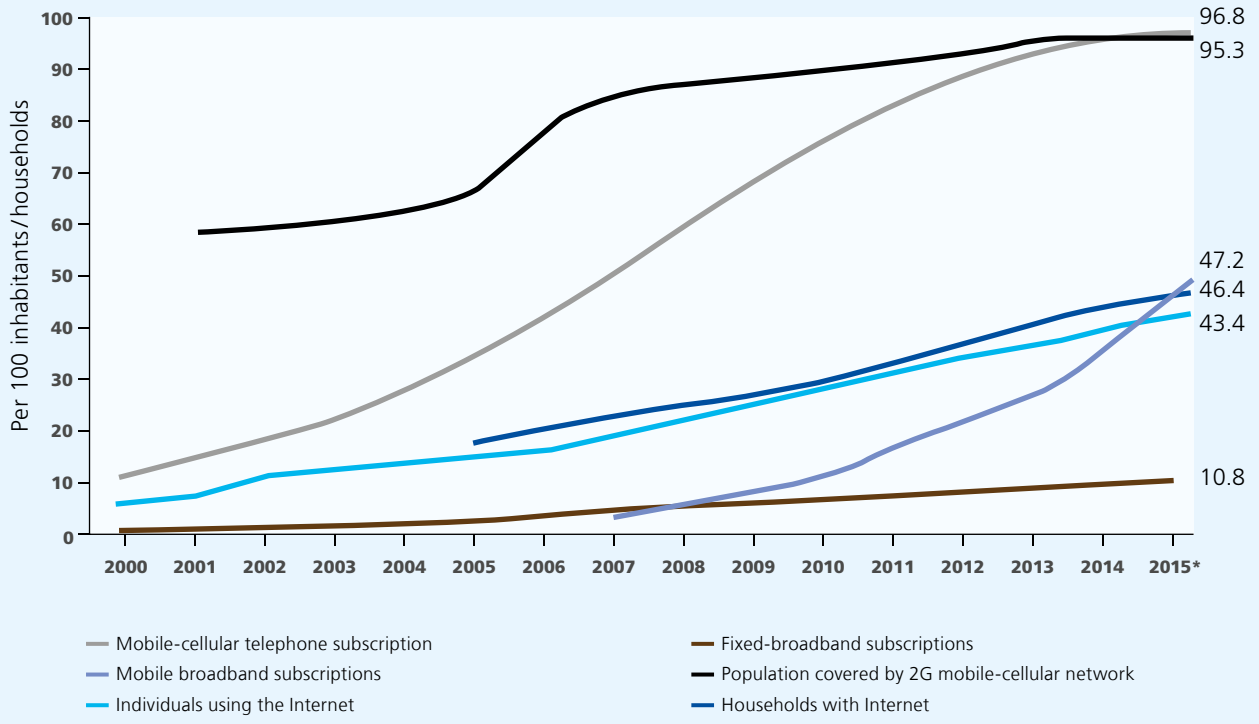
* Sources: OECD, Economic Outlook No. 95, May 2014; eMarketer, Smartphone Users Worldwide Will Total 1.75 Billion in 2014, January 16, 2014; The Global State of Information Security® Survey 2015

** http://www.upu.post/en/post/about-post.html

3. Telecommunications and the Internet

The 2012 report noted a strong relation between the telecommunications infrastructure and the level of development of a country's postal e-services. The worldwide Internet and mobile infrastructure has continued to dramatically expand. According to ITU statistics, 80% of households in developed countries and 34% of those in developing countries will have Internet access by the end of 2015. There will be some 7 billion mobile subscriptions, i.e., on average, almost one for each individual. Mobile broadband penetration, a main driver of e-commerce and e-financial services, has quadrupled since 2010, to 47% of households in 2015.

Table 6.3. Long term trends in Internet and cellular phone penetration: 2000 – 2015

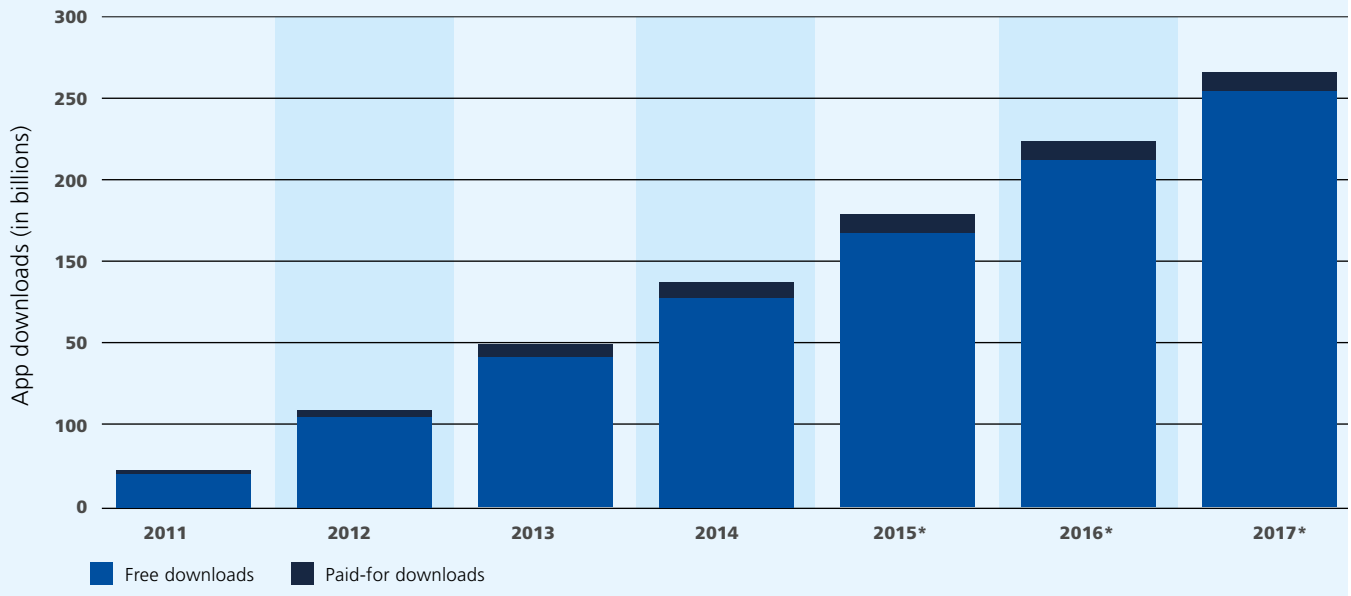


*Source: ITU Facts & Figures 2015 **

* http://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2015.pdf

In parallel, mobile applications have experienced exponential growth. The number of downloads per year should exceed 200 billion apps in 2016 – ten times more than in 2011.

Table 6.4. Number of mobile app downloads 2011 – 2017



Source: Statista *

4. Open data and e-government

The 2012 report concluded that "one may expect a positive linear relation between the development of e-government services and that of postal e-services".

The latest UN e-government survey (2014) ** noted that, in spite of overall progress, the most advanced countries have generally continued to outpace the less developed in online service delivery. The report also noted that many countries struggle to move to advanced transactional and connected e-government services, for want of robust data protection and online payment systems, as well as secure data sharing across government institutions. These are areas in which postal operators, as providers of a trusted communications infrastructure, can help governments fill the gap.

5. Social media

The number of people actively using social media each month passed the 2 billion mark in mid-2014. *** The Asia-Pacific region has the largest social network user base, with a share of about 45% of social network users. **** Postal operators leverage social media to interact with customers, better understand their needs (e.g., through sentiment analysis), or to promote new products.

* http://www.statista.com/statistics/271644/worldwide-free-and-paid-mobile-app-store-downloads/

** http://unpan3.un.org/egovkb/en-us/Reports/UN-E-Government-Survey-2014

*** http://wearesocial.net/blog/2014/08/global-social-media-users-pass-2-billion/

**** http://www.emarketer.com/Article/Social-Networking-Reaches-Nearly-One-Four-Around-World/1009976

6. E-commerce

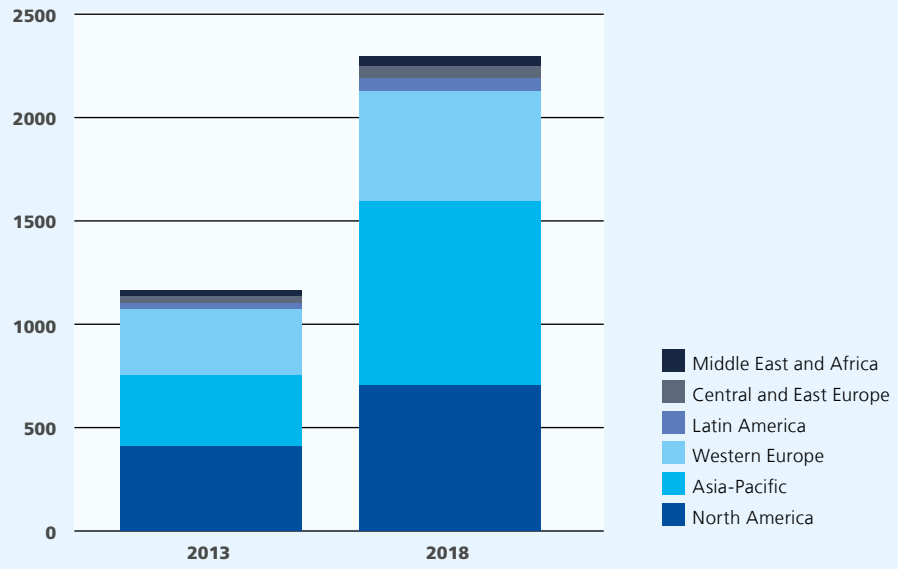
In 2012, global B2C sales reached the $ 1 trillion mark. This was also the first year the Asia-Pacific region surpassed North America to become the world's largest regional market for B2C sales. The total market is expected to reach $ 2.4 trillion by 2018.

While cross-border shopping is still only a fraction of the total, it is growing at a rate of more than 25% annually. Already, about a quarter of all e-commerce purchases are made from a foreign retailer. ** By 2018, about 130 million people are expected to buy online from a country other than their own, three times more than in 2013. *** More mature and demanding online shoppers increasingly expect merchants – as well as carriers such as postal operators – to live up to their expectations as regards shipping and collection and delivery options, payment methods, tracking, notifications and customer service (Table 6.5.).

7. Advertising trends

In 2014, digital media spending represented 25% of the world's total media spending, with advertising on tablets and smartphones a key catalyst for growth. Omni-channel marketing, still a relatively new concept in 2011, has become the mainstream approach to marketing, creating opportunities for Posts to better integrate direct mail and digital advertising channels. A number of Posts have introduced digital innovations, such as quick response (QR) codes that bring a digital component to mail, by directing the recipient to a website or allowing them to download a coupon. ****

Table 6.5. B2C e-commerce sales worldwide, by region, 2013 and 2018 (USD Billions)



*Source: UNCTAD **

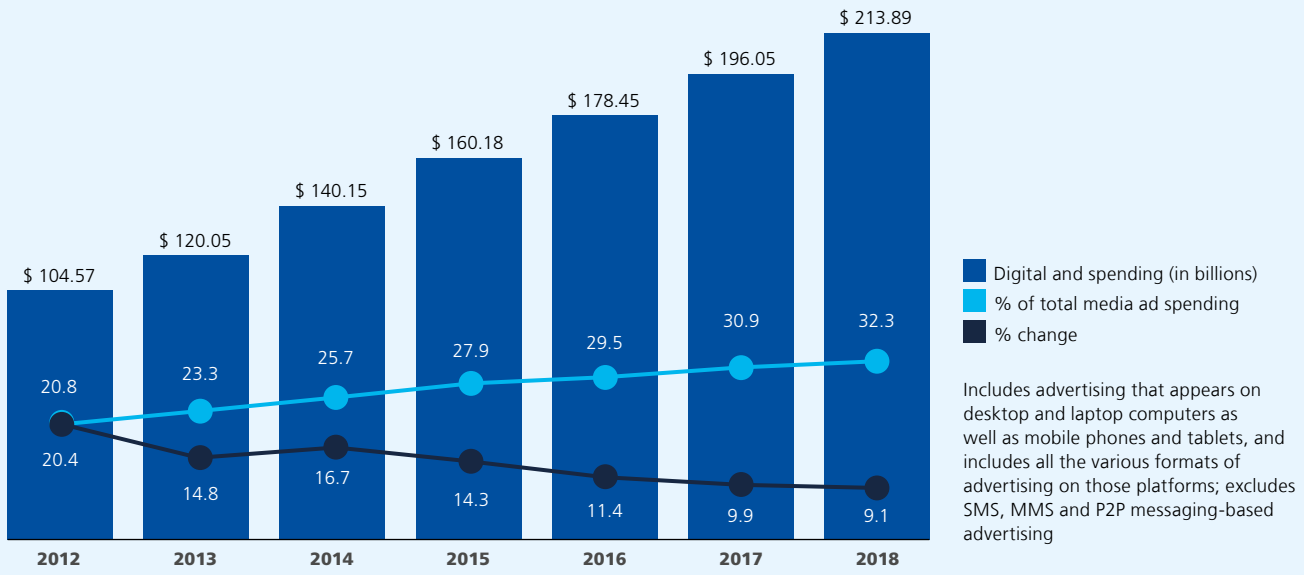
* http://unctad.org/en/PublicationsLibrary/ier2015_en.pdf

** L. Stevens, "Borders Matter Less and Less in E-Commerce",Wall Street Journal, 23 June 2015, http://www.wsj.com/articles/SB11295793630700694761804581015971594095608

*** "Modern Spice Routes The Cultural Impact and Economic Opportunity of Cross-Border Shopping", PayPal, https://www.paypal-media.com/assets/pdf/fact_sheet/PayPal_ModernSpiceRoutes_Report_Final.pdf , July 2013

**** *"Mail Innovations"*, White Paper RARC-WP-14-013, USPS Office of Inspector General, September 2014, https://www.uspsoig.gov/sites/default/files/document-library-files/2014/rarc-wp-14-013.pdf

Table 6.6. Digital ad spending worldwide, 2012 – 2018 (USD billions)



Source: Emarketer *

8. Interoperability

Interoperability is the capability to deliver services across multiple platforms and devices based on commercial agreements and technological solutions, which recognize the need for content protection. **

The postal network is considered one of the best examples of a consolidated network thanks to standards and regulations for physical goods. Digital interoperability appears to be a big challenge for postal services, as new IT devices, applications, data, financial and secure services need to interact seamlessly everywhere – just like the Internet.

The UPU has developed a number of regulations and standards over the past 10 years that extend postal services to electronic items. These instruments establish an international legal framework for trusted secure electronic delivery of communication.

Legal frameworks are currently being drafted at the regional, national and bilateral levels to enhance related electronic communication services.

* http://www.emarketer.com/Article/Global-Ad-Spending-Growth-Double-This-Year/1010997, June 2014

** Digital Interoperability Forum: http://www.difgroup.eu/

Table 6.7. Digital Single Market, European Commission.

Key barriers to domestic and cross-border e-commerce

Data protection and payment security (30% of online consumers were concerned that personal data may be misused and 25% that payment card details may be stolen) and consumer rights (fear of receiving wrong or damaged products 26%, difficulty in replacing or repairing a faulty product 22%, and difficulty in returning a product they did not like and get reimbursement 22%) are key concerns in domestic e-commerce.

Concerns about cross-border e-commerce are linked primarily to delivery (delivery costs 27%, high return shipping costs 24% and long delivery times 23%), followed by redress (the difficulty of solving problems if something goes wrong 23%) and consumer rights (getting a faulty product replaced or repaired 20%, returning a product consumers did not like and getting reimbursed 20%). Regression analysis revealed that foreign sellers not selling to the country of the consumer was a prevalent concern, particularly for those who had already experienced it as a practice while attempting to purchase cross-border. In addition, lack of knowledge about consumer rights, as well as mistrust in the terms and conditions from foreign sellers were both identified as significant barriers to cross-border purchasing.

Source: European Commission *

* http://ec.europa.eu/consumers/consumer_evidence/market_studies/docs/executive-summary_dsm_en_final.pdf

7. Chapter II: Global development of postal electronic services

ICTs have changed social and business communications. Social networks and digital devices are being used to engage governments, businesses and civil society. People are using mobile, interactive tools to determine who to trust, where to go, and what to buy. At the same time, businesses are undertaking their own digital transformations, rethinking what customers value most and creating operating models that take advantage of what is newly possible for competitive differentiation. As discussed in the previous section, the challenge for businesses is how fast and how far to go on the path to digital transformation. In addition, postal operators are diversifying and providing new e-services to their customers and innovative digital channels to engage with their customers.

This section introduces a descriptive, comparative analysis of the current state of development of postal e-services among countries and regions. First, definitions of the 42 postal e-services indicators used in the study are provided. The different services provided in each country are then presented. Finally, a regional analysis of the development of e-services and their respective importance is shown.

7.1. Defining postal electronic services

To measure the development of postal e-services in UPU member countries, these services first have to be defined. Postal members of the Products and Services Development Group (PSDG) helped the International Bureau with the updating of the list used for the first iteration of the survey in 2010. E-services which had lost their relevance were deleted, while some which were very similar were merged, and new ones added. A new list was then prepared, identifying and defining 42 services.

The e-services were classified into four groups: e-post and e-government, e-finance and payments solutions, e-commerce, and support services. However, the same structure has been used, so as to enable results to be compared with the 2012 report and the evolution of postal e-services developments. The focus was on the digital capabilities of the services – the "physical" elements of the electronic services (for example, delivery or logistics) are excluded.

This was not a straightforward exercise as defining and categorizing postal e-services is new and some of these are integrated (For instance, e-commerce services also require e-finance payment services.) Broad consultation with industry experts and Posts resulted in the definitions and classification presented in the following tables.

1. E-post and e-government services

E-post and e-government services are communication, business and government services delivered to customers via ICT means.

Table 7.1. List of definition of e-post and e-government services

Code	Service	Service Description
101	Postal electronic mailbox	Enables the sending of electronic messages by an authenticated mailer, delivery to the authenticated addressee, and access, management and storage of electronic messages and information for the authenticated addressee. Defined in article 17 of the UPU Convention and article RL 265 of the Letter Post Regulations.
102	Online direct mail	Delivery of advertising and/or other promotional communications by the Post via electronic means.
103	Postal registered electronic mail	Provides secure and trusted exchange of electronic messages, enabling the sending of electronic messages by an authenticated mailer for delivery to an authenticated addressee or addressees with proof of sending and proof of delivery. Defined in article 17 of the UPU Convention and article RL 264 of the Letter Post Regulations.
104	E-cards	Provides the ability to buy a postcard online, which is then delivered to recipients by physical or electronic means.
105	Online bureaufax	Permits the transmission of texts and illustrations true to the original by fax, as defined in article 17 of the UPU Convention and article RL 261 of the Letter Post Regulations.
106	E-invoicing	A service supporting the delivery of electronic invoices (from banks, utilities, government agencies, etc.) into customers' postal electronic mailboxes.
107	Hybrid mail	Enables the sender to post an original message in either physical or electronic form, which is then electronically processed and converted into a physical or electronic message for delivery to the addressee. Defined in article 17 of the UPU Convention and article RL 260 of the Letter Post Regulations. Also includes services such as "transactional printing" offered to large enterprises.
108	Reverse hybrid mail	Enables customers to send an original physical message, which is converted into an electronic form for delivery to the addressee. Defined in article RL 260 of the Letter Post Regulations.
109	Online facilitation of hybrid mail	Allows small mailers to access, through the Post's website, one-stop-shop services relating to the design, preparation, printing and sending of their direct mail campaigns, or transactional mailings.

Code	Service	Service Description
110	Electronic postal certification mark	Provides a chain of evidence, stored by a designated 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. Defined in article 17 of the UPU Convention and article RL 263 of the Letter Post Regulations. UPU functional specification standard S43 supports this service.
111	Digital signature	A digital analogue of a physical, written signature based on an algorithm whereby the identity of the signer and the integrity of the data can be verified. The Post legally identifies a customer and provides him/her with the ability to digitally sign an electronic document or a message. The digital signature uses cryptography to guarantee the identity of the sender (authentication) and ensure that the message was not altered in transit (integrity), and prevents the sender from denying having sent the message (non-repudiation).
112	Digital identity services	The Post issues a digital identity legally identifying its customers. The digital identity can be secured with a simple electronic authentication using a password, or with more secure authentication technologies based on cryptography and public key infrastructure.
113	Credentialing services	The ability for a customer to use a digital name and password on another system and receive third-party validation of their digital identity. For example, a customer with a digital identity issued by the Post logs into their banking system to transact business. The bank electronically requests validation of the digital identity from the issuing Post, which issues the bank with a token representing the validation of that digital identity.
114	Digital archive	The Post converts physical documents and data and stores them in legally compliant and legally verifiable electronic archives (e-archives), using industry standards (e.g. OAIS ISO 14721:2003). The management of a digital archive entails the development, structuring, set-up and operation of a complete digital archiving process on the basis of recognized industry standards.
115	E-health	Enables customers (patients and caregivers) to access and manage personal medical information (certification, fees, account management).
116	E-administration: online ordering/applications/ registrations	Customers can apply for/order/register official documents through the postal website (e.g. passport, driving licence, university registration).

2. E-commerce services

E-commerce services consist of buying and selling products and services using ICTs. It involves processing and delivering items purchased physically or electronically.

Table 7.2. List of definition of e-commerce services

Code	Service	Service Description
201	Online philatelic and postal products shop	Customers can purchase philatelic and postal products through the postal website and have them delivered to a physical address.
202	Online postal shopping portal (or shopping mall)	Postal website or web portal showcasing goods from a variety of merchants. Merchants' websites are often integrated with the Post's website.
203	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.
204	Integration of postal web services with merchants' sites	Provides e-merchants with software tools, such as application programming interfaces (APIs), to allow for the integration of the Post's online shipping and tracking capabilities with their e-commerce applications.
205	Performance reports and analytics	The Post provides e-merchants with customized performance reports (on returns, delays, delivery times, etc.) to help them manage costs, operations and customer matters.
206	Virtual international address	The Post provides an international physical address in another country to allow customers to easily purchase goods from that country's e merchants, and have them forwarded through the post.
207	Calculation of estimated total landed costs	As part of the online purchasing process, provides online shoppers with detailed information on all the costs associated with the delivery of documents/merchandise.
208	Online management of documents/merchandise delivery options	Enables customers to notify the Post electronically (e.g., via apps, Web, etc.) where document/merchandise items should be delivered (parcel locker, home, local retailer, etc.).

3. E-finance and payment solutions

E-finance services are financial services provided by postal operators to end-customers using ICTs. The UPU has developed regulations for postal payment services provided by Posts.

Table 7.3. List of definition of e-finance and payment solutions

Code	Service	Service Description
301	Online account management	Enables customers to electronically manage their financial postal account and carry out related account operations.
302	Electronic remittances	A service allowing money to be sent (cash to cash or account to account) to a recipient through an electronic network.
303	Online bill payment	A service allowing bill payments via the Post's website, entailing development of a specialized online payment system.
304	Payment solutions	A service providing an online shop accepting electronic payments by a variety of payment methods through a single payment gateway.
305	Escrow services for e-commerce	A service providing a secure payment solution that collects, holds and disburses funds linking the customer's payment of goods purchased online to the delivery of their parcel.

4. Support services

Support services consist of widely available services provided by postal operators to end-customers using ICTs. They imply added value and in most cases are free of charge.

Table 7.4. List of definition of support services

Code	Service	Service Description
401	Public Internet access point in post offices	Customers can access Internet services in post offices.
402	Online information on services and tariffs	Customers can access information about the different services and products, as well as the corresponding tariffs, on the Post's website, app, etc.
403	Online lookup (postcodes, addresses, post offices)	Enables customers to search for a post office or postcode, or to validate an address online by entering information such as the street, the city or postcode, or the entire address.
404	Online contact and customer service	Allows customers to contact the Post electronically for a service or information, via a website, app, social media, e-mail or telephone.
405	Track and trace	Enables customers to electronically track and trace a postal item.
406	Electronic notification	The Post notifies a sender/recipient electronically (e.g. by SMS, e-mail or social media) that documents/merchandise have been delivered or need to be collected at a specific address (parcel locker, home, local retailer, etc.).
407	Online change of address	Enables customers to change their mailing address electronically, including through an Internet portal or app.
408	Holding of mail delivery online	Enables customers to request, by e-mail or online application, the suspension of mail deliveries to their address and the holding of their mail for a period of time.
409	Online address cleansing services	Enables small business mailers to electronically validate their list of addresses by uploading them to the Post's website.
410	Electronic postal invoicing	A service whereby customers receive an electronic invoice for their use of the Post's services and products.
411	Digital postage	Enables customers to electronically order, pay and download postage for documents or merchandise through the Post's website, smartphone application or SMS. Postage can be printed physically (e.g. shipping labels), or provided by a number code or key.
412	Digital personalized postage	Enables customers to electronically order, pay and download personalized or customized postage for documents or merchandise through the Post's website, a smartphone application or a partner's website. The user can upload a photograph or select one from a bank of images proposed by the Post.
413	Pick-up service	Enables customers to arrange collection of items through the Post's website, smartphone application or SMS.

7.2. Global results

Table 7.5 presents global penetration rates for all postal e-services. The main conclusions are as follows:

- Only five services have been implemented by more than half of the countries surveyed: track and trace (90%); online information on services and tariffs (83%); online information on the postal infrastructure (postcodes, addresses, post offices (73%); and online contacts and customer service (74%). These longstanding services were brought about by previous waves of innovation, and led the 2012 rankings.

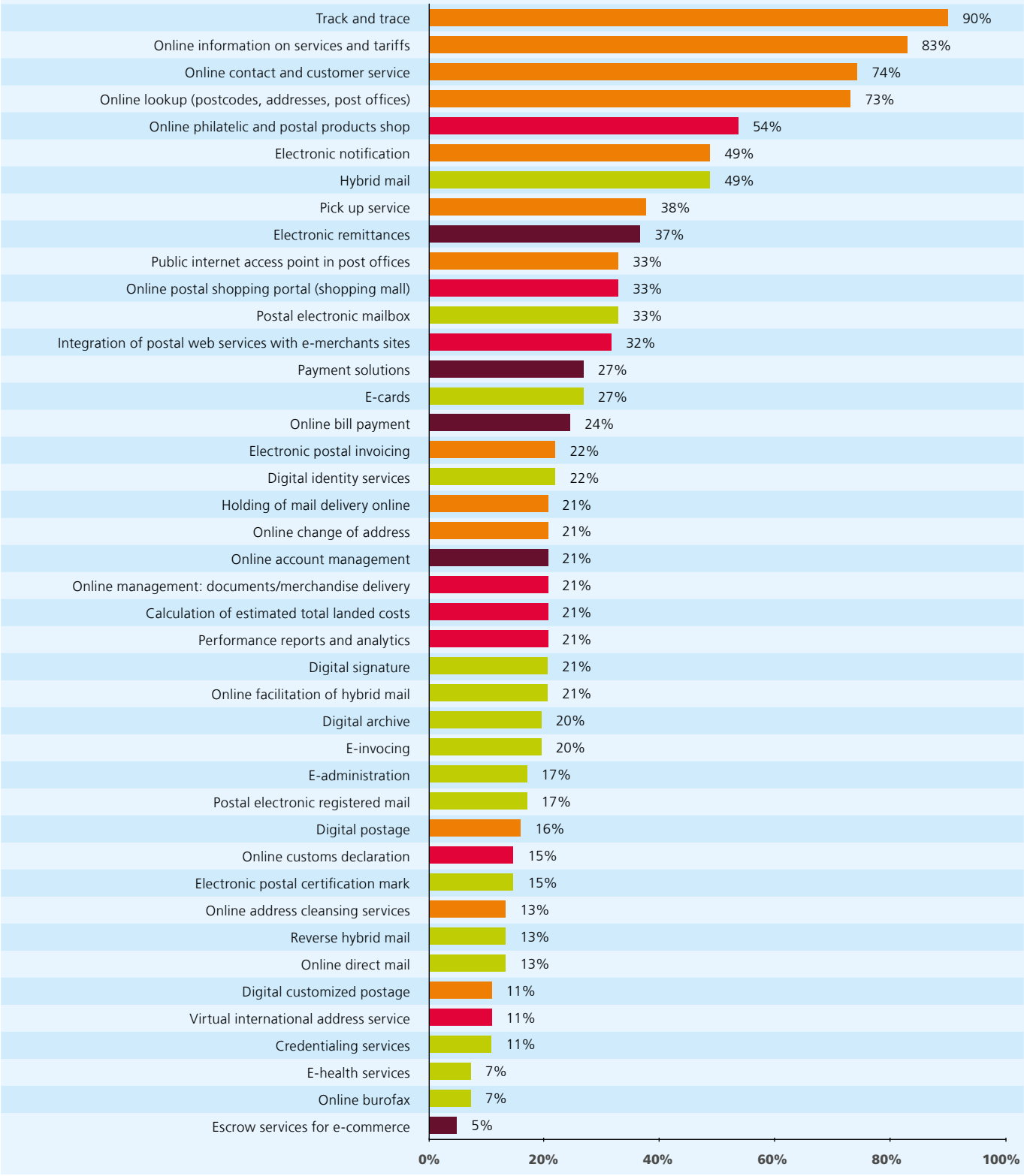
- "Support services" are widely developed. Eight of the top 10 services (including the top 10) are support services. Only two, "online philatelic and postal products shop" and "electronic remittances" directly generate revenue for Posts.

- Hybrid mail (49%) and postal electronic mailbox (33%) are the leading e-post and e-government services, followed by e-cards (27%). Many others are niche services – some of them mature (such as bureaufax: 7%), others still emerging, such as credentialing services (11%) or e-health services (7%).

- Some services widely seen as important components of modern core postal offerings are still underdeveloped, for instance: integration of postal web services with e-merchants' sites (32%), payment solutions (27%), online change of address (21%), or online customs declaration (15%).

Note: Percentages based on the countries that answered this question.

Table 7.5. Global penetration rates for postal e-services



E-post and e-government
E-commerce
Digital financial and payment services
Support services

7.3. Country level perspective

E-post and e-government: In many countries, the portfolio of e-post and e-government services is built around a core of three or four products: hybrid mail, postal electronic mailbox, e-card, and digital archiving. In a number of industrialized countries and the Arab region, it also includes e-administration. In industrialized countries, and in the Europe and CIS and Asia-Pacific regions, offerings also often include secure solutions – digital identity services, and less frequently digital signature and electronic postal certification mark services. The countries with the broadest portfolios in each region are:

- Switzerland, France, Portugal, Austria, Australia and Italy (industrialized countries);
- Slovenia, Poland, Czech Rep. (Europe and CIS);
- Morocco and Tunisia (Arab countries);
- Macao, China (Asia-Pacific);
  Brazil (Latin America and Caribbean);
- South Africa (Africa).

E-commerce: In addition to philatelic websites, Posts' efforts to grow their e-commerce business (in all regions but Africa) revolve around integration with websites and shopping portals. In industrialized countries, many Posts have also introduced online customs declarations and online management of delivery options. The regional leaders (in terms of the number of e-commerce services provided) are Switzerland and Finland, Bosnia Herzegovina and Slovakia, Saudi Arabia and Tunisia, Singapore, Chile, and Mauritius.

Digital financial and payment services: The electronic remittance, a service pertaining to the traditional core business of most Posts worldwide, is in each region the most developed digital financial and payment service. In all regions (except Latin America and Caribbean), Posts' portfolios also often include payment solutions and online bill payments. Finally, online account management solutions are more developed in industrialized countries and in the Asia-Pacific region than in the rest of the world. The countries with the largest number of services in the region are France, Greece, Italy and Switzerland (industrialized countries), Belarus, Morocco and Tunisia, Indonesia, Uruguay, and Nigeria and Zimbabwe.

Support services: The Post's offerings in the "support services" category can be divided into three tiers. The basic tier includes lookup services, and the provision to customers of data on the mail (track and trace and notifications). Certain Posts also offer a second tier of services involving the management of mail by customers (digital postage, pickup, holding of mail, online change of address). Other support services are either niche products (e.g. customized digital postage, electronic postal invoicing) or have a regional dimension to them (public Internet access points).

In all regions, a few countries provide services across all three tiers. Those with the widest offerings in each region are:

- United States of America, Finland, Netherlands and Switzerland (industrialized countries);
- Belarus (Europe and CIS);
- Saudi Arabia (Arab region);
- Hong Kong, China (Asia-Pacific);
- Brazil and Uruguay (Latin America and Caribbean);
- Mauritius (Africa).

Table 7.6. Development of postal e-services in Africa

		Africa																			
		Benin	Cabo Verde	Central African Rep.	Chad	Côte d'Ivoire	Ethiopia	Guinea	Liberia	Madagascar	Malawi	Mauritius	Niger	Nigeria	South Africa	South Sudan	Swaziland	Tanzania (United Rep.)	Togo	Uganda	Zimbabwe
E-post and e-government	Postal electronic mailbox																				
	Online direct mail																				
	Postal registered electronic mail														X						
	E-cards																				
	Online burofax									X											
	E-Invoicing														X						
	Hybrid mail	X				X									X		X				X
	Reverse hybrid mail					X															
	Online facilitation of hybrid mail																				
	Electronic postal certification mark																				
	Digital signature											X			X						
	Digital identity services														X						
	Credentialing services																				
	Digital archive																				
	E-health services																				
	E-administration											X									
E-Commerce	Online philatelic and postal products shop											X			X					X	
	Online postal shopping portal (shopping mall)					X						X									
	Online customs declaration																				
	Integration of postal web services with e-merchants' sites											X									
	Performance reports and analytics					X										X					
	Virtual international address service																				
	Calculation of estimated total landed costs											X									
	Online management: documents/ merchandise delivery					X				X											
Digital financial and payment services	Online account management																				X
	Electronic remittances	X			X						X	X	X	X						X	X
	Payment solutions					X						X		X							X
	Online bill payment													X	X						X
	Escrow services for e-commerce																				X
Support Services	Public Internet access point in post offices	X								X	X	X		X			X	X	X	X	X
	Online information on services and tariffs		X			X				X	X	X	X	X	X		X	X	X		
	Online lookup (postcodes, addresses, post offices)		X							X		X		X	X		X			X	
	Online contact and customer service	X	X			X			X	X	X	X		X	X		X			X	
	Track and trace	X	X		X		X		X	X	X	X	X	X	X	X	X	X	X		X
	Electronic notification	X					X				X			X	X		X				
	Online change of address											X									
	Holding of mail delivery online	X										X									
	Online address cleansing services																				
	Electronic postal invoicing							X			X	X			X						
	Digital postage																				
	Digital customized postage																				
	Pick up service	X					X				X	X		X				X			

Table 7.7. Development of postal e-services in the Arab Region

		Arab Region						
		Egypt	Iraq	Lebanon	Morocco	Saudi Arabia	Tunisia	UAE
E-post and e-government	Postal electronic mailbox				X		X	X
	Online direct mail							
	Postal registered electronic mail							
	E-cards						X	
	Online burofax							
	E-Invoicing						X	X
	Hybrid mail	X		X	X	X	X	
	Reverse hybrid mail							
	Online facilitation of hybrid mail							
	Electronic postal certification mark				X			
	Digital signature				X			
	Digital identity services				X			
	Credentialing services				X		X	
	Digital archive							
	E-health services							
	E-administration			X		X	X	
E-Commerce	Online philatelic and postal products shop			X	X		X	
	Online postal shopping portal (shopping mall)					X	X	
	Online customs declaration						X	
	Integration of postal web services with e-merchants' sites				X		X	
	Performance reports and analytics				X	X		
	Virtual international address service					X		
	Calculation of estimated total landed costs					X		
	Online management: documents/ merchandise delivery					X	X	
Digital financial and payment services	Online account management				X	X	X	
	Electronic remittances					X	X	
	Payment solutions				X		X	
	Online bill payment				X		X	
	Escrow services for e-commerce				X			
Support Services	Public Internet access point in post offices						X	
	Online information on services and tariffs	X		X	X	X	X	X
	Online lookup (postcodes, addresses, post offices)			X	X	X	X	X
	Online contact and customer service			X		X	X	X
	Track and trace	X		X	X	X	X	X
	Electronic notification			X		X	X	X
	Online change of address							X
	Holding of mail delivery online					X		
	Online address cleansing services							
	Electronic postal invoicing					X		X
	Digital postage							
	Digital customized postage							
	Pick up service					X	X	

Table 7.8. Development of postal e-services in Asia and Pacific

		Asia and Pacific										
		Cambodia	China	China (Honkong)	China (Macao)	French Polynesia (F)	Indonesia	Iran	Singapore	Sri Lanka	Thailand	Vietnam
E-post and e-government	Postal electronic mailbox	X	X		X			X				
	Online direct mail				X							
	Postal registered electronic mail				X							
	E-cards		X	X				X			X	
	Online burofax											
	E-Invoicing								X			
	Hybrid mail							X	X	X		
	Reverse hybrid mail											
	Online facilitation of hybrid mail							X	X			
	Electronic postal certification mark				X							
	Digital signature			X	X			X				
	Digital identity services		X	X								
	Credentialing services											
	Digital archive				X				X	X		
	E-health services											
	E-administration				X							
E-Commerce	Online philatelic and postal products shop		X	X	X	X	X	X	X		X	
	Online postal shopping portal (shopping mall)		X				X	X	X		X	
	Online customs declaration			X					X			
	Integration of postal web services with e-merchants' sites		X	X					X		X	
	Performance reports and analytics											
	Virtual international address service											
	Calculation of estimated total landed costs											
	Online management: documents/ merchandise delivery											
Digital financial and payment services	Online account management		X			X	X					
	Electronic remittances		X	X		X	X		X	X		
	Payment solutions						X					
	Online bill payment		X				X		X			
	Escrow services for e-commerce											
Support Services	Public Internet access point in post offices	X	X			X	X			X		
	Online information on services and tariffs	X	X	X	X	X	X	X	X	X	X	
	Online lookup (postcodes, addresses, post offices)		X	X	X	X	X	X	X	X	X	
	Online contact and customer service	X	X	X		X	X		X	X	X	
	Track and trace	X	X	X		X	X	X	X	X	X	
	Electronic notification		X	X						X	X	
	Online change of address			X								
	Holding of mail delivery online								X			
	Online address cleansing services			X								
	Electronic postal invoicing			X								
	Digital postage											
	Digital customized postage											
	Pick up service			X					X		X	

Table 7.9. Development of postal e-services in Europe and CIS

		Europe and CIS															
		Belarus	Bosina & Herzegovina	Bulgaria	Czech Republic	Hungary	Iceland	Kazakhstan	Kyrgystan	Poland	Rep. of Macedonia	Rep. of Serbia	Russion Federation	San Marino	Slovakia	Slovenia	Ukraine
E-post and e-government	Postal electronic mailbox	X		X	X	X	X		X	X					X	X	
	Online direct mail					X											
	Postal registered electronic mail	X			X	X	X			X						X	
	E-cards	X	X	X	X	X				X						X	
	Online burofax	X			X				X								
	E-Invoicing									X			X			X	
	Hybrid mail	X	X	X	X	X		X		X	X	X	X		X	X	X
	Reverse hybrid mail	X				X										X	X
	Online facilitation of hybrid mail				X	X				X						X	X
	Electronic postal certification mark				X					X							
	Digital signature				X							X	X			X	
	Digital identity services				X					X		X				X	
	Credentialing services															X	
	Digital archive						X			X					X	X	
	E-health services												X				
	E-administration												X				
E-Commerce	Online philatelic and postal products shop	X	X		X	X	X	X		X			X		X	X	X
	Online postal shopping portal (shopping mall)	X	X		X							X			X	X	
	Online customs declaration	X															
	Integration of postal web services with e-merchants' sites		X					X							X	X	
	Performance reports and analytics		X						X	X			X		X		
	Virtual international address service																
	Calculation of estimated total landed costs	X	X	X									X		X		
	Online management: documents/ merchandise delivery		X		X							X					
Digital financial and payment services	Online account management	X							X								
	Electronic remittances	X						X	X								X
	Payment solutions	X	X				X					X			X		
	Online bill payment	X							X				X				X
	Escrow services for e-commerce																
Support Services	Public Internet access point in post offices	X				X				X		X	X				X
	Online information on services and tariffs	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Online lookup (postcodes, addresses, post offices)	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X
	Online contact and customer service	X	X	X	X	X	X		X	X	X	X	X	X	X		X
	Track and trace	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Electronic notification	X	X		X	X	X			X		X	X		X		X
	Online change of address	X			X		X		X								
	Holding of mail delivery online	X				X	X										
	Online address cleansing services	X				X											
	Electronic postal invoicing	X				X						X					
	Digital postage	X					X										
	Digital customized postage	X															
	Pick up service				X		X					X			X		X

Table 7.10. Development of postal e-services in Latin America and Caribbean

		Latin America and Caribbean													
		Argentina	Barbados	Bolivia	Brazil	Chile	Colombia	Costa Rica	Ecuador	Honduras	Mexico	Panama	Paraguay	Trinidad & Tobago	Uruguay
E-post and e-government	Postal electronic mailbox														
	Online direct mail														
	Postal registered electronic mail	X					X								
	E-cards														
	Online burofax														
	E-Invoicing										X				
	Hybrid mail				X										
	Reverse hybrid mail														
	Online facilitation of hybrid mail				X										
	Electronic postal certification mark						X								
	Digital signature														X
	Digital identity services				X										
	Credentialing services							X							
	Digital archive						X								
	E-health services														
	E-administration														
E-Commerce	Online philatelic and postal products shop	X	X		X	X		X			X				X
	Online postal shopping portal (shopping mall)				X	X			X				X		
	Online customs declaration						X								
	Integration of postal web services with e-merchants' sites				X	X			X						
	Performance reports and analytics						X	X			X				
	Virtual international address service					X	X								X
	Calculation of estimated total landed costs				X	X	X	X			X		X		X
	Online management: documents/ merchandise delivery								X		X				X
Digital financial and payment services	Online account management														X
	Electronic remittances				X										X
	Payment solutions				X										X
	Online bill payment														
	Escrow services for e-commerce														
Support Services	Public Internet access point in post offices		X										X		X
	Online information on services and tariffs	X	X	X	X	X	X	X	X		X	X	X		X
	Online lookup (postcodes, addresses, post offices)	X	X		X	X	X	X	X		X		X		X
	Online contact and customer service	X		X	X	X	X	X	X		X	X	X		X
	Track and trace	X		X	X	X	X	X	X	X	X	X	X	X	X
	Electronic notification	X		X	X			X					X		X
	Online change of address														
	Holding of mail delivery online	X													
	Online address cleansing services	X													X
	Electronic postal invoicing				X					X					
	Digital postage				X					X					
	Digital customized postage														
	Pick up service				X	X	X		X	X				X	X

Table 7.11. Development of postal e-services in Industrialized Countries

		Industrialized Countries													
		Australia	Austria	Canada	Finnland	France	Greece	Italy	Japan	Netherlands	New Zealand	Portugal	Spain	Switzerland	USA
E-post and e-government	Postal electronic mailbox	X	X	X	X	X		X	X	X	X	X	X	X	X
	Online direct mail		X	X	X	X		X		X	X	X			X
	Postal registered electronic mail					X		X				X		X	
	E-cards	X	X		X	X		X			X	X	X	X	X
	Online burofax												X		
	E-Invoicing	X	X		X	X				X		X	X	X	
	Hybrid mail	X	X		X	X	X	X	X		X	X	X	X	X
	Reverse hybrid mail	X	X		X	X						X		X	
	Online facilitation of hybrid mail	X	X		X				X	X	X			X	X
	Electronic postal certification mark			X		X		X	X			X		X	X
	Digital signature		X	X		X		X				X		X	
	Digital identity services		X	X		X		X		X	X	X	X	X	
	Credentialing services					X							X	X	X
	Digital archive		X	X	X	X		X			X			X	
	E-health services					X		X			X			X	X
	E-administration		X	X	X	X	X	X						X	X
E-Commerce	Online philatelic and postal products shop	X	X	X	X	X	X	X		X	X	X		X	X
	Online postal shopping portal (shopping mall)	X	X			X	X	X		X				X	X
	Online customs declaration		X	X	X			X			X			X	X
	Integration of postal web services with e-merchants' sites		X	X	X	X	X	X	X	X	X	X		X	X
	Performance reports and analytics				X					X		X		X	X
	Virtual international address service	X	X		X						X			X	
	Calculation of estimated total landed costs				X		X							X	
	Online management: documents/ merchandise delivery	X	X		X			X		X				X	X
Digital financial and payment services	Online account management				X	X	X	X				X	X	X	
	Electronic remittances	X				X	X	X		X			X	X	
	Payment solutions	X		X	X	X	X	X				X		X	
	Online bill payment	X	X	X		X	X	X					X	X	
	Escrow services for e-commerce						X		X						
Support Services	Public Internet access point in post offices	X				X									
	Online information on services and tariffs		X	X	X	X	X	X	X	X	X	X	X	X	X
	Online lookup (postcodes, addresses, post offices)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Online contact and customer service	X	X	X	X	X	X	X	X	X	X		X	X	X
	Track and trace	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Electronic notification	X	X	X	X	X				X		X	X	X	X
	Online change of address	X	X	X	X	X		X	X	X	X			X	X
	Holding of mail delivery online	X		X	X	X		X		X	X			X	X
	Online address cleansing services		X	X	X					X				X	X
	Electronic postal invoicing	X	X		X					X				X	X
	Digital postage	X	X		X			X		X	X		X	X	X
	Digital customized postage		X	X	X					X		X	X	X	X
	Pick up service	X		X	X			X		X			X	X	X

7.4. Development over the years

1. Trends 2012 – 2015

The overall growth of postal e-services has generally continued unabated in the past few years. In fact, the global dissemination of 24 of the 29 services surveyed in both the 2010 and 2014 surveys increased during this period.

The fastest-growing services (in terms of the percentage of countries providing them) are e-cards (from 5% to 27%), digital identity services (from 7% to 22%), online contact and customer service (from 34% to 76%), digital postage (from 8% to 16%), and e-health (from 3% to 7%).

Four other services posted significant growth:

- Postal electronic mailbox: from 23% to 33%;
- Online philatelic and postal products shop: from 34% to 54%;
- Hybrid mail: from 35% to 49%;
- Electronic notification: from 31% to 49%.

The regional analysis reveals four trends:

- Broadly widespread: The global reach of track and trace services has increased in the Arab countries (from 64% to 86%) and all but stabilized in other regions, between 80% (Africa) and 100% (industrialized countries and Europe and CIS).

- Growth in all regions: Several support services follow this trend. For instance, the proportion of countries offering online contact and customer services has doubled or tripled in each region, except in industrialized countries where it already reached 80% in 2010. Online information on services and tariffs, and to a lesser extent notification services and postal electronic mailbox and digital identify services, also belong to this category. Over time, these services are expected to move to the previous "widespread" category.

- Reorientation of strategies: This category includes services whose level of provision has decreased in some regions. Examples are public Internet access (in Arab countries and Africa). It is likely that the higher diffusion of the Internet has reduced the demand for such services. Other examples could be related to digital services that may have not met their revenue or profit targets, or may not have fit with a Post's new strategy. For instance, postal electronic mailbox (Africa and Latin America and Caribbean), digital personalized postage (Asia and Europe and CIS), hybrid mail (Latin America and Caribbean), online bill payment (sharp declines in Africa and the Arab countries), and postal registered electronic mail.

- Heterogeneous priorities across regions: Certain services showed high growth in some regions, but no or little growth in others. This pattern reflects different product positioning across regions, as a result of different market environments, capabilities, or investment resources. Examples include e-administration, e-health, online direct mail, online change of address, or electronic customs environments.

Table 7.12. Changes in Service Penetration Rates: Africa

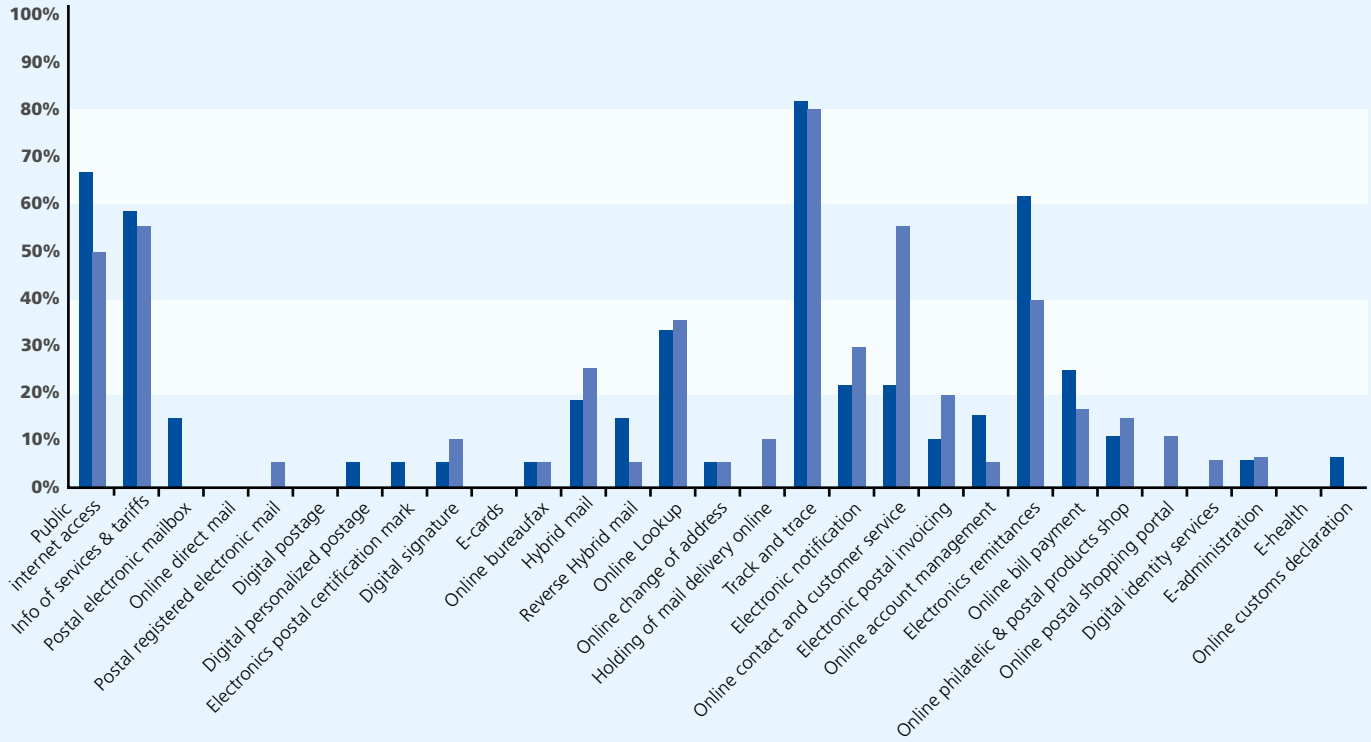


Table 7.13. Changes in Service Penetration Rates: Arab Region

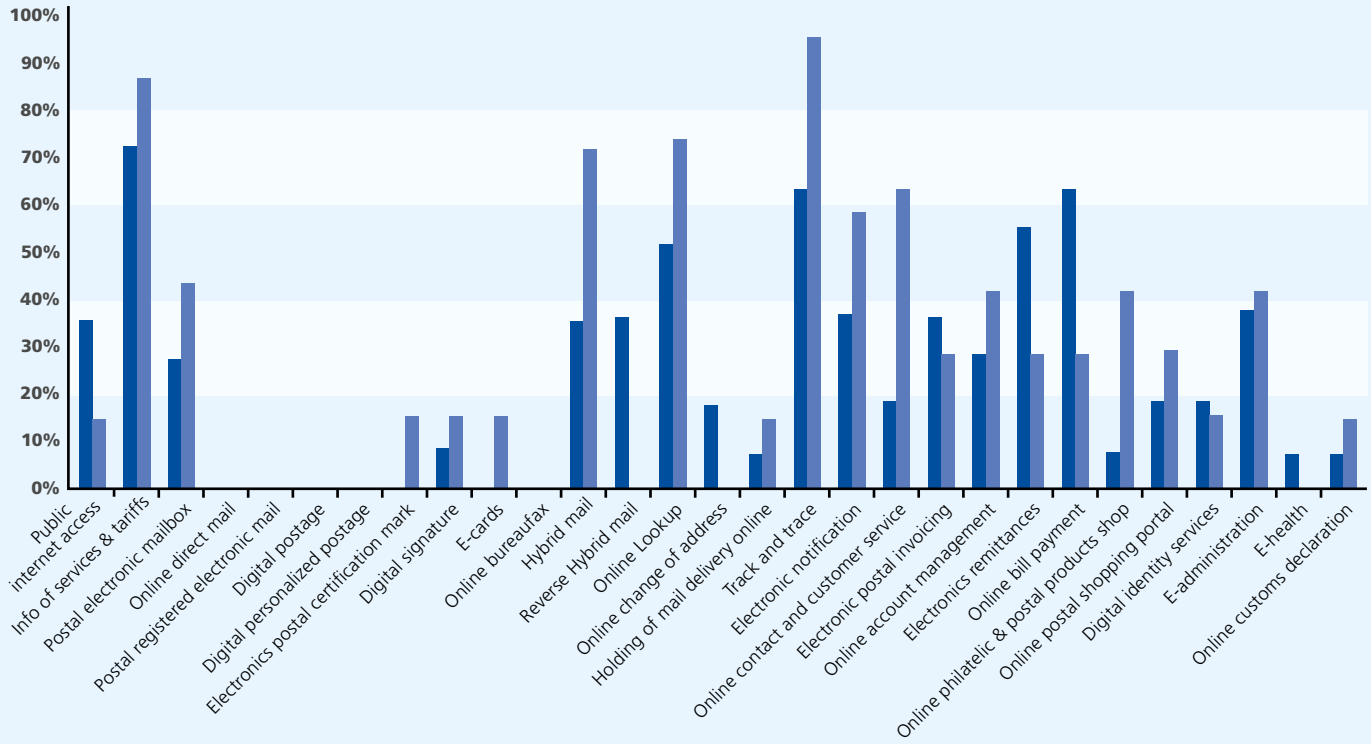


Table 7.14. Changes in Service Penetration Rates: Asia and Pacific

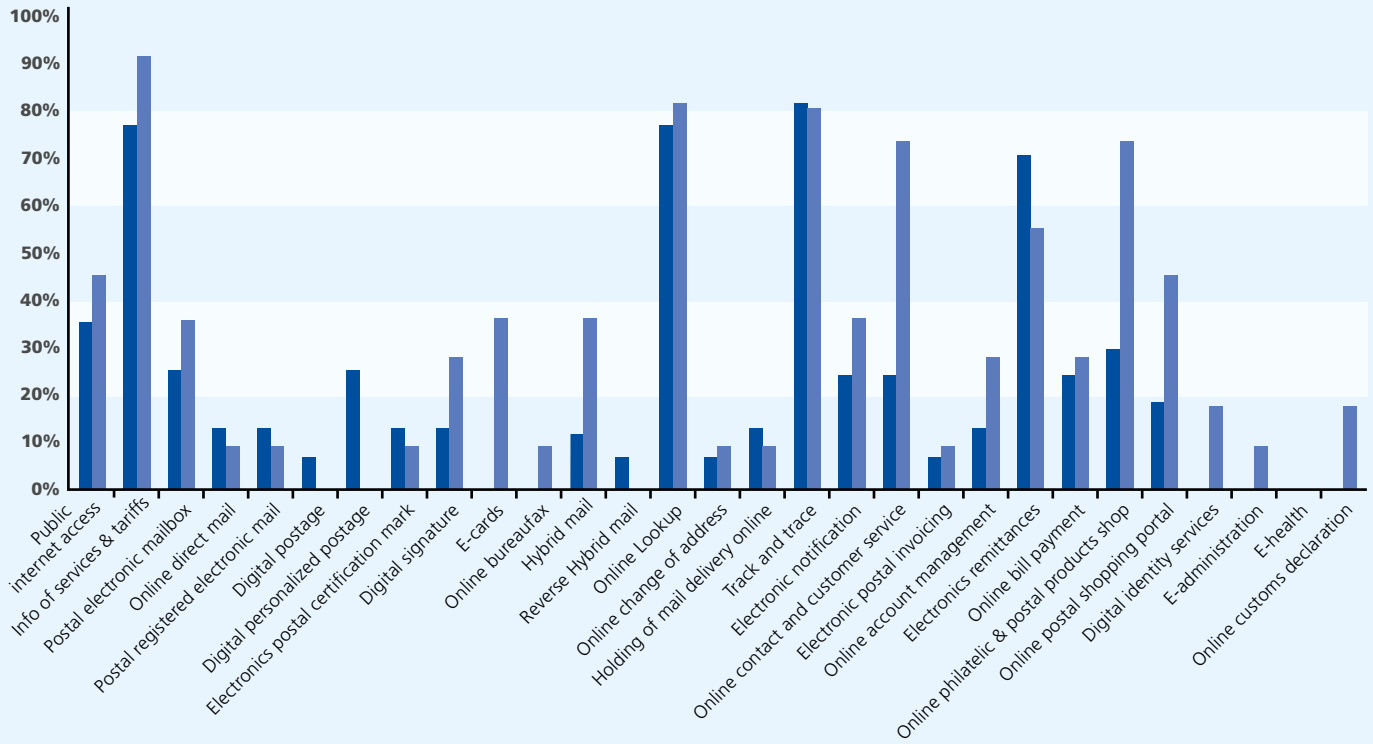


Table 7.15. Changes in Service Penetration Rates: Europe and CIS

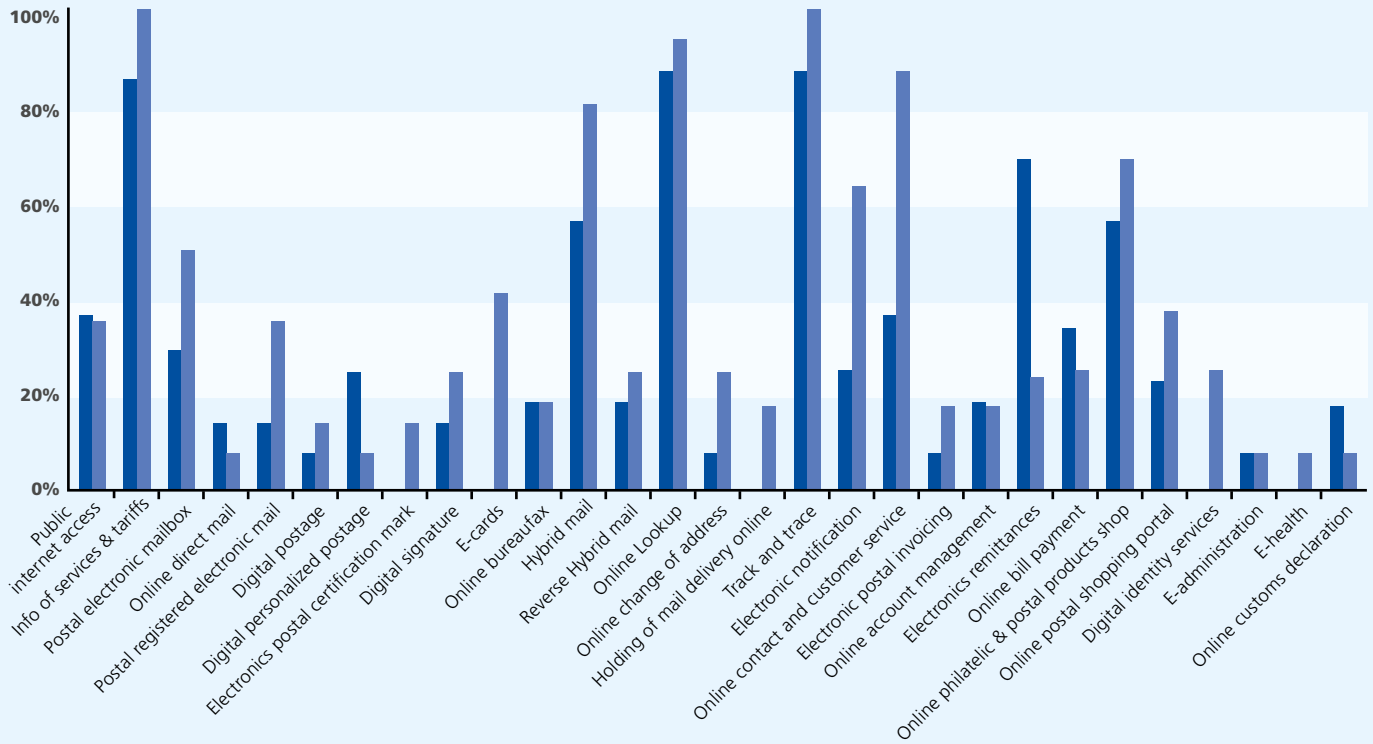


Table 7.16. Changes in Service Penetration Rates: Latin America and Caribbean

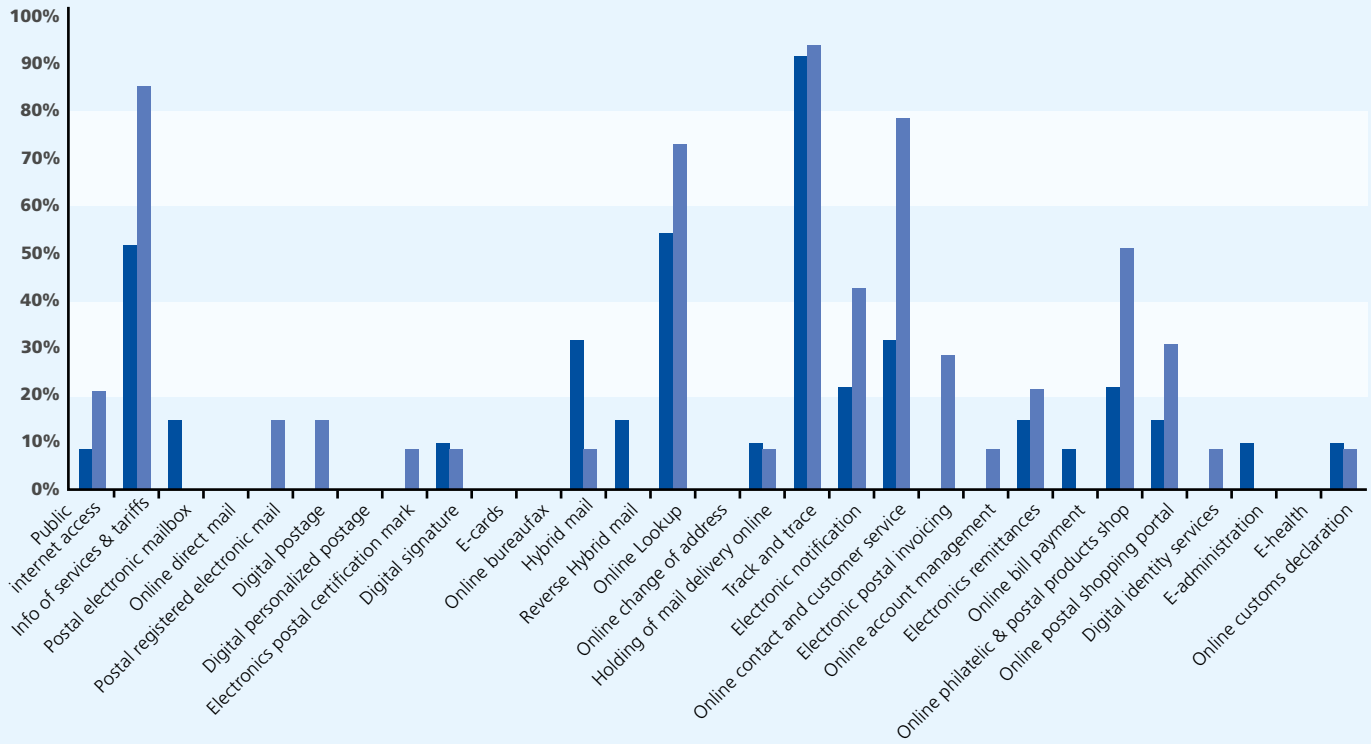
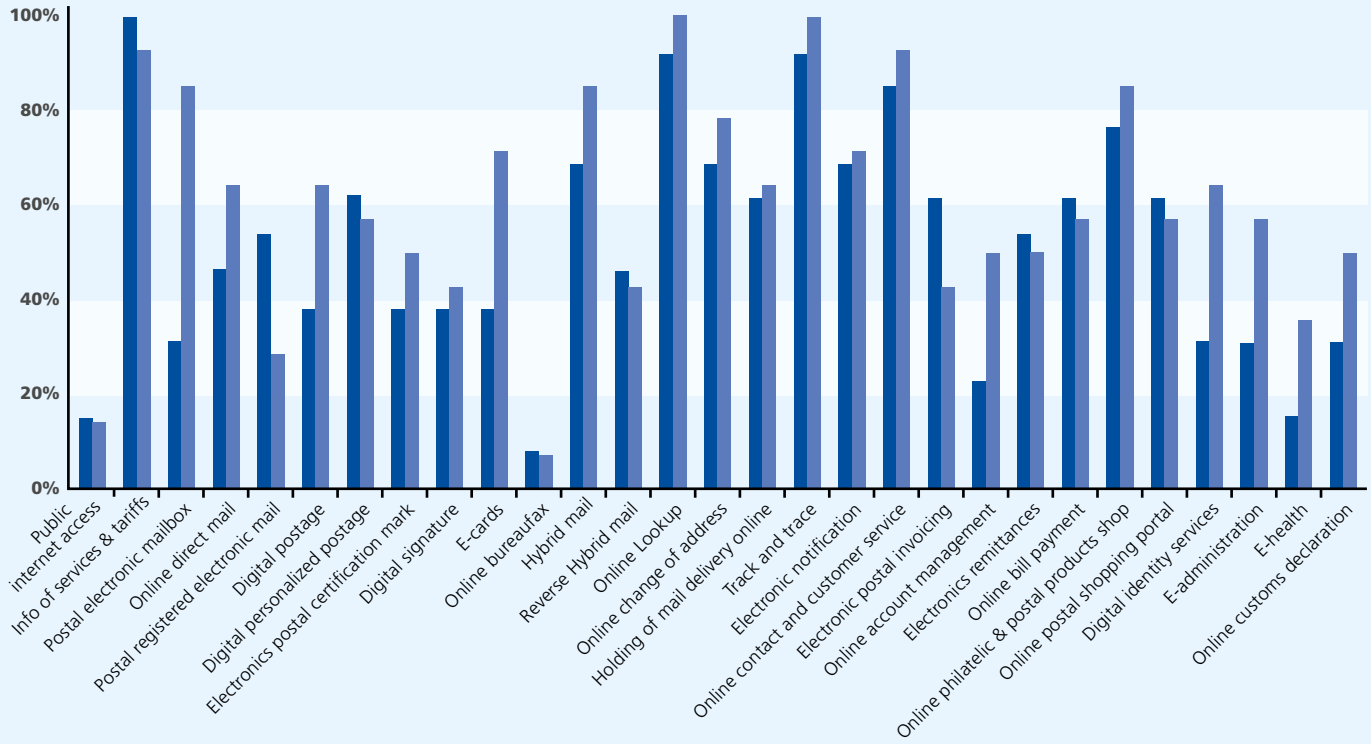


Table 7.17. Changes in Service Penetration Rates: Industrialized Countries



7.5. Postal e-services under development

Respondents were asked, for each service they were not currently providing, if the particular service was "under development". While not all of those services will end up being launched, this indicator can be used as a proxy for the product pipeline of the Posts – in other words, their development product priorities.

The results confirm earlier conclusions regarding the trends of digital services:

- The top priority (in terms of number of services "under development") is accorded to services that accompany and support the growth of e-commerce: the integration of postal web services with e-merchants' sites tops the list, closely followed by "payment solutions" and "online management of documents and merchandise delivery options".
- A significant proportion of Posts (at least 10% of respondents) are still in the process of catching up and preparing the launch of long-established services, such as hybrid mail (and reverse hybrid mail), digital archiving, postal electronic mailbox (and postal electronic registered mail).
- Some early digital services, such as lookup services, are widespread; few countries, therefore, are currently considering launching them.
- Many services considered by only 5% of Posts or less appear to be either in the early adoption phase (e.g. e-health), or are niche products which, for different reasons, appeal to only a few countries (electronic postal certification mark, virtual international address services, or digital customized postage).

Table 7.18. Number of services "under development"

Integration of postal web services with e-merchants' sites	15
Payment solutions	10
Electronic postal invoicing	10
Postal electronic mailbox	9
Digital archiving	9
Online management of document/merchandise delivery options	9
Online direct mail	8
Postal registered electronic mail	8
Hybrid mail	8
Reverse hybrid mail	8
Online shopping portal	8
Electronic remittances	8
Online bill payments	8
E-cards	7
Online customs declaration	7
Electronic notification	7
E-invoicing	6
Online facilitation of hybrid mail	6
Credentialing services	6
Online philatelic and postal products shop	6
Holding of mail delivery online	6
Pickup service	6
Escrow services for e-commerce	5
Track and trace	5
Digital postage	5
Digital signature	4
Digital identity services	4
E-administration	4
Performance reports and analytics	4
Online account management	4
Public Internet access point in post offices	4
Online change of address	4
Digital customized postage	4
Calculation of estimated total landed costs	3
Online lookup (postcodes, addresses, post offices)	3
Online address cleansing services	3
Online bureaufax	2
Electronic postal certification mark	2
E-health services	2
Virtual international address service	2
Online information on services and tariffs	2
Online contact and customer service	2

7.6. Development of mobile applications

In the 2012 report, 16 postal operators, representing 17% of respondents, said they had introduced applications on mobile devices. Nine of them were from industrialized countries. Smartphone apps typically provide services available from the Posts' websites or the local post offices, such as post office locator, postcode or address finder, mail hold and redirection, track and trace, postage calculator. Some operators also have apps allowing online postage purchase, creation of e-cards, postal financial transactions, or access to postal electronic mailboxes.

The table below shows the postal electronic services that are accessed through a mobile in 2015. However, we cannot specify if they are accessible through a webpage, a mobile adapted webpage or a mobile app. *

Table 7.19. Postal e-services that are accessed through a mobile

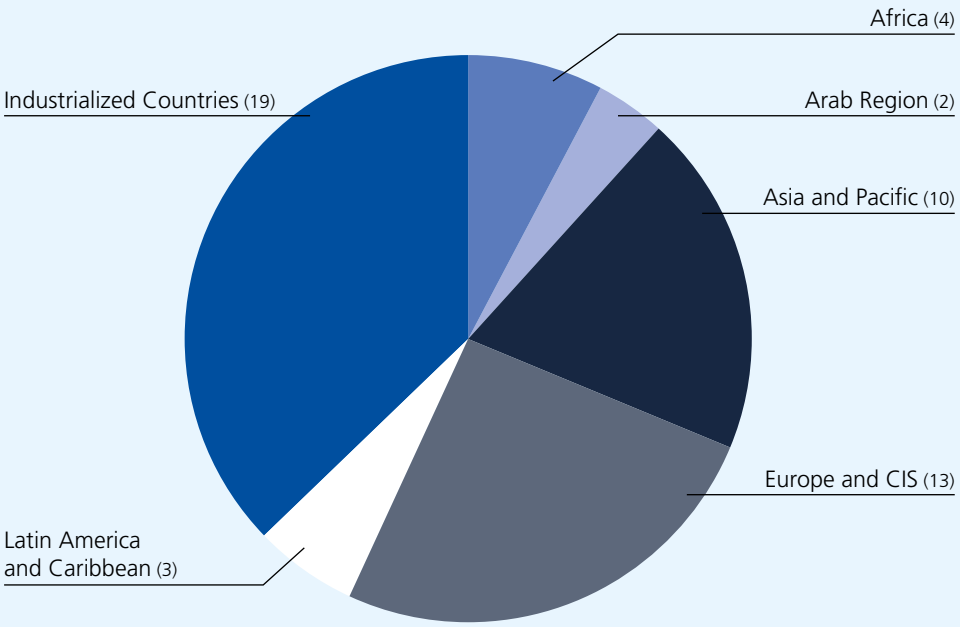
E-cards	80%
Postal electronic mailbox	65%
Online management of documents/merchandise delivery options	50%
Online change of address	44%
Calculation of estimated total landed costs	44%
Online information on services and tariffs	44%
Electronic notification	44%
Online lookup (postcodes, addresses, post offices)	42%
Digital postage	42%
Online bill payment	40%
Track and trace	39%
Virtual international address service	38%
E-invoicing	36%
Online contact and customer service	34%
Escrow services for e-commerce	33%
Holding of mail delivery online	33%
Online postal shopping portal (shopping mall)	42%
Digital identity services	38%
Digital archiving	31%
Payment solutions	33%
Pickup service	29%
Credentialing services	29%
Online philatelic and postal products shop	28%
Performance reports and analytics	27%
Public Internet access point in post offices	26%
Digital signature	20%
Electronic remittances	20%
Electronic postal certification mark	18%
Online facilitation of hybrid mail	13%
Electronic postal invoicing	13%
Digital customized postage	13%
Online customs declaration	10%

* Which was the original purpose of the question

These results from the 2014 survey were supplemented by additional desk research from the International bureau. 51 DO's are providing mobile apps through platforms such as Google Play, App Store, etc. We found out different approaches that postal operators are taking when it comes to mobile apps. We can classify the typologies according with the taxonomy below:

- Global App: Some electronic services are accessible through one single app provided by the Post.
- Different Apps: Different services are accessible through multiple apps provided by the Post.
- Third party Apps: Public information such as track and trace or postcodes are accessible through an app provided by a third party.

Table 7.20. Number of postal operators offering a mobile app



7.7. Accessing postal e-services

The internet and digital technologies are transforming postal electronic services. Still there are existing online barriers, it means that citizens and business cannot fully benefit from digital tools for cross border postal electronic services.

In table 7.20 there is a range of the postal electronic services which are open to customer residing in other countries. The number represent the number of DO's that claimed they are offering this services.

Table 7.20. Postal e-services which are open to customer residing in other countries

E-Services	Open to customers residing in other countries
Online information on services and tariffs	30
Online lookup (postcodes, addresses, post offices)	29
Online contact and customer service	28
Track and trace	28
Online philatelic and postal products shop	27
Electronic remittances	12
Postal electronic mailbox	10
E-cards	10
Electronic notification	10
Online postal shopping portal (shopping mall)	9
Calculation of estimated total landed costs	8
Public Internet access point in post offices	8

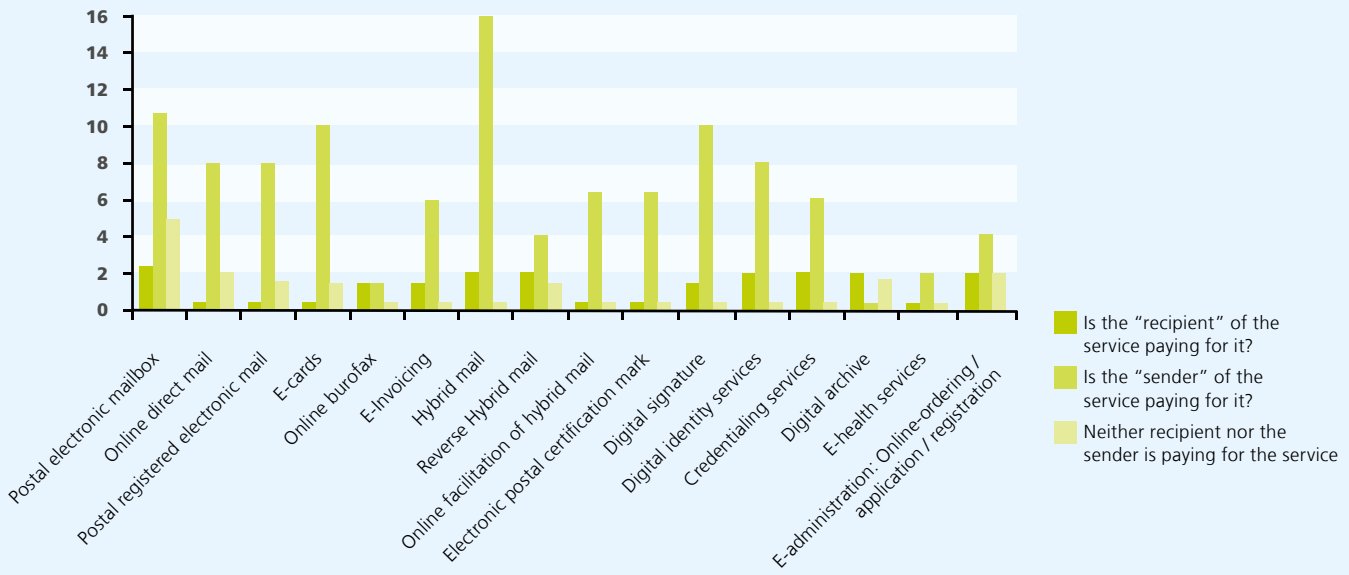
7.8. Changing business model for postal e-services

Digital technology is rapidly reshaping business models and supplementing the industry's traditional "the sender pays" business model with typically digital ones, such as: "Neither the recipient nor the sender is paying for the service" or "the recipient of the service is paying".

1. E-post and e-government

Table 7.21. shows that there is a change in some digital services business models, such as postal electronic mail and e-administration.

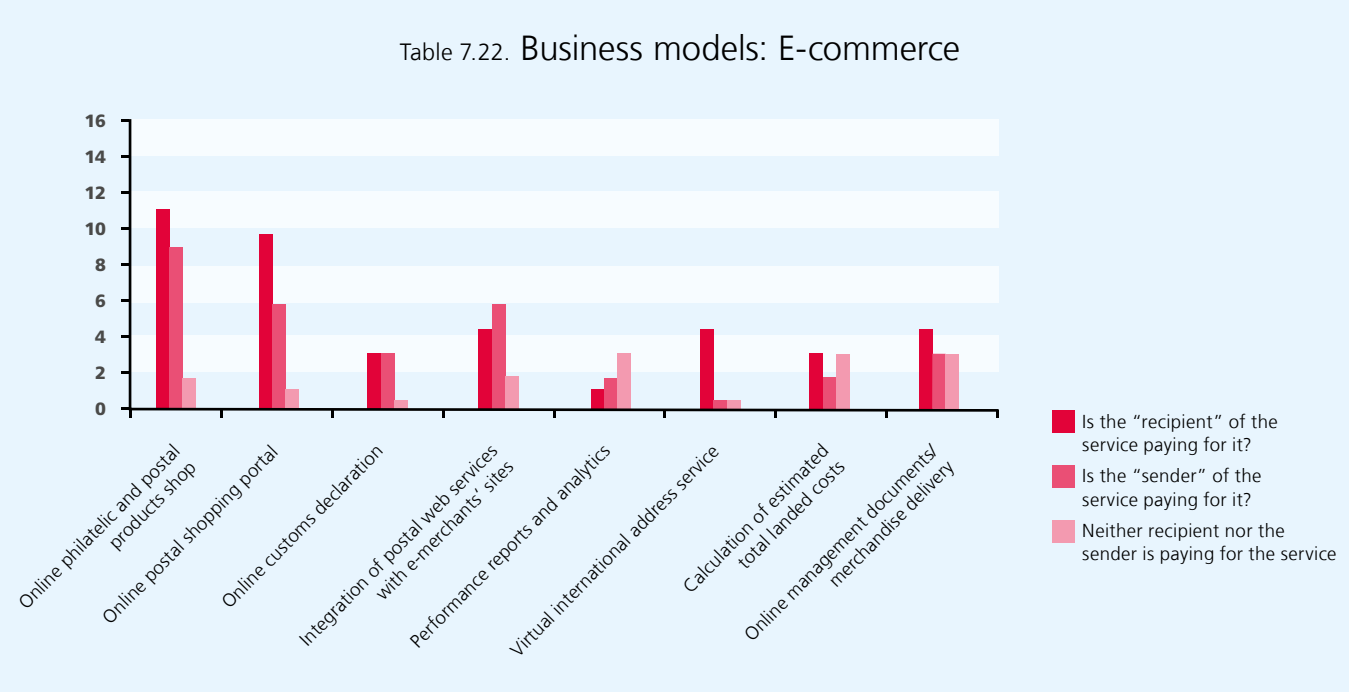
Table 7.21. Business models: E-post and e-government



2. E-commerce

The graphic below shows that there is a big change in most of the e-commerce services business models in which the recipient is paying for the service or neither the recipient nor the sender is paying for it.

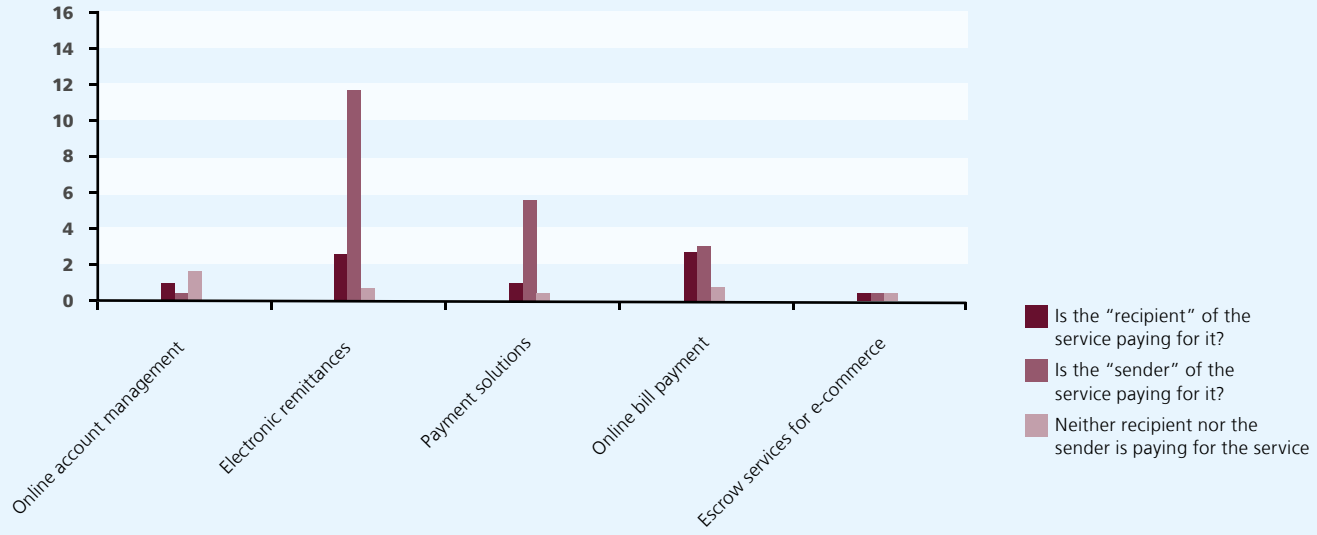
Table 7.22. Business models: E-commerce



3. Digital financial and payment services

The graphic below shows that there is a small change in most of the digital financial and payment services business models.

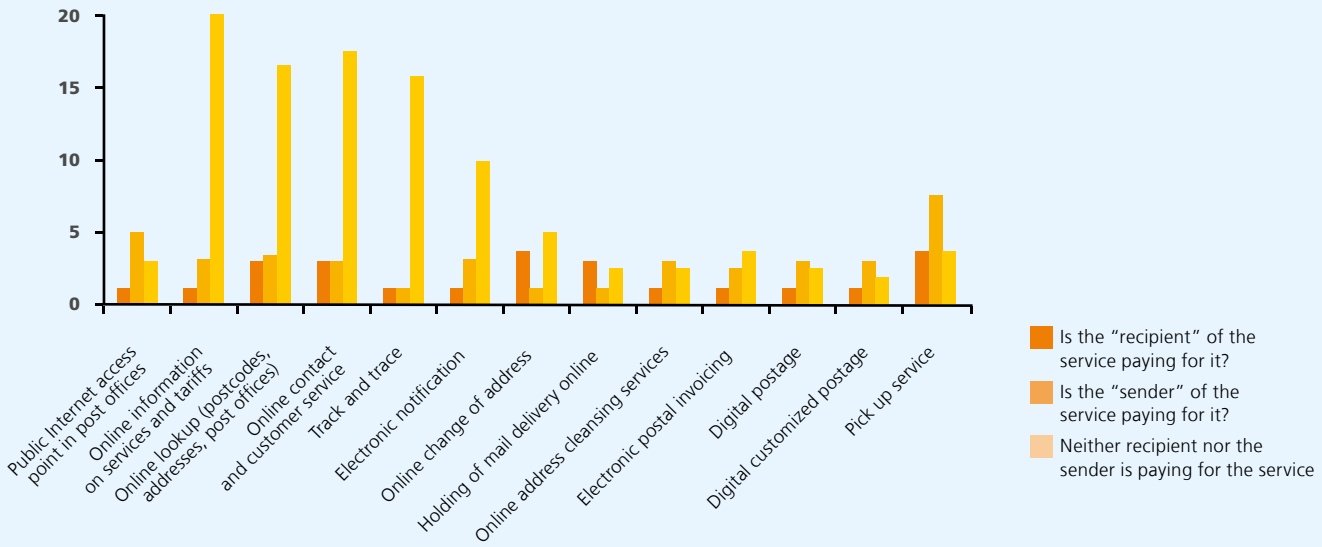
Table 7.23. Business models: Digital financial and payment solutions



4. Support services

The graphic below shows that there is a relevant change in most of the support services business models. We can see that most of these e-services are provided free of charge.

Table 7.24. Business models: Support services



7.9. The dissemination of postal e-services: regional analysis

1. E-post and e-government

E-post and e-government services are more prevalent in industrialized countries. Hybrid mail is also very developed in Europe and CIS countries and in the Arab region. This service is also Africa's most common e-post service (23%). Arab countries are also strong in postal electronic mailbox services, and Europe and CIS countries in e-cards. In the Latin America and Caribbean region, no service is provided by more than 15% of countries.

Table 7.25. Percentage of countries in the region offering E-Post and e-government

Percentage of countries in the region offering the service	Region					
E-post and e-government	Africa	Arab countries	Asia-Pacific	Europe and CIS countries	Latin America and Caribbean	Industrialized countries
Postal electronic mailbox	0 %	38 %	36 %	50 %	0 %	75 %
Online direct mail	0 %	0 %	9 %	6 %	0 %	56 %
Postal registered electronic mail	5 %	0 %	9 %	38 %	14 %	25 %
E-cards	0 %	13 %	36 %	44 %	0 %	63 %
Online bureaufax	5 %	0 %	9 %	19 %	0 %	6 %
E-invoicing	5 %	25 %	9 %	19 %	7 %	50 %
Hybrid mail	23 %	63 %	36 %	81 %	7 %	75 %
Reverse hybrid mail	5 %	0 %	0 %	25 %	0 %	38 %
Online facilitation of hybrid mail	0 %	0 %	27 %	31 %	7 %	50 %
Electronic postal certification mark	0 %	13 %	9 %	13 %	7 %	44 %
Digital signature	9 %	13%	27 %	25 %	7 %	38 %
Digital identity services	5 %	13 %	18 %	25 %	7 %	56 %
Credentialing services	0 %	25 %	0 %	6 %	14 %	25 %
Digital archiving	0 %	0 %	36 %	25 %	7 %	44 %
E-health	0 %	0 %	0 %	6 %	0 %	31 %
E-administration	5 %	38 %	9 %	6 %	0 %	50 %

2. E-commerce

E-commerce penetration rates show a higher degree of alignment among regions than e-post and e-government. Apart from Africa, where penetration rates for all services are very low, all regions have one or more highly developed e-commerce services. For instance, Latin American and Caribbean countries' strongholds are "calculation of estimated total landed costs" and "online philatelic and postal products shops". Asia is particularly strong in "online postal shopping portals". The industrialized countries stand out in "online customs declaration", "integration of postal web services with e-merchants' sites", and "online management of (…) delivery options".

Table 7.26. Percentage of countries in the region offering E-Commerce services

Percentage of countries in the region offering the service	Region					
E-Commerce	Africa	Arab Region	Asia and Pacific	Europe and CIS	Latin America and Caribbean	Industrialized countries
Online philatelic and postal products shop	14%	38 %	73 %	69 %	50 %	75 %
Online postal shopping portal (shopping mall)	9 %	25 %	46 %	38 %	29 %	50 %
Online customs declaration	0 %	13 %	18 %	6 %	7 %	44 %
Integration of postal web services with e-merchants sites	5 %	25 %	36 %	25 %	21 %	75 %
Performance reports	9 %	25 %	0 %	31 %	21 %	31 %
Virtual international	0 %	13 %	0 %	0 %	21 %	31 %
Calculation of estimated	5 %	13 %	0 %	31 %	50 %	19 %
Online management:	9 %	25 %	0 %	19 %	21 %	44 %

3. Digital financial and payment services

The most developed service in this category, electronic remittances, is strongest in the Asia-Pacific region (55%) and least present in the Latin America and Caribbean region (21%). It is also Africa's most widespread financial service (36%). Online bill payment solutions reach the 50% mark only in industrialized countries. Finally, online account management is more represented in industrialized and Arab countries.

Table 7.27. Percentage of countries in the region offering digital financial and payment services

Percentage of countries in the region offering the service	Region					
Digital financial and payment services	Africa	Arab Region	Asia and Pacific	Europe and CIS	Latin America and Caribbean	Industrialized countries
Online account management	5 %	38 %	27 %	13 %	7 %	44 %
Electronic remittances	36 %	25 %	55 %	25 %	21 %	44 %
Payment solutions	18 %	25 %	9 %	31 %	14 %	50 %
Online bill payments	14 %	25 %	27 %	25 %	0 %	50 %
Escrow services for e-commerce	5 %	13 %	0 %	0 %	0 %	13 %

4. Support services

Many support services, such as information services on postal websites or track and trace, are now part of Posts' standard offerings across all regions.

Other support services are regional by nature – for instance, public Internet access points in post offices are present in almost half of African and Asian countries and are much less developed in other regions. Likewise, digital customized postage and online change of address services are highly developed in industrialized countries and to a lesser extent Europe and CIS, and underdeveloped elsewhere.

Table 7.28. Percentage of countries in the region offering support services

Percentage of countries in the region offering the service	Region					
Support services	Africa	Arab Region	Asia and Pacific	Europe and CIS	Latin America and Caribbean	Industrialized countries
Public Internet access point in post offices	46 %	13 %	46 %	38 %	21 %	13 %
Online information on services and tariffs	50 %	75 %	91 %	100 %	86 %	81 %
Online lookup (postcodes, addresses, post offices)	32%	63 %	82 %	94 %	71 %	88 %
Online contact and customer service	50 %	50 %	73 %	88 %	79 %	81 %
Track and trace	73 %	75 %	82 %	100 %	93 %	88 %
Electronic notification	27 %	50 %	36 %	66 %	43 %	63 %
Online change of address	5 %	0 %	9 %	25 %	0 %	69 %
Holding of mail delivery online	9 %	12 %	9 %	19 %	7 %	56 %
Online address cleansing services	0 %	0 %	9 %	13 %	14 %	38 %
Electronic postal invoicing	18 %	25 %	9 %	19 %	14 %	38 %
Digital postage	0 %	0 %	0 %	13 %	14 %	56 %
Digital customized postage	0 %	0 %	0 %	6 %	0 %	50 %
Pickup service	27 %	25 %	27 %	31 %	50 %	50 %

8. Chapter III: Postal electronic services strategies

This section presents the results to new questions aimed at better understanding what is driving or hindering decisions to develop electronic services, and the types of strategic responses brought by Posts. Another question addresses technologies that may impact electronic services offerings in the coming years.

8.1. Digital disruption: threats and opportunities for posts

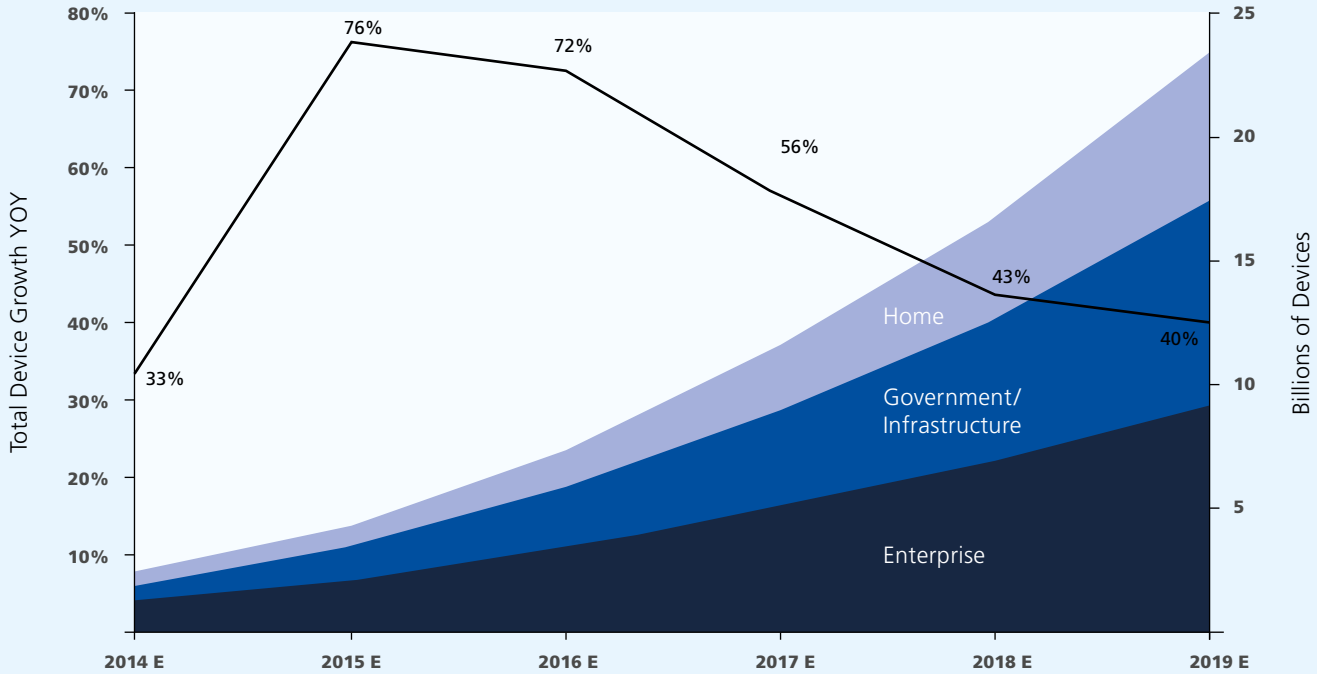
A new wave of postal innovation

Historically, postal e-strategies have revolved around two main objectives :

- Launching digital products -typically hybrid mail, electronic mail boxes, or e-identity services- as a substitute for the declining mail business and as a diversification tool,
- Adding a digital value to existing products – increasing the value of the mail channel (eg tracking data on mail), extending the value chain (e.g., e-commerce portals) or increasing user convenience (e.g., mobile money transfers).

While the rippling effects of past waves of innovation continue to be felt, the latest wave is seen as being potentially as much, if not more, transformative as the previous ones. There are already more Internet-connected devices in the world than there are people, and this number is expected to increase to over 25 billion by the end of the decade (Table 8.1) *. The combined impact of the Internet of Things (collection of data through sensors), low-cost data storage and processing capacities, and data analytics (big data) creates environments linking people, processes, data and "things" in new ways. It may change the way postal operators design, provide and market their products and services.

Table 8.1. Estimated number of Internet of Things devices in the world, by sector



Source: BI Intelligence, Business Insider **

* See *"The Internet of Postal Things"*, Report Number RARC-WP-15-013, USPS Office of Inspector General, August 2015, https://www.uspsoig.gov/

** http://www.businessinsider.com/how-the-internet-of-things-market-will-grow-2014-10

A recent IMD report warned about the risk that four of today's top 10 incumbents (in terms of market share) in each industry would be displaced by digital disruption from new competitors in the next five years. * The report also estimates that 43% of companies either do not acknowledge the risk of digital disruption, or have not addressed it sufficiently.

Postal operators' core delivery business is not immune to potential disruption. For instance, crowd-sourced delivery platforms, still on the drawing board a few years ago, are emerging. They let ordinary people, rather than Posts or other carriers drop off packages en route to home or other destinations. ** Applications have been developed that use geo-located data from a parcel shipper's or recipient's smartphone to identify the pickup or delivery point for a letter or parcel – potentially eliminating the need for a physical delivery address.

The same technologies that could affect the value of the Post's last mile can also represent a tremendous opportunity for postal operators. For instance, in countries where the Post does not yet provide a home delivery service, significant savings could be made by developing a crowd-sourced delivery platform.

As with all emerging trends, the actual financial potential and timeline for implementation is difficult to estimate. However, recent analysis and proofs of concepts conducted by a number of Posts suggest several new areas of future innovation in postal e-services. Here are a few examples:

- Improving existing postal e-services. Geo-located data from sensors affixed to postal delivery trucks, mailboxes, or from letter carriers' smartphones help provide real-time information on planned and actual delivery times to both senders and recipients.

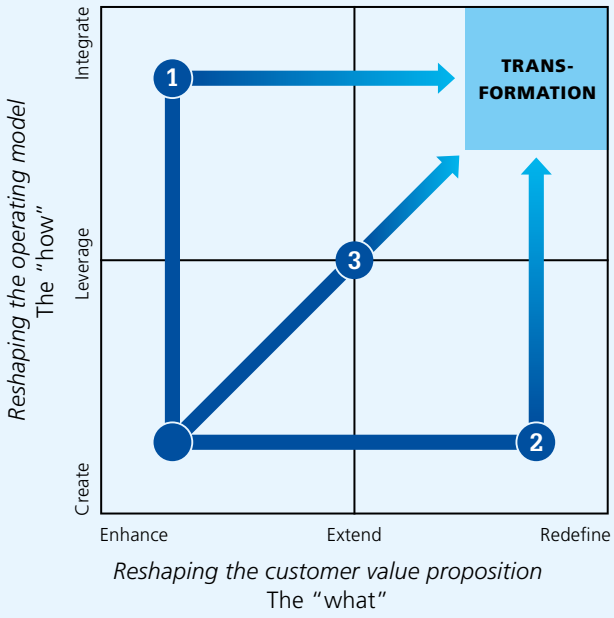
- Creating new postal services. For instance, several postal organizations in Europe have started to test "connected mailboxes", where sensors notify recipients of the presence of parcels. Sensors can detect the presence of returned items for pickup by carriers. Sensors could also be used to control the temperature inside the parcel box or locker, and allow the safe conservation of groceries or medicines.

- New services based on non-postal data. For instance, sensors on postal vehicles could collect real-time data on air quality along delivery routes – the kind of data "smart cities" increasingly need for environmental purposes.

From digital as a service to digital as a mindset

This survey concentrates on e-services that generate revenue, or help support core businesses. To allow Posts to continue to innovate in these areas, digital should be embraced as a mindset and the digital transformation should lead to the creation of business models where digital meets physical. The figure below shows how digital transformation requires strategic development of the value proposition and the operating model. In industries where the product is mostly physical and customer requirements for information are not yet advanced, companies may want to begin digital transformation with operations (Path 1). ***

Table 8.2. Paths to digital transformation



Path 1: Create and integrate digital operations first. Then address the customer value proposition to achieve full tranformations.

Path 2: Enhance, extend or reshape the customer value proposition with digital content, insight and engagement. Then focus on integrating digital operations.

Path 3: Build a new set of capabilities around the transformed customer value proposition and operating model in lock-step.

Source : IBM Institute for Business Value ****

* "Digital Vortex - How Digital Disruption Is Redefining Industries", Global Center for Digital Business Transformation, IMD-Cisco, June 2015, http://www.imd.org/uupload/IMD.WebSite/DBT/Digital_Vortex_06182015.pdf

** http://www.wsj.com/article_email/amazon-seeks-help-with-deliveries-1434466857-lMyQjAxMTA1MzE3NjcxNjYwWj

*** https://www-935.ibm.com/services/us/gbs/thoughtleadership/pdf/us_ibv_digita_transformation_808.PDF

**** http://www-07.ibm.com/sg/manufacturing/pdf/manufacturing/Digital-transformation.pdf

The underlying idea is that Posts must become more agile and "data-driven" in order to meet their objectives of diversifying and defending their core business. A number of frameworks have been proposed to address this transformation, many of which encompass four areas:

- Customer interaction: the need to better engage customers, to develop more customer-centric services;
- Innovation capabilities: the ability not only to design new operational processes and products, but also to innovate faster, test new business models and strategies, and accept a certain level of business risk;
- Culture: to foster a digital culture, Posts should encourage collaboration across teams and the acquisition of new skills (e.g. the recruitment of data scientists), and train managers to take make data-driven decisions. In addition, increased collaboration with external partners, through partnerships or acquisitions can help Posts quickly develop new capabilities.
- Operational capabilities: regardless of Posts' financial limitations, new information technologies provide them with greater flexibility to design new value chains. For instance, Posts can build open information platforms. *

The best path for a particular postal operator will depend on its strategic objectives, regulatory and technological environment, competitive pressures and customer expectations.

Table 8.3. Approaches to digital transformation: "What does it take to be a high performer?" **

Talent Transformation	– Less in mail, more in new business lines – New knowledge workers and digital talent – Additional flexibility
Customer Focus	– Customer segmentation and CRM – Relationships with senders and recipients – Better cross-channel experience
Manage by Data	– Customer and operational analytics – Predictive solutions – Big data
Governance	– Commercial focused decision making – Over-diversification – Challenging the USO
Investment Strategy	– Balanced investment for growth and efficiency – Drive to scale in new areas – Mergers and acquisitions

Source: Accenture

* *A platform integrates data from the postal infrastructure and other partners such as cities, government, or business customers. The data is made available to third parties such as IT companies, who create new applications are services based on the postal data.*

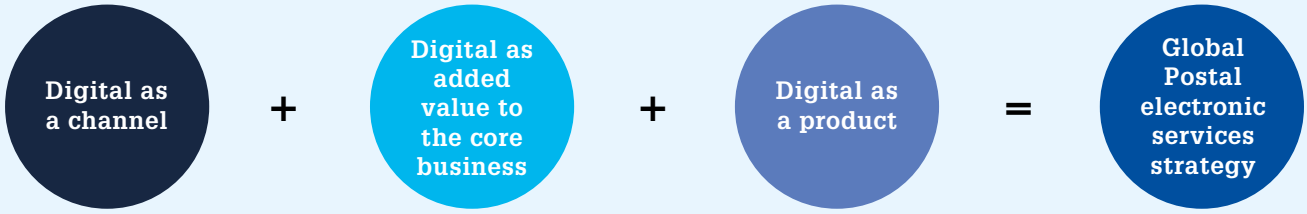
** *http://www.accentureduckcreekpolicy.com/SiteCollectionDocuments/PDF/Accenture-Achieving-High-Performance-Postal-Industry-2014.pdf*

According to the data gathered in the survey, we can develop a taxonomy on the completeness of the vision, which reflects the DO's innovation and whether it drives or follows the market.

If we analyze the different profiles in terms of the digital strategy, we can differentiate between:

- Digital as a channel: the digital product/service is considered as a new channel for interacting with customers – senders and recipients of postal items, or users of postal financial services. For example, the ability to look up a postcode through a mobile app;
- Digital as added value to the core business: the digital product/service is considered as a new revenue stream for core business. For example, APIs in e-commerce shops; and
- Digital as a product: the digital product is considered as an added value, revenue-generating product. For example, the postal electronic mailbox.

Table 8.4. Completeness of vision

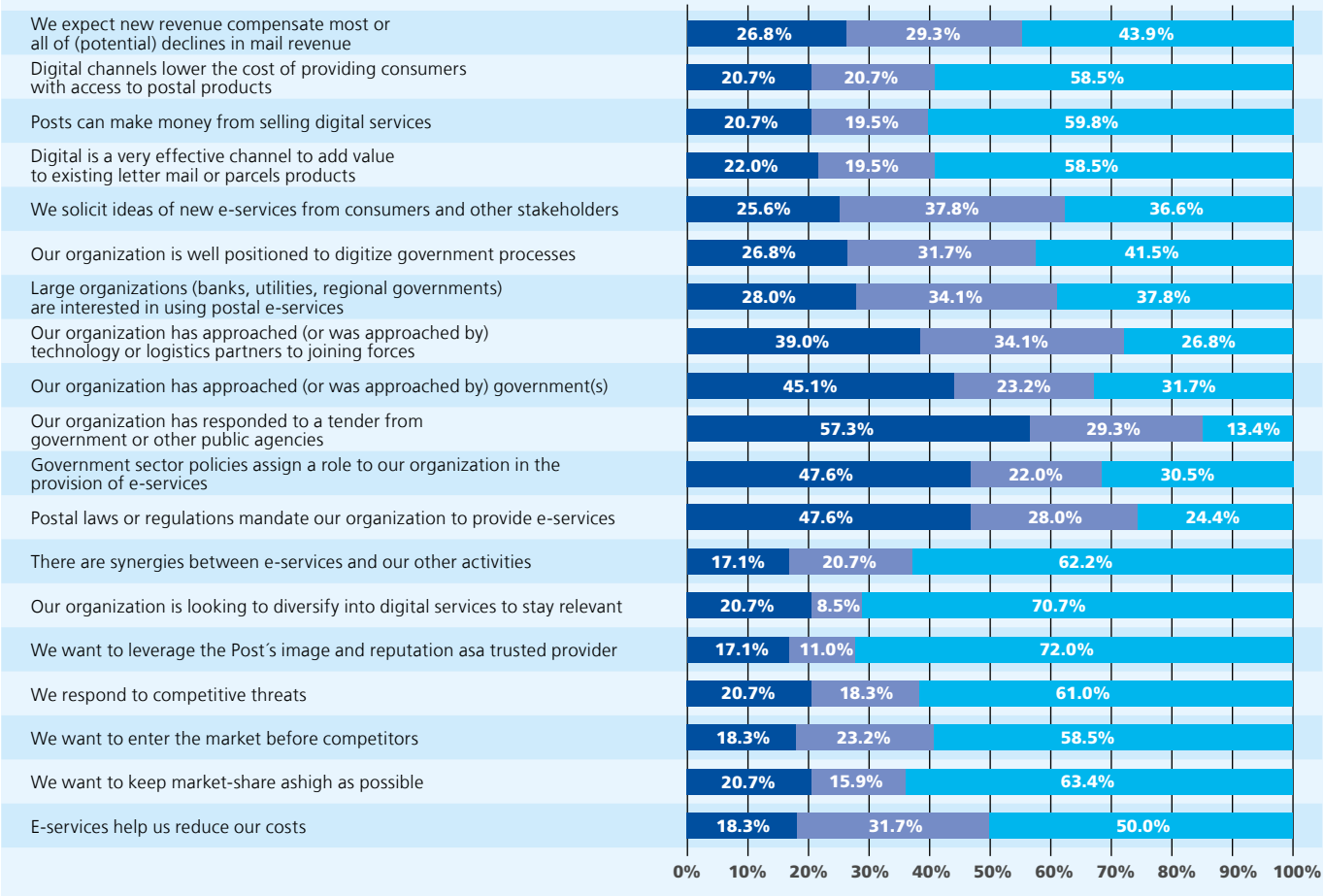


8.2. Reasons for launching postal electronic services

1. Global analysis

For each factor listed, Table 8.5. shows the percentage of the world's postal organizations that consider it plays a very significant, somewhat significant, or not significant role in the launch of their postal electronic services.

Table 8.5. Reasons that lead (led) your organization to launch postal e-services:



Responses on a 1 to 5 scale:
- = very significant *(4 or 5)*
- = somewhat significant *(2 or 3)*
- = not significant *("Non applicable" or 1)*

Most of the top reasons pertain to three strategic goals

- *Leveraging competencies.* The most-cited factor (reason # 1) is "to leverage the Post's image and reputation as a trusted provider" (with 72% of "very significant").In addition, 62% of countries (reason # 4) also state that they want to exploit "synergies between e-services and [their] other activities".

- *Diversification.* "Our organization is looking to diversify into e-services to remain relevant" is reason # 2 (with 71% of Posts considering it very significant). Along the same lines, 60% of respondents stated that "Posts can make money from selling digital services" (reason # 6). However, countries are more hesitant about the level of revenue digital can generate: 44% seem to expect "new revenue from e-postal services to compensate most or all declines in mail revenue" (reason # 11).

- *Protecting and strengthening the core business.* Posts want to use digital to "keep market share as high as possible" (reason # 3 - 63%), "respond to competitive threats" ((reason # 5 – 61%), "enter the market before competitors", "add value to the core", and "lower the cost of providing consumers with access to postal products (reason # 7 with 59% each). Fifty percent also think that postal e-services will "help [them] to reduce [their] costs", such as retail access costs (reason # 10).

Six of the eight drivers ranked 12th to 19th relate to interactions with stakeholders, whether clients, governments, or technology partners. In some cases, Posts responded to an interest in e-postal solutions expressed by "large organizations" such as banks or utilities (reason # 13, 38%), or proactively solicited "ideas for new e-services from consumers and other stakeholders" (# 14, 37%). In other cases it approached or was approached by national, regional or local governments (# 15, 32%), or, less frequently, responded to their tenders (reason # 19, the lowest ranked with only 13 %). In 42% of the countries, the Post considers it is "well positioned to digitize government processes" (reason # 12).

Finally, two drivers, ranked very low (16th and 18th), relate to legal and regulatory factors: "Government sector policies (such as e-government, ICT, or digital sector policies) assign a role to our organization in the provision of e-services" (31%), and "Postal laws or regulations mandate our organization to provide e-services" (24%).

2. Regional analysis

The main reasons for launching postal e-services vary considerably across regions. In fact, only two of the top five factors are common to all six regions: the need for diversification, and the willingness to leverage the Post's trust and reputation. The main specificities of the regions are as follows:

- Industrialized countries quasi-unanimously (93%) share a positive vision of e-services that creates synergies with other businesses, create opportunities to diversify, to leverage the Post's image and trust, and to help keep market share. On the other hand, only 21% of them (half of the world's average) expect e-services revenue to compensate for losses in letter-mail revenue.

- Arab region: on average, the importance of government as a, if not the, main force behind the launch of postal e-services appears to be greater than in other regions. For instance, in 57% of Arab countries, postal laws and regulations mandate Posts to provide such services. In 71% of countries, sector policies assign a role to Posts, which consider that they are well prepared to digitize government processes. The region's Posts are also more prone to join forces with e-services technology or logistics partners (57% vs 14% in industrialized countries or 20% in Africa).

- Asia and Pacific countries score highest in items relating to business interaction with customers: 63% say that large organizations are interested in e-services (vs. 38% globally), 54% have established a dialogue with governments over such services (vs. 32%), and 36% have responded to a tender from governments (vs. 13% globally).

- Europe and CIS countries' reasons for launching e-services are closer to world averages than those expressed by the five other regions. However, the objective to "enter the market before competitors" (shared by 75% of Posts) is much more widespread in this region.

- Latin America and Caribbean: While half of the countries look to use digital to make money and facilitate access to physical services, other responses seem to point to a lack of confidence in, or uncertainties about, the benefits of postal e-services. Only 43% (vs 71% globally) look to digital services "to stay relevant", and 36% (vs. 61% globally) to "respond to competitive threats". Results also seem to indicate that, on average, governments may not be as supportive of postal e-services as they are in other regions.

- Africa: this region displays a high level of confidence that postal e-services' revenue can compensate for the decline of mail revenue (55%). On the other hand, they seem to question their ability to develop synergies between these services and their other lines of business (40% vs 86% in Arab countries or 81% in Asia).

Table 8.6. Reasons that lead (led) your organization to launch postal e-services in Africa

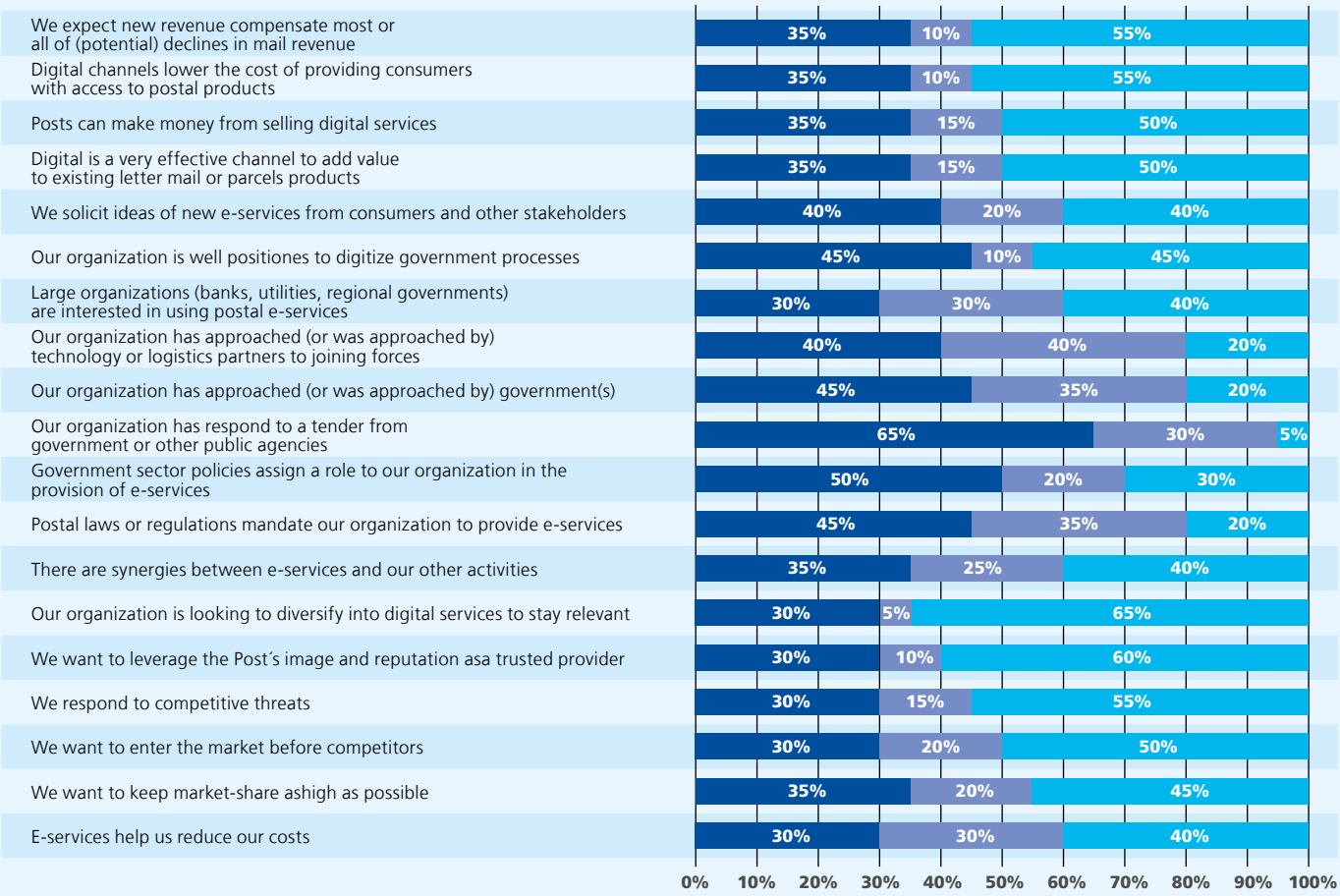
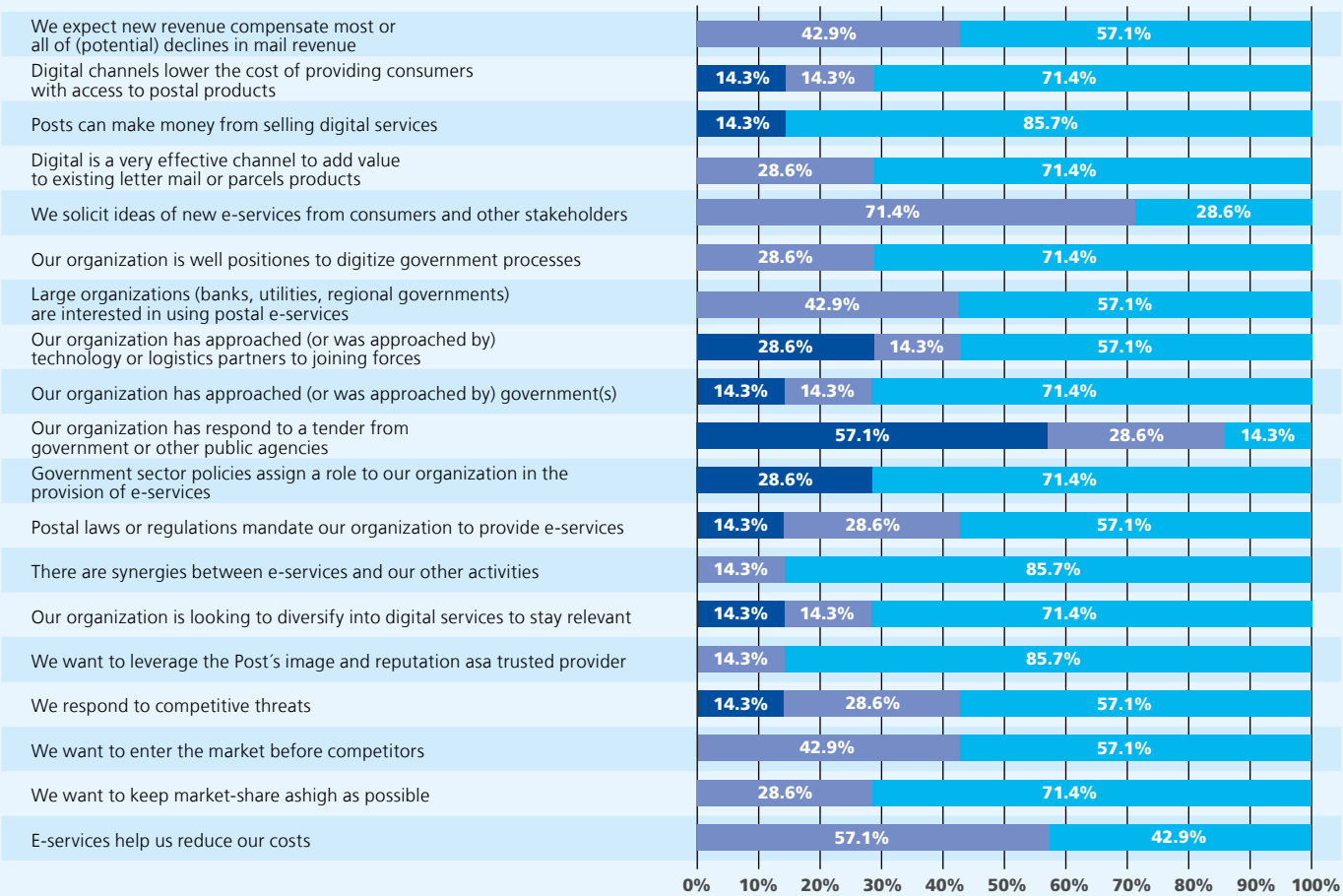


Table 8.7. Reasons that lead (led) your organization to launch postal e-services in the Arab Region



Responses on a 1 to 5 scale:

= very significant *(4 or 5)*, = somewhat significant *(2 or 3)*, = not significant *("Non applicable" or 1)*

Table 8.8. Reasons that lead (led) your organization to launch postal e-services in Asia and Pacific

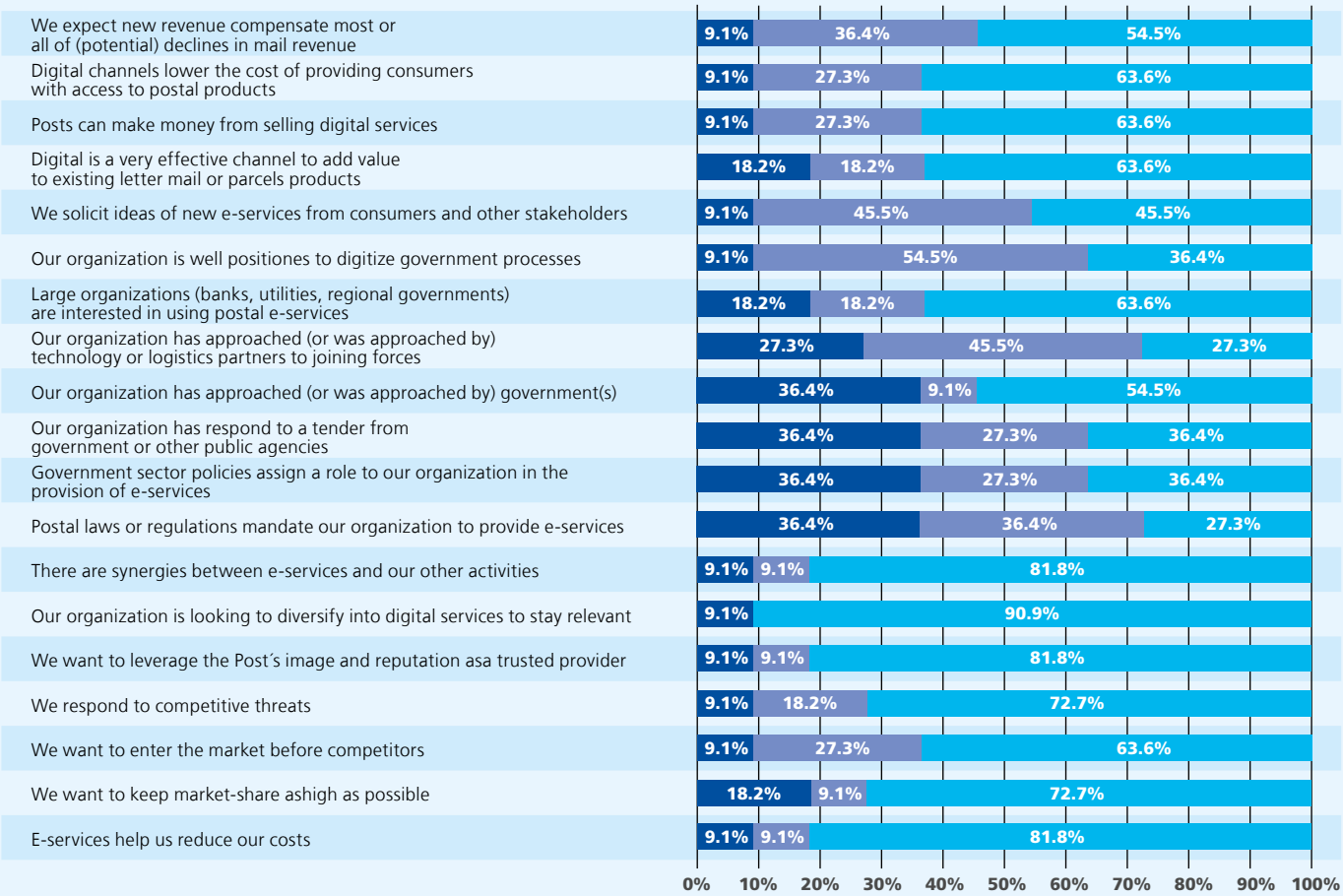
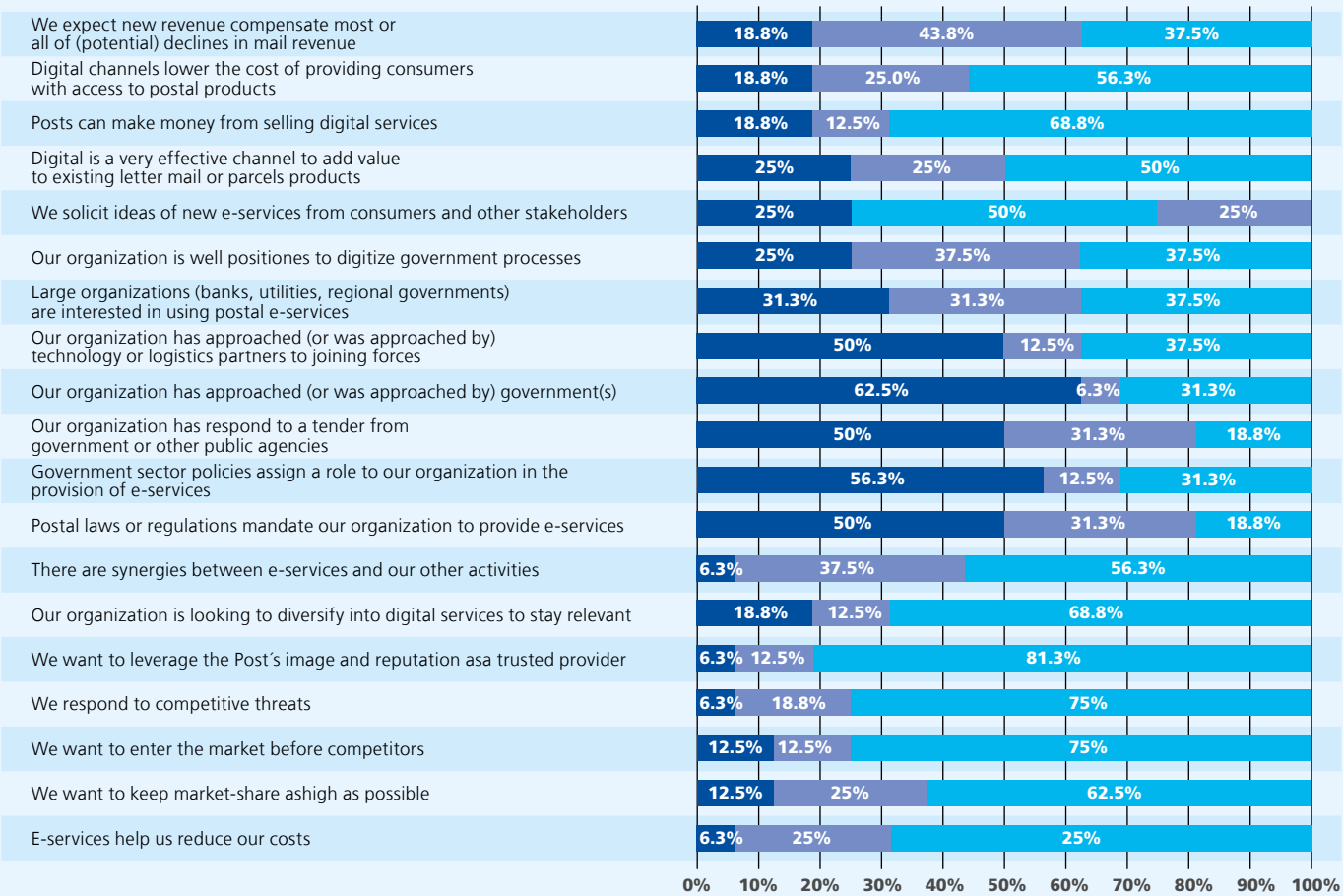


Table 8.9. Reasons that lead (led) your organization to launch postal e-services in the Europe and CIS



Responses on a 1 to 5 scale:

= very significant *(4 or 5)*, = somewhat significant *(2 or 3)*, = not significant *("Non applicable" or 1)*

Table 8.10. Reasons that lead (led) your organization to launch postal e-services in Latin America and Caribbean

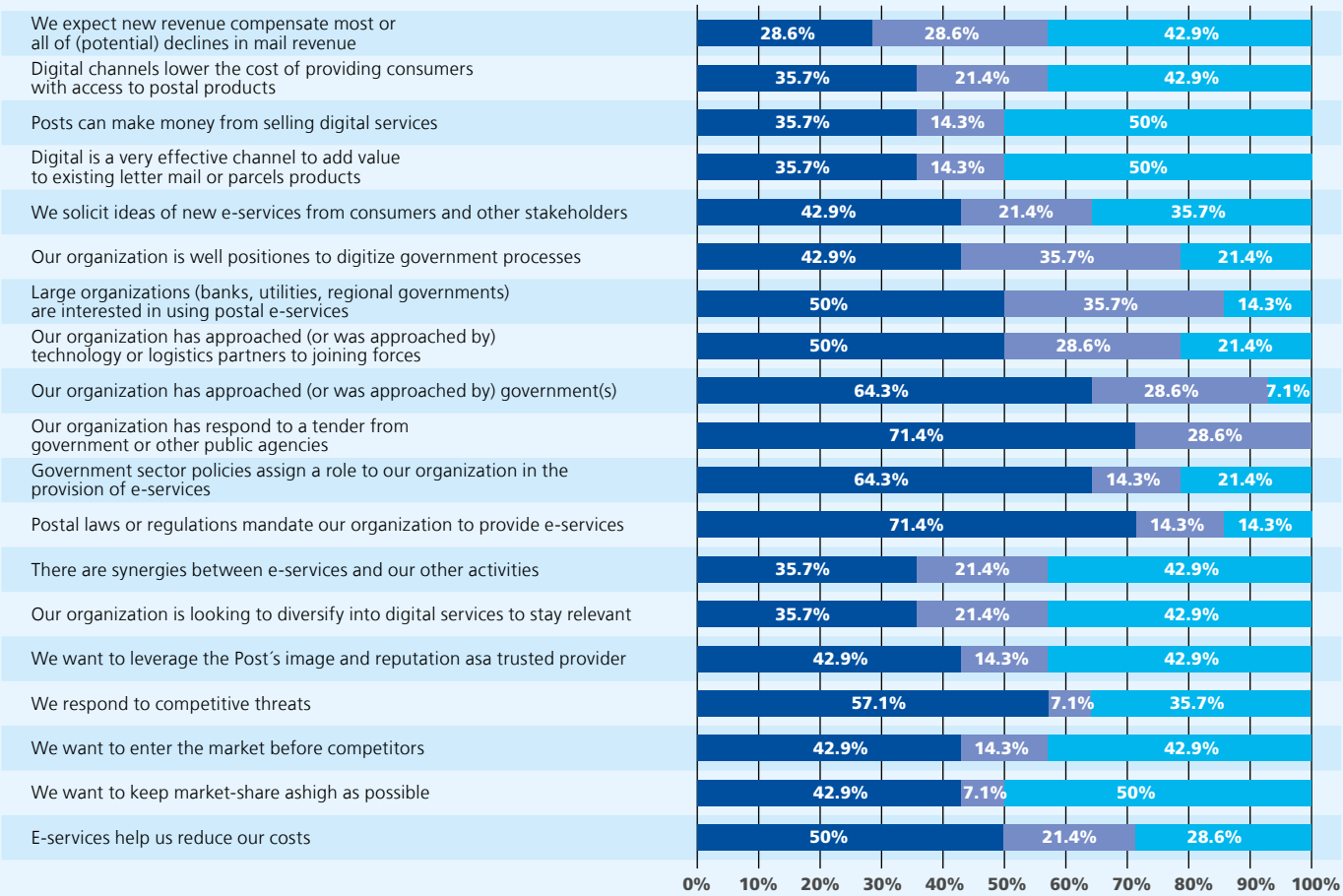
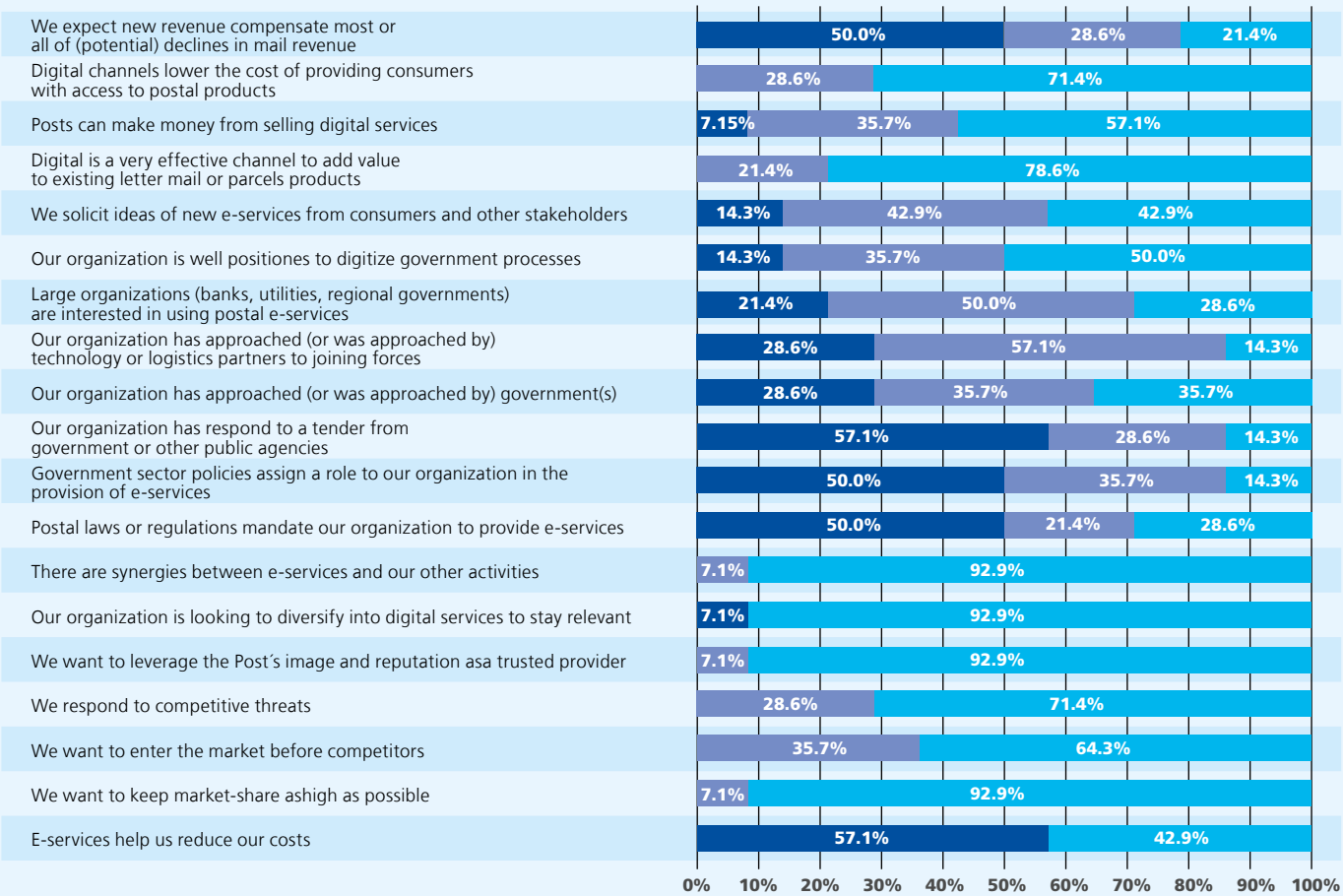


Table 8.11. Reasons that lead (led) your organization to launch postal e-services in Industrialized Countries



8.3. Major obstacles to the growth of postal electronic services

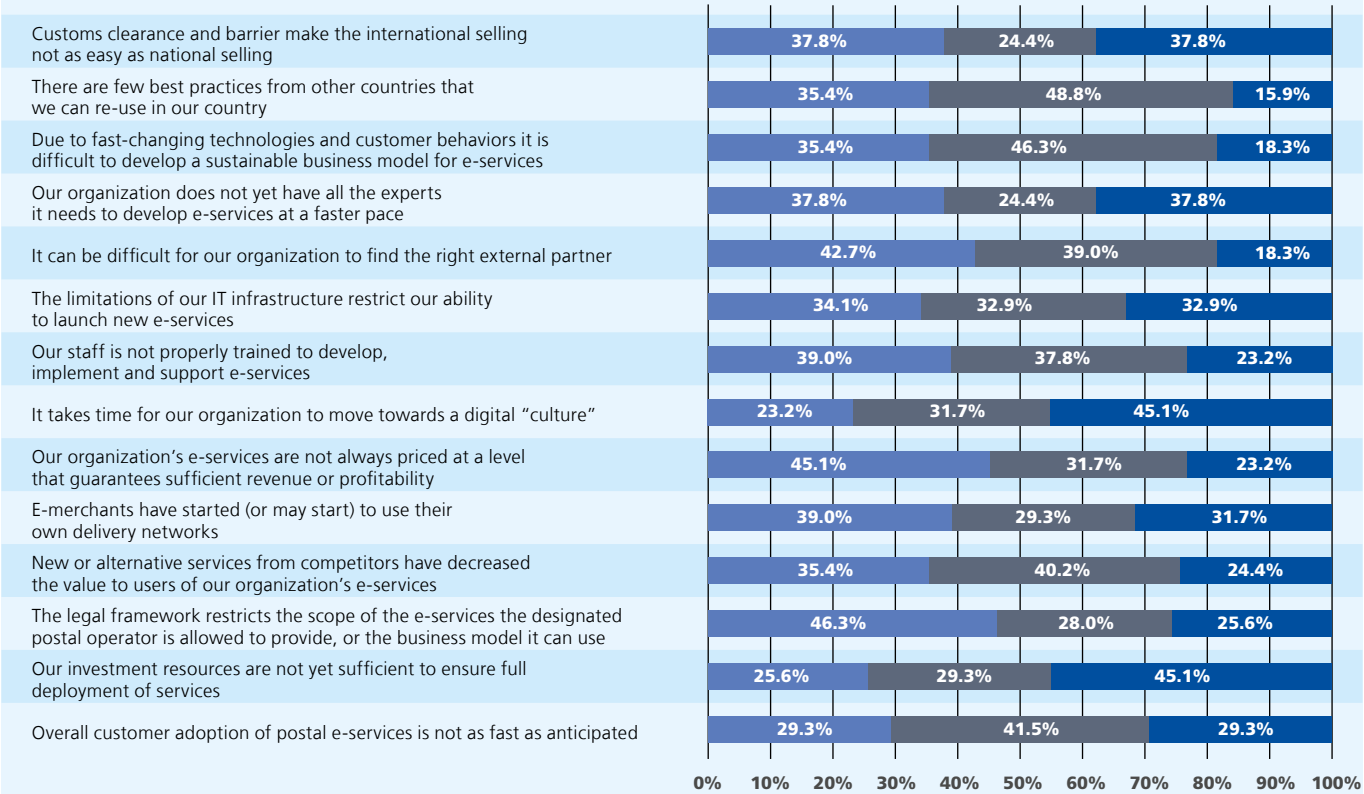
The survey covered both internal barriers (related to the postal organization's internal weaknesses) and external barriers (related to its environment). For each of 14 potential barriers to e-services growth, UPU members were asked to rate their relevance to their country on a 1 to 5 scale. Responses "4" and "5" were consolidated into a single "very significant" category, "3" and "2" into "somewhat significant", and "0" ("not applicable") and "1" as "not significant".

Global analysis

Global results show that four of the top five hurdles are internal. The most cited obstacles are financial (45% of "very significant") and "cultural", i.e. the long road to a digital culture (also 45%). The third highest ranked hurdle is external: "customs clearance and barriers" (38%), followed by the lack of internal experts (38%) and limitations of the Post's IT infrastructure (33%).

All other barriers reviewed are seen as significant by a relatively small proportion of Posts (16% to 32%). Internal business issues include lack of proper training (23%), insufficient profitability and revenue growth (23%), and, to a lesser extent, the challenge of developing a sustainable business model (18%) and identifying other countries' best practices (16%). External obstacles relate to customer adoption slower than anticipated (29%), an unfavorable legal framework that restricts the scope of postal e-services (26%) as well as, less frequently, problems in finding suitable partners (18%). This category also includes competitive threats from alternative services (24%) or from e-merchants' own delivery networks (32%).

Table 8.12. Main obstacles to the growth of postal e-services



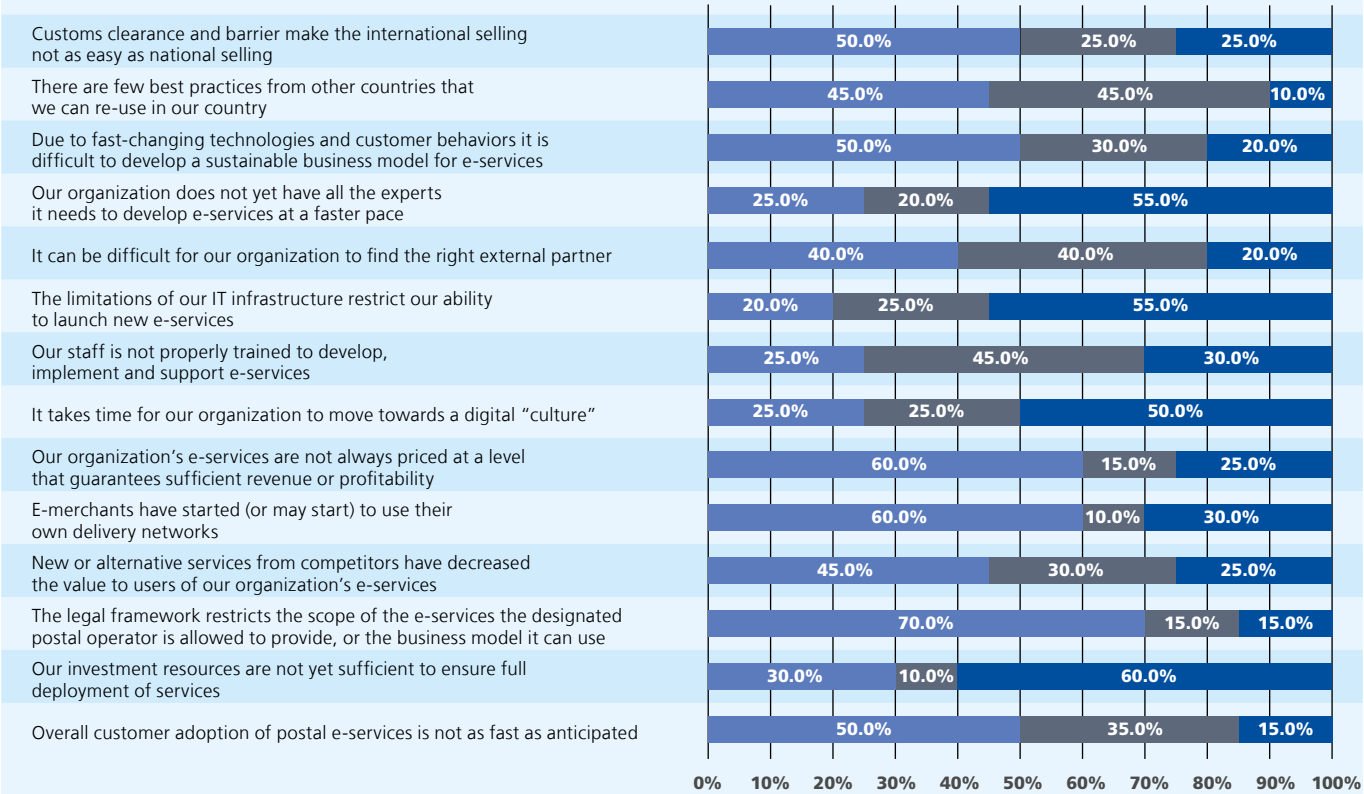
Responses on a 1 to 5 scale:
■ = very significant *(4 or 5)*, ■ = somewhat significant *(2 or 3)*, ■ = not significant *("Non applicable" or 1)*

Regional analysis

The main regional differences are as follows:

- A lack of investment resources is cited most frequently in the Africa region (60%) and least frequently in the Asia-Pacific region (27%).
- The relevance of "internal expertise" and "IT infrastructure" as hurdles to e-services' growth varies considerably across regions. While no respondents from the Arab region consider them as "very significant", the percentage is highest in Africa (55%).
- Along the same lines, the Arab region does not really see the time needed to create a digital culture as a significant obstacle (14% vs. 50% in Africa and 57% in industrialized countries and Latin America and Caribbean).
- The perception of competitive threats (from new competitors and e-tailers) seems to be more acute in the Asia-Pacific and Arab regions (46% and 43%, respectively) than in other regions. The Arab region is also most concerned about customs hurdles (the region's top concern with 71%, vs. 25% to 46% in other regions).
- A restrictive legal framework is seen as a major hurdle to e-services' growth in Europe and CIS (44%) and the Arab countries (43%), but much less so in other regions (14% to 27%).

Table 8.13. Main obstacles to the growth of postal e-services in Africa



Responses on a 1 to 5 scale:
■ = very significant *(4 or 5)*, ■ = somewhat significant *(2 or 3)*, ■ = not significant *("Non applicable" or 1)*

Table 8.14. Main obstacles to the growth of postal e-services in the Arab Region

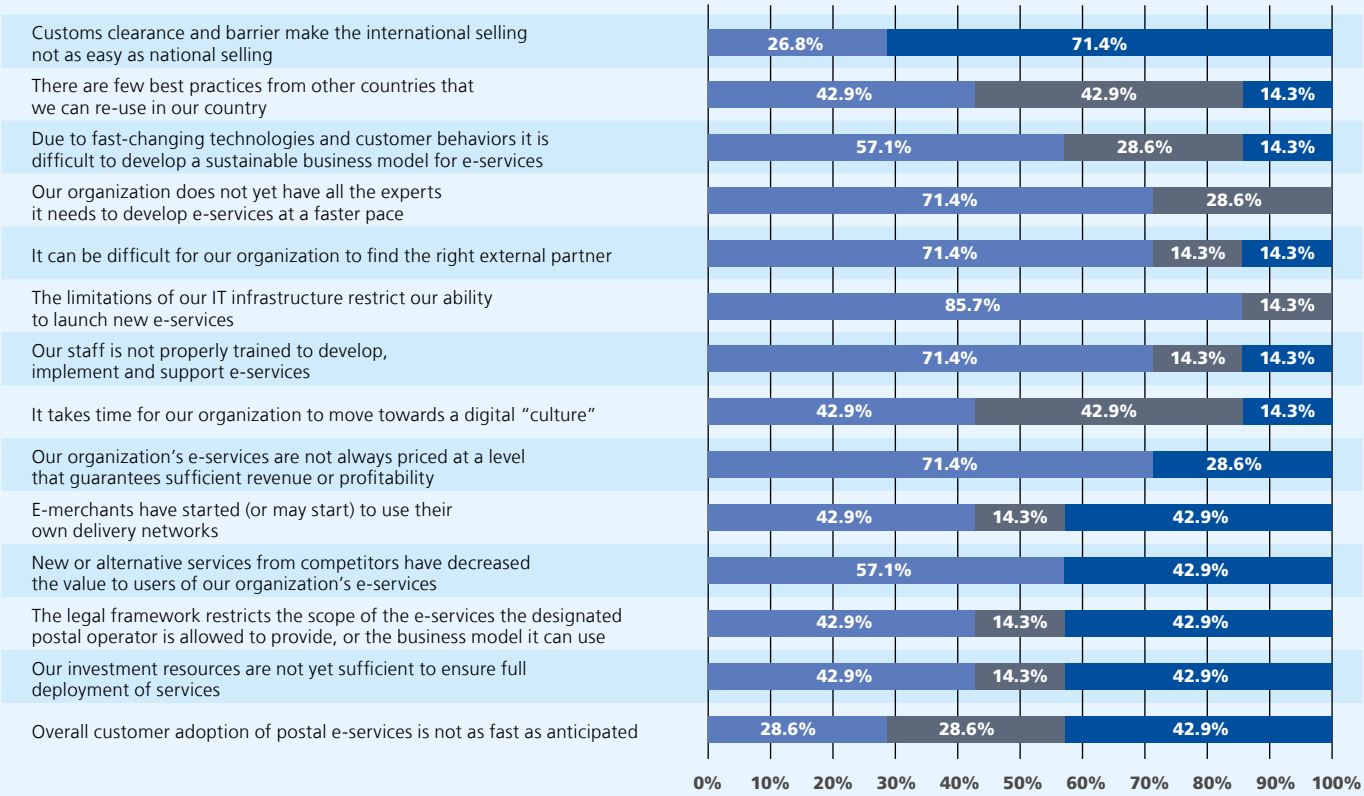
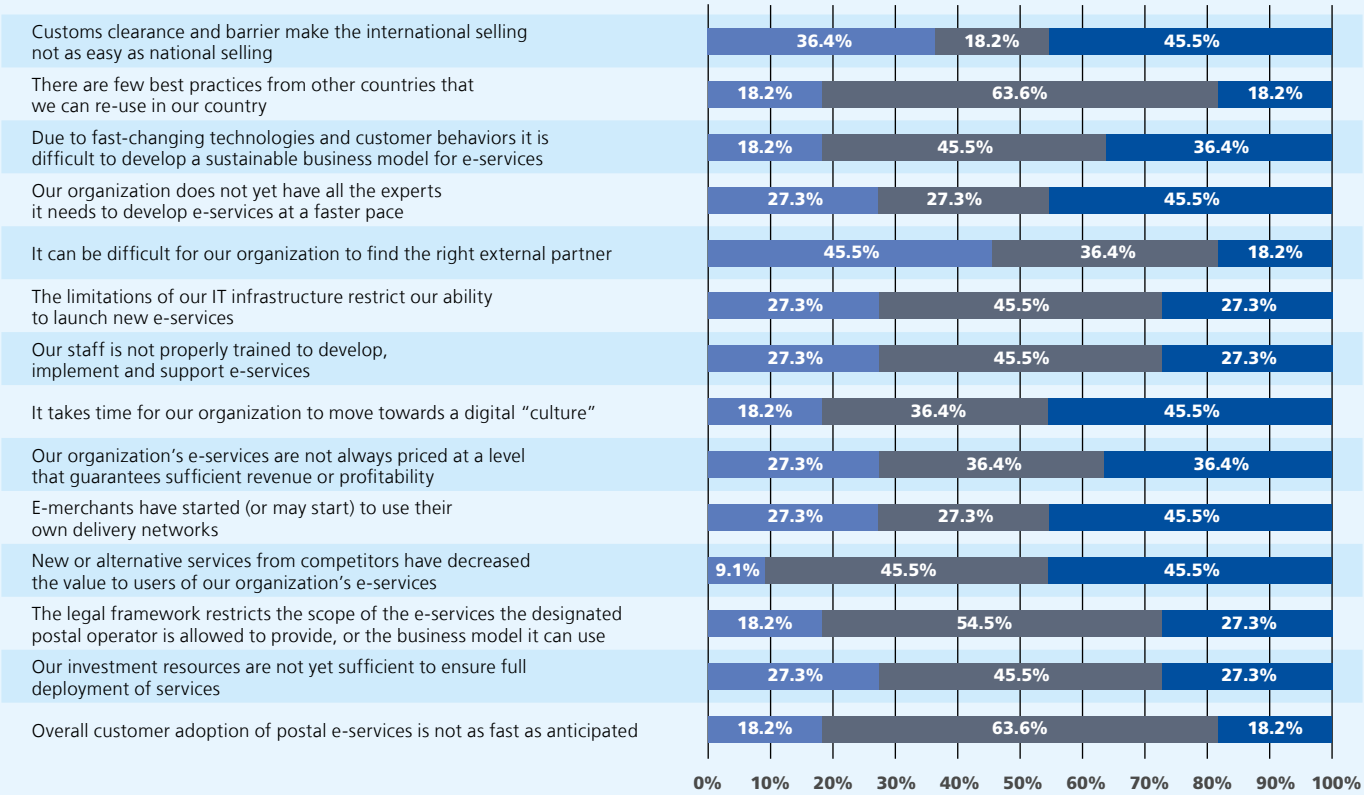


Table 8.15. Main obstacles to the growth of postal e-services in Asia and Pacific



Responses on a 1 to 5 scale:

■ = very significant *(4 or 5)*, ■ = somewhat significant *(2 or 3)*, ■ = not significant *("Non applicable" or 1)*

Table 8.16. Main obstacles to the growth of postal e-services in Europe and CIS

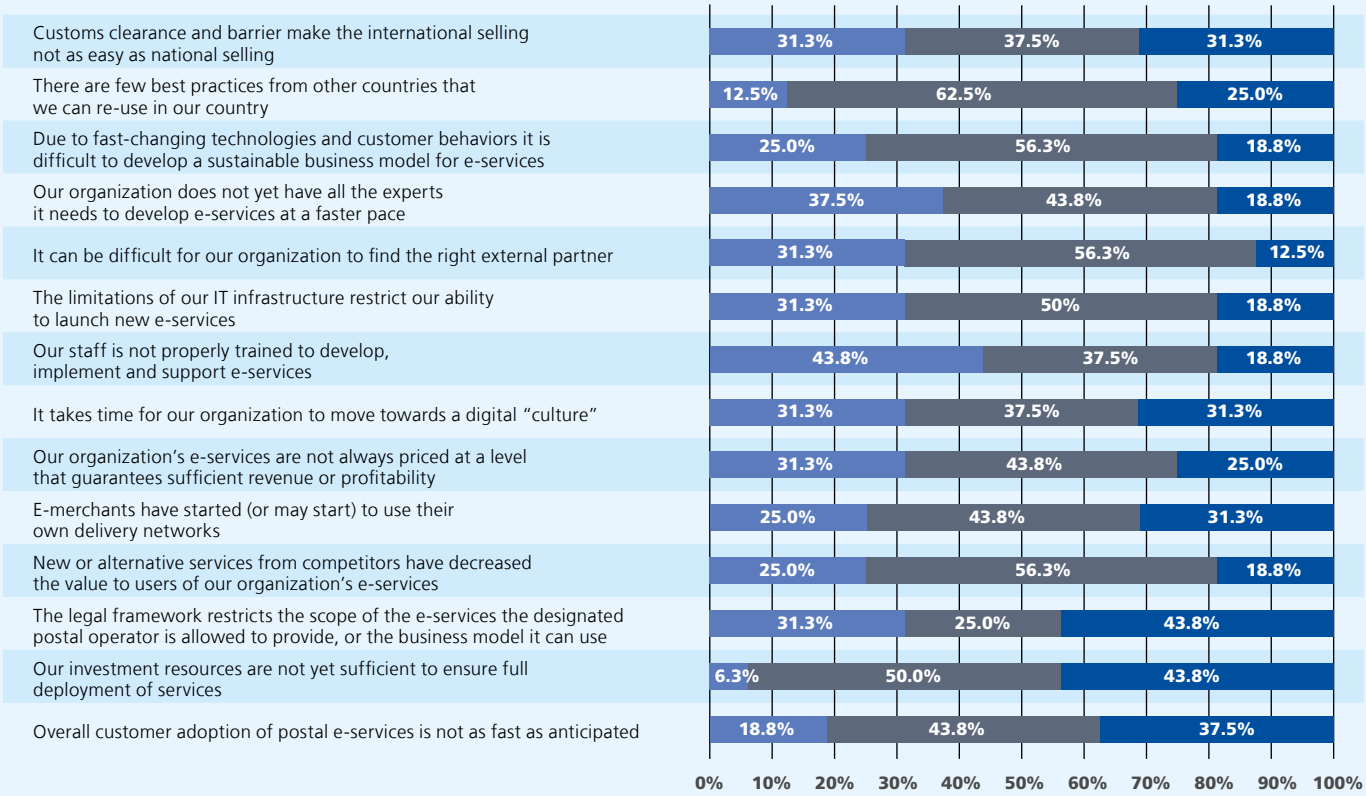
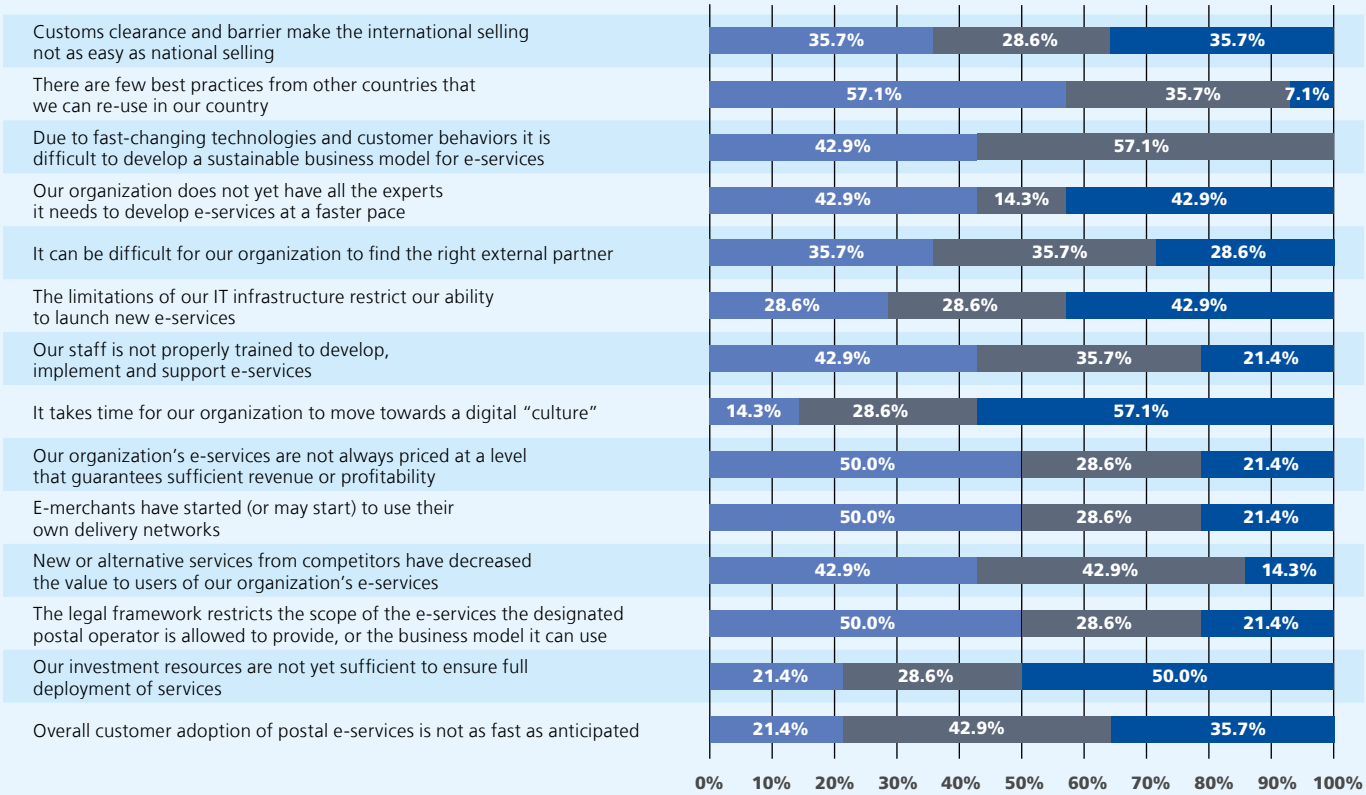


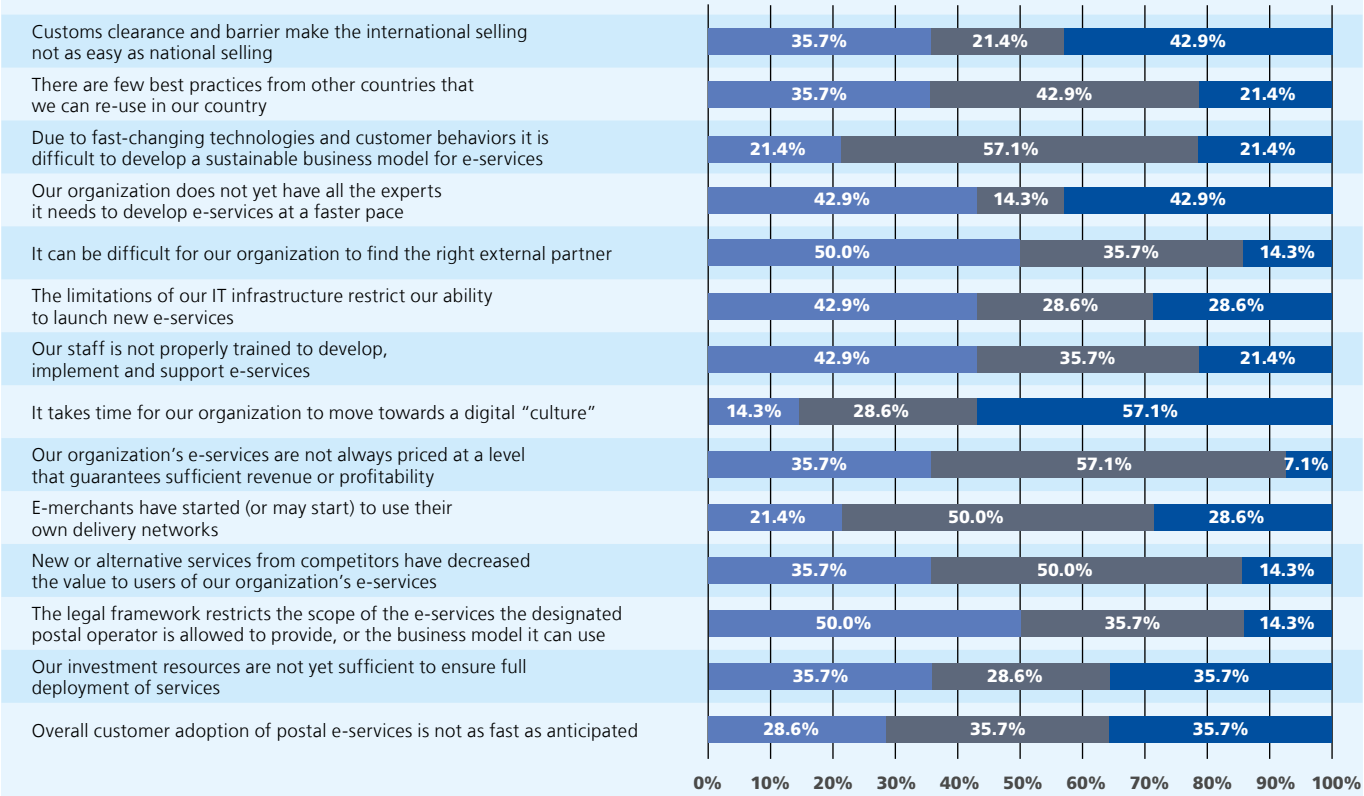
Table 8.17. Main obstacles to the growth of postal e-services in Latin America and Caribbean



Responses on a 1 to 5 scale:

■ = very significant *(4 or 5)*, ■ = somewhat significant *(2 or 3)*, ■ = not significant *("Non applicable" or 1)*

Table 8.18. Main obstacles to the growth of postal e-services in Industrialized countries



Responses on a 1 to 5 scale:
■ = very significant *(4 or 5)*, ■ = somewhat significant *(2 or 3)*, ■ = not significant *("Non applicable" or 1)*

e-commerce customers' expectations

"For digital consumers, the world is borderless. They expect to be able to view product information in their own language, and to pay for products in their own currency. They want:

- A choice of local and international shipping options with delivery times and costs clearly outlined at checkout
- An advanced level of service and shipping options for high cost items
- A selection of collection options as well as shipping options: click-and-collect, drop box
- Transparent shipping costs, taxes and surcharges – displayed in local currency
- A wide choice of fast and easy payment methods – both globally accepted, but also 'locally' preferred ways to transact
- An end-to-end view of the product's journey through track and trace wherever possible
- Notification, in the channel of their choice (SMS, email), at milestones in the product journey – dispatch, for example, and when the product has arrived at the local courier's depot
- A customer service department they can speak to in their own language, with access to precise, accurate data on the location of their order
- Swift, simple returns, ideally with pre-printed returns labels."

Source: Pitney Bowes, as quoted in Postandparcel.info, 21 July 2015

8.4. Strategies and actions followed for the provision of e-services

The purpose of this question was to identify the broad actions implemented by UPU members to help achieve their postal e-services business goals. The categories considered include strategic planning ("a dedicated digital market strategy"), organizational responses, human resources strategies, funding, acquisition and partnerships. The objective was not to cover all aspects of any product or market strategy, rather to focus on some of the critical decisions companies typically make when expanding into innovative segments.

1. Global analysis

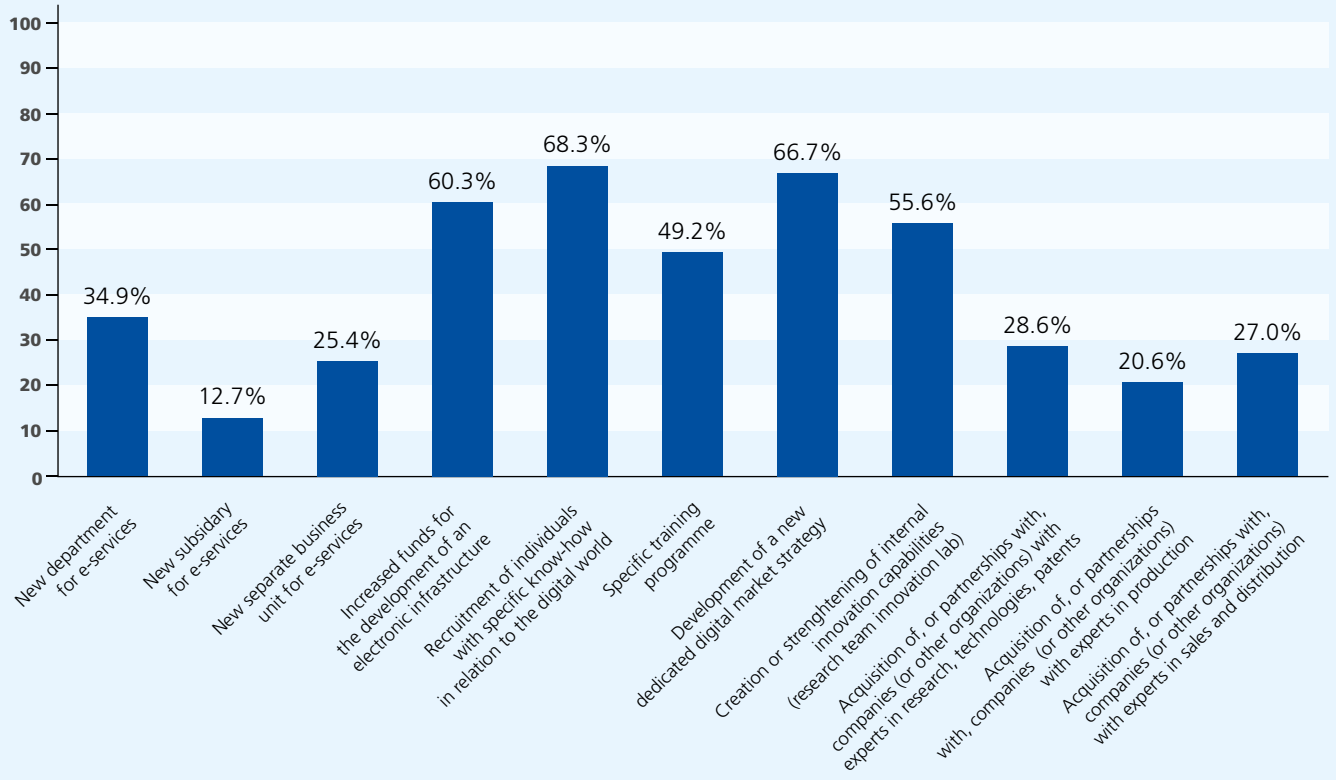
Overall, five types of actions are followed by at least half of the Posts that responded to the question: the recruitment of experts (68%), the development of a new dedicated digital market strategy (60%), the securing of increased funds (60%), the creation or strengthening of internal innovation capabilities (55%), and specific training programmes (49%). Results for a digital market strategy seem to indicate a significant progression over the past four years: in 2010, only 36% of respondents said that they were developing one. *

Other strategies are less widespread.

- Organizational strategies: 35% of Posts have created "a new department", 25% "a new separate business unit", and only 13% "a new subsidiary" to handle their e-service business. Forty-six percent of the Posts surveyed did not mention using any of the three, which might indicate that their commercial e-services are attached to the division(s) responsible for letter mail, parcels/e-commerce, or IT.

- Acquisition and partnerships strategies: 29% of respondents have turned to external partners for access to "research, technologies and patents", 27% for expertise in "sales and distribution", and 20% for expertise in "production".

Table 8.19. Strategies and actions used for the provision of e-services



* The 2010 questionnaire also included two other questions on strategies. Seventy one percent of respondents said that *"E-services are part of the business strategy of the post"*, and 32% they had "increased their budget for the development of new postal e-services".

2. Regional analysis

– *Strategy:* "about 80 to 83% of Posts in the Europe and CIS, Asia-Pacific and Arab countries regions have developed a "new dedicated market strategy" for e-services. Percentages are lowest in Africa (50%) and, surprisingly, the industrialized countries (55%).

– *Funding:* Latin American and the Caribbean, and the industrialized countries are the only regions where a minority of Posts (30% and 36%, respectively) indicated that they had "increased funds for the development of an electronic infrastructure". Low percentages may indicate either that Posts have already developed such as infrastructure, or on the contrary, have not started to do so.

– *Organization:* 50% of Posts in the Asia-Pacific and Arab countries regions have created a "new department" for postal e-services, vs. only 10% of Latin American and Caribbean Posts, and 27% of those from industrialized countries. Separate business units for such services are more common in the Asia-Pacific region (40%) and industrialized countries (36%) than in other regions. *

– *Human resources:* "Recruitment of experts" is one of the top two strategies in all regions, except Latin America and the Caribbean, where only 1 out of 5 Posts cite this strategy. As regards the development of internal skills through specific training programmes, the percentage varies considerably: 18% of Posts in the industrialized countries use this strategy, compared to 60% in the Asia-Pacific region, 67% in the Arab countries, and 71% in Africa.

– *Acquisitions and partnerships:* The African countries are keenest to gain e-services expertise from acquisitions or partnerships – at least half of the Posts indicated that they follow these strategies. The Asia-Pacific countries put the emphasis on acquisitions or partnerships in "sales and distribution" (50%). Percentages are lowest in the Latin America and Caribbean and the industrialized countries regions.

* It is not possible from the responses given to determine to what extent countries have over time 'graduated' from one organizational structure to another (e.g. from an e-services department to a separate business unit).

Table 8.20. Strategies and actions used for the provision of e-services in Africa

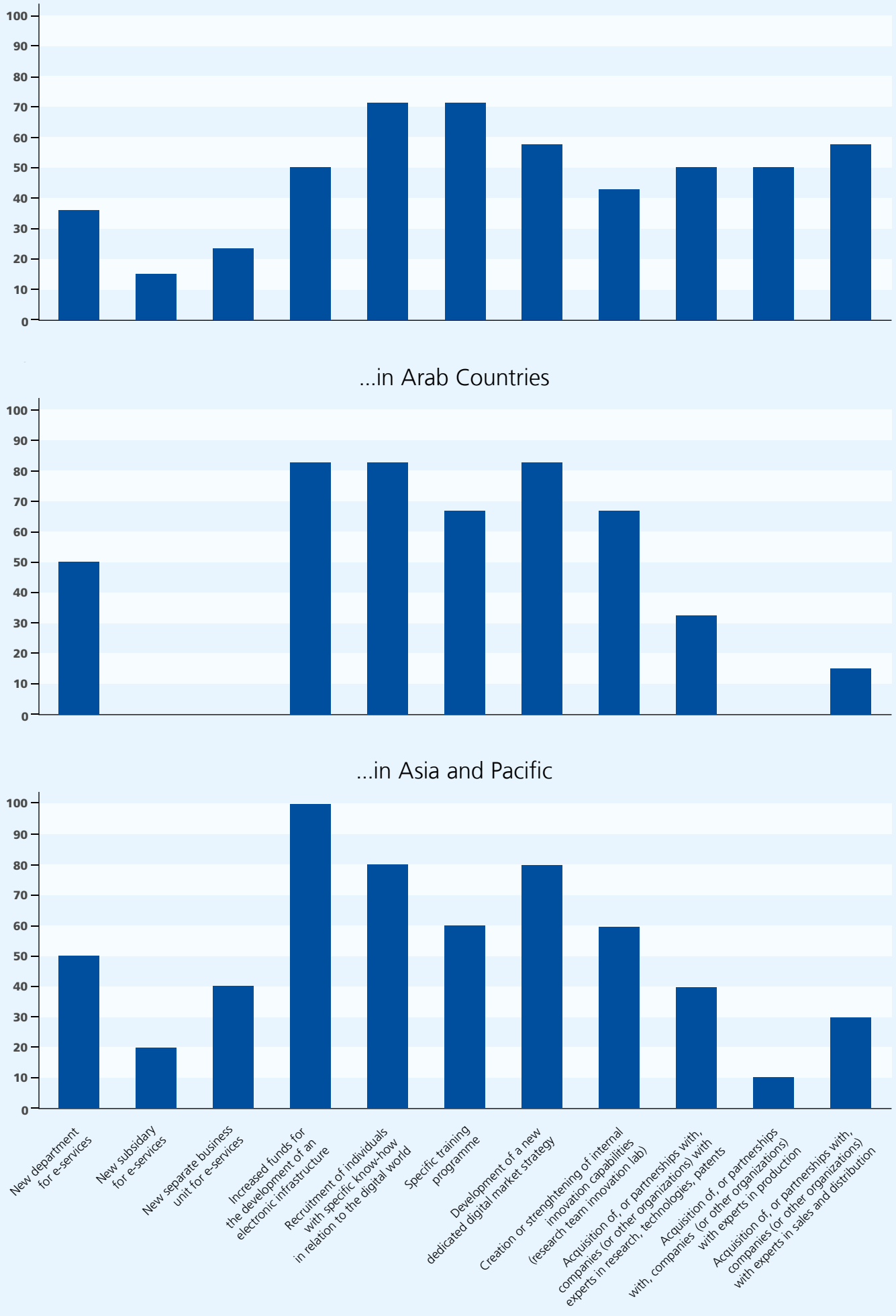
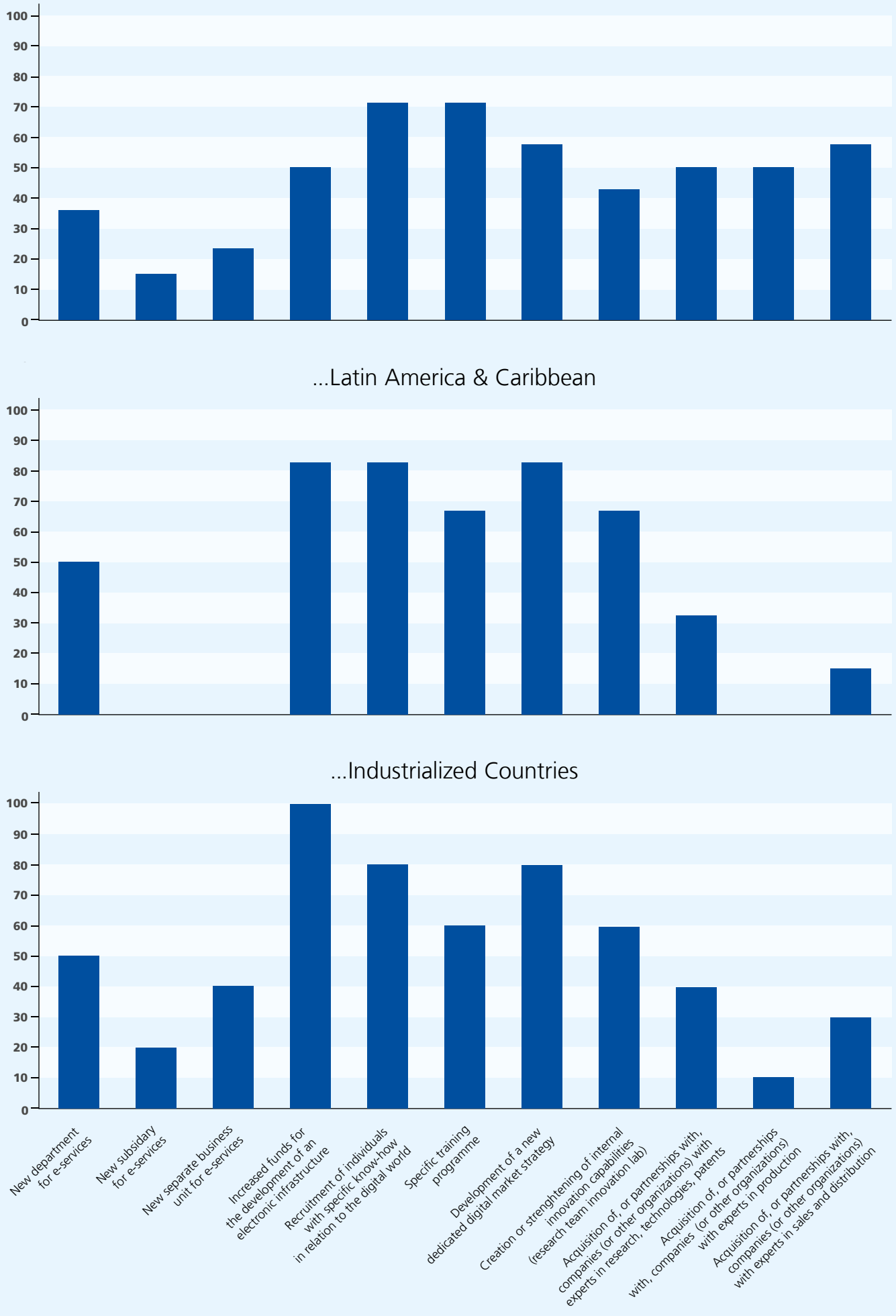


Table 8.21. Strategies and actions used for the provision of e-services in Europe and CIS



As highlighted by McKinsey, "The journey to digital maturity requires a whole-hearted commitment from a company's leadership and a sustained investment in people, capabilities, technology, and cultural change". The above results show that strategies followed by Posts are a significant step in the right direction, but also that much remains to be done.

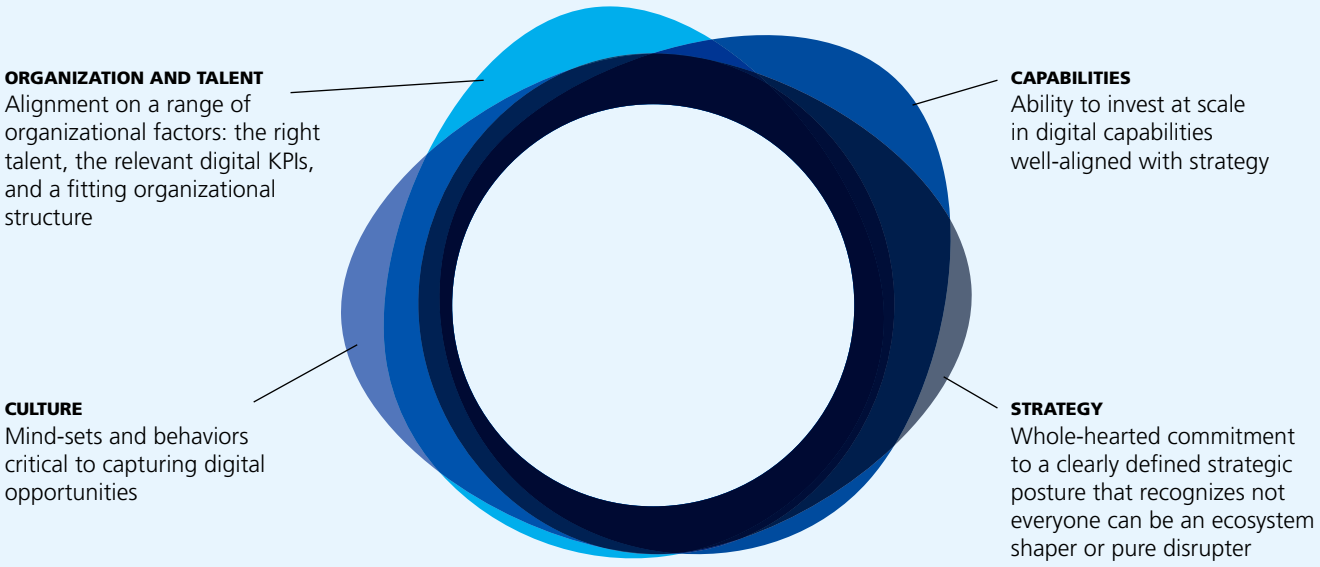
Table 8.22. An approach to the implementation of digital transformation

First, incumbents must *think carefully about the strategy* available to them. The number of companies that can operate as pure-play disrupters at global scale—such as (…) Uber—are few in number (…) Ninety-five to 99 percent of incumbent companies must choose a different path not by "doing digital" on the margin of their established businesses but by wholeheartedly committing themselves to a clear strategy.

Second, success depends on the *ability to invest in relevant digital capabilities* that are well aligned with strategy – and to do so at scale. (…)

Third, while technical capabilities – such as big data analytics, digital content management, and search-engine optimization – are crucial, *a strong and adaptive* culture can help make up for a lack of them.

Fourth, companies need *to align their organizational structures, talent development, funding mechanisms, and key performance indicators (KPIs)* with the digital strategy they've chosen.



Source: McKinsey *

* http://www.mckinsey.com/features/raise_your_digital_quotient

8.5. Future trends

1. The UPU Technology Radar

This question aims at measuring postal operators' perception of new technological trends that could affect (positively or negatively) their e-postal business in the future. It is a much-simplified variant of Deutsche Post DHL's Logistics Trends Radar, which evaluates the expected impact of social, business and technology trends on the company's business, either in the mid-term (less than five years) or longer term (more than five years). * The radar can be seen as a good tool for identifying new projects (e.g. new pilots, or topics that need to be further researched or monitored).

Global analysis

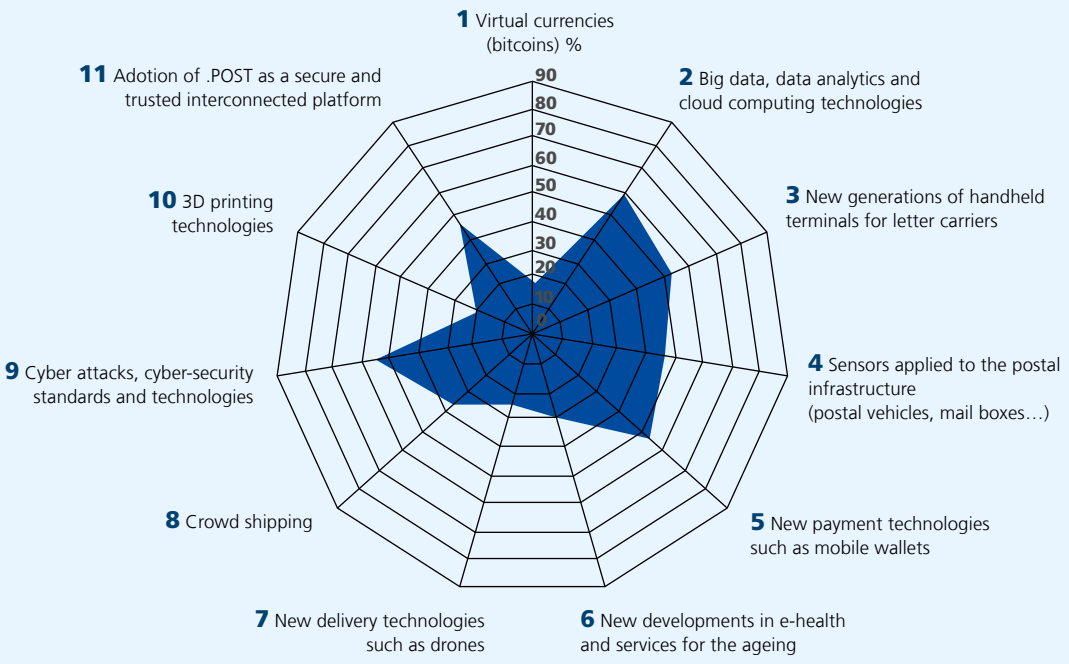
The four areas perceived as having the highest potential impact are "new payment technologies", "new generation of handheld terminals for letter carriers", "big data, data analytics and cloud computing technologies", and "cyber attacks, cyber-security standards and technologies". Each of them was given high importance by 54% to 56% of respondents. The first three areas are key building blocks of new e-commerce, delivery or financial services. The last one points to the criticality of data privacy and security issues.

Posts give a high (but slightly lower) level of importance to "the adoption of .post as a secure and trusted interconnected platform", and to "sensors applied to the postal infrastructure", also known as the Internet of Postal Things.

The last tier includes areas given a high level of importance by only 17% to 30% of Posts. It includes emerging technologies, whose actual impact on Posts is still unclear or limited to a few countries: virtual currencies, new delivery technologies, such as drones, new development in e-health and services for the aging, and 3-D printing.

Table 8.23. Global technological trends expected to impact postal e-services

"Do you expect any of the following technological trends to impact your organization's e-services offerings in the coming years"

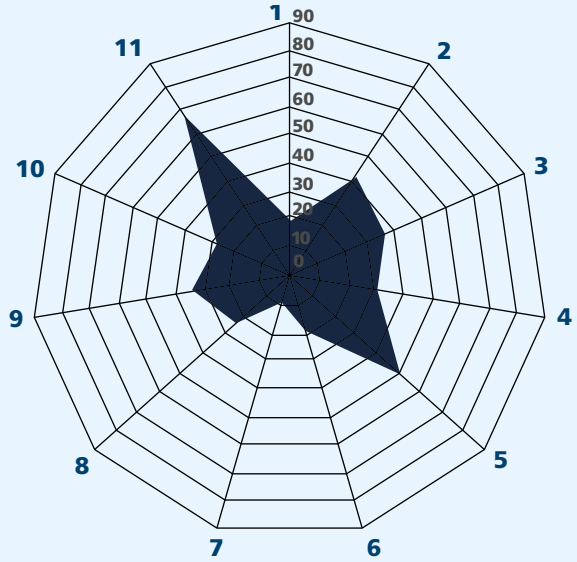


* *"Logistics Trends Radar – version 2014"*, http://www.dhl.com/content/dam/downloads/g0/about_us/logistics_insights/DHL_Logistics-TrendRadar_2014.pdf

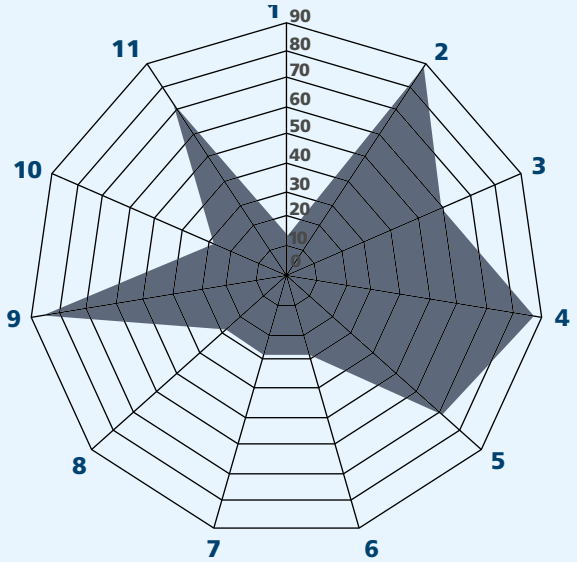
Table 8.24. Global technological trends expected to impact postal e-services: Regional analysis

"Do you expect any of the following technological trends to impact your organization's e-services offerings in the coming years"
Percentage of posts in each region expecting a trend to have a large impact on its e-postal offerings –
(responses "4" and "5" on a 1 – 5 scale)

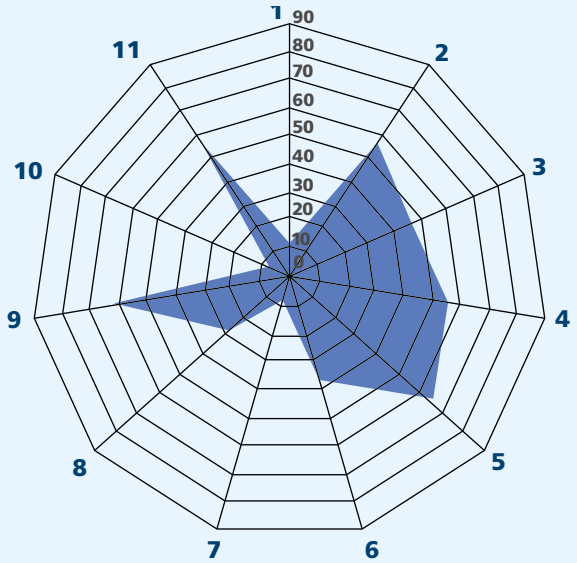
Africa



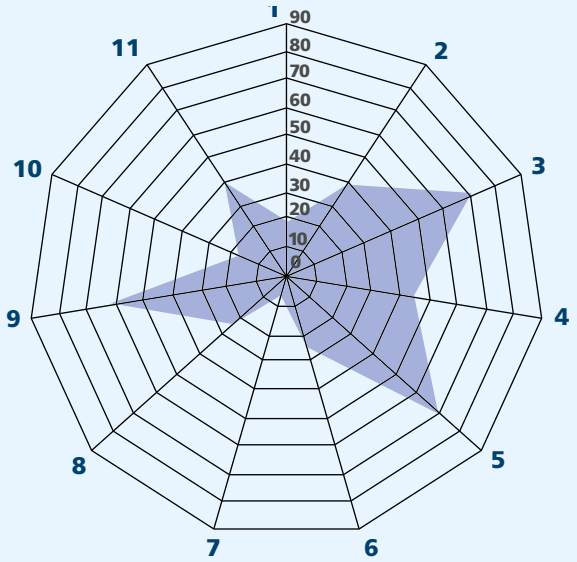
Arab Region



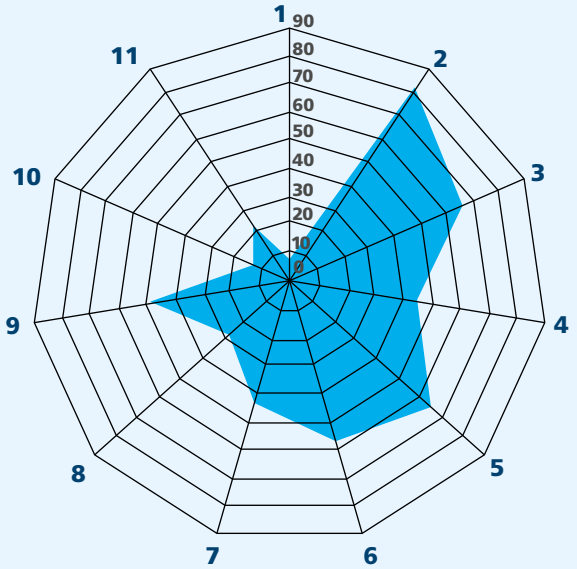
Asia and Pacific



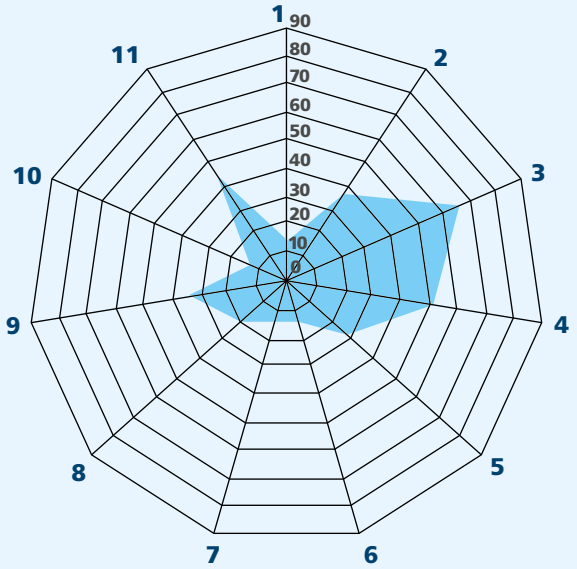
Europe and CIS



Latin America and Caribbean



Industrialized Countries



Regional analysis

The results show that regions have widely divergent perspectives on how they will be affected by future technological trends. The topics covered in this question can be broken down into two categories:

- High degree of alignment among UPU regions. In each region (except Latin America and the Caribbean) a majority of Posts believe that "new payment technologies such as mobile wallets" will have a high impact. Regions also concur that "crowd shipping" is not for the moment a high-impact area.

- Low degree of alignment among UPU regions. A good example is "sensors applied to the postal infrastructure". Interest is very high (85%) in Arab countries, much lower (between 30% and 55%) in all other regions. Similar discrepancies can be seen for most other topics, such as "cyber security issues" (from 35% in Africa to 86% in Arab countries), or .post (from 21% in industrialized countries to 65% in Africa and 71% in Arab countries). Interestingly, 3D printing seems to be much more visible on African and Arab countries' radar than in other regions. Also, the perception of the impact of big data analytics is twice as high among Arab and industrialized countries than it is in Africa, Europe and CIS, or Latin American and the Caribbean. Only the industrialized countries see e-health and new delivery technologies as a major impact area.

It is not possible from the results to determine all the reasons why countries consider a technology a low impact trend. They may not be fully aware of it, in which case there may be scope for the UPU to develop targeted awareness programmes. On the contrary, they may have already conducted in-depth analysis, and concluded that technology will not impact them in the near future. *

The digitization of public administration, together with consumer demand for online billing and payments, can provide Posts with opportunities to become suppliers of choice of e-services. The Dutch authorities have decided that, by 2017, citizens and businesses should be able to conduct online all business with the government. ** (However, offline alternatives will remain available.) The Norwegian Government, further to a public tender, chose in 2014 Norway Post's digital mailbox, Digipost, *** as the public sector's digital mail supplier. As part of its major Digital India programme, **** launched in 2014, the Government of India has entrusted Indiapost with the transformation of digitized post offices into "multi-service centres". *****

Government policies to promote the digital economy also create an environment favorable to e-postal services. The Digital Single Market strategy, adopted by the European Commission in May 2015, aims to promote better online access to digital goods and services. This involves, in particular, making Europe's "digital world a seamless and level marketplace to buy and sell". Such strategies should help grow the market for postal e-commerce solutions, both domestic and cross-border. Also in Europe, the new regulation on electronic identification and trust services for electronic transactions (eiDAS regulation) should help increase the effectiveness of public and private online services and e-commerce. Adopted in 2014, it aims to provide a "predictable regulatory environment to enable secure and seamless electronic interactions between businesses, citizens and public authorities". ******

* http://www.houseofrepresentatives.nl/dossiers/digital-government-2017-project

** https://www.digipost.no/

*** http://www.digitalindia.gov.in/

**** http://sapost.blogspot.com/2015/07/digital-touch-to-india-post-special.html

***** http://ec.europa.eu/priorities/digital-single-market/

******* The Regulation ensures that people and businesses can use their own national electronic identification schemes (eIDs) to access public services in other EU countries where eIDs are available. It also ensures that they will work across borders and have the same legal status as traditional paper based processes. http://ec.europa.eu/digital-agenda/en/trust-services-and-eid

9. Chapter IV: Measuring the readiness of countries (The UPU PES Index)

Respondents participating in the UPU survey assessed the state of their national postal e-services in three areas: the scope of e-services provided (PES 1), the external environment (PES 2), and the innovation environment (PES 3).

9.1. PES 1

PES 1 is based on an expert assessment survey of the e-services provided by 87 UPU members, which assesses the e-services that are currently being provided and how e-services strategies are applied in general and in specific sectors such as e-post, e-government, e-commerce, digital financial and payment solutions and support services. A "yes" response to any given service was assigned a value of 1, "no" responses were assigned 0 (zero), and "under development" responses were assigned 0.5.

Response values were averaged and standard scores (z-scores) computed for each participating country. Z-scores indicate how many standard deviations an element is from the mean and is useful for comparing distributions with different means. Z-scores were then normalized to determine relative rankings for each country. This approach is the same as that used in the 2014 e-government survey conducted by the United Nations Public Administration Network (UNPAN). *

Table 9.1. PES 1

Rank	Country	Norm
1	Switzerland	1.00
2	Finland	0.99
3	United States of America (USA)	0.93
4	Czech Republic	0.86
5	Austria	0.86
6	Mauritius	0.78
7	Belarus	0.78
8	Australia	0.76
9	Portugal	0.74
10	Tunisia	0.70
11	Hungary	0.69
12	France	0.68
13	Italy	0.68
14	Canada	0.65
15	Iceland	0.64
16	China (Hong Kong)	0.61
17	New Zealand	0.61
18	Netherlands	0.61
19	Uruguay	0.59
20	Brazil	0.58
21	Saudi Arabia	0.57
22	Bosnia and Herzegovina	0.57
23	Greece	0.56
24	Poland	0.55
25	Colombia	0.51
26	South Africa	0.50
27	Slovenia	0.50

* UNPAN E-government Index 2014, http://unpan3.un.org/egovkb/en-us/Reports/UN-E-Government-Survey-2014

** The Global Innovation Index 2014, https://www.globalinnovationindex.org/

Rank	Country	Norm
28	Nigeria	0.49
29	Russian Federation	0.49
30	Spain	0.45
31	Cabo Verde	0.45
32	French Polynesia	0.45
33	Indonesia	0.43
34	Mexico	0.43
35	Singapore	0.43
36	Serbia (Rep.)	0.42
37	China (Macao)	0.42
38	Morocco	0.42
39	Lebanon	0.39
40	Argentina	0.39
41	Ecuador	0.38
42	Slovakia	0.38
43	Thailand	0.38
44	China (People's Rep.)	0.36
45	San Marino	0.35
46	Sri Lanka	0.35
47	Côte d'Ivoire	0.35
48	Ukraine	0.34
49	Paraguay	0.33
50	Costa Rica	0.32
51	Zimbabwe	0.32
52	Kyrgyzstan	0.32
53	United Arab Emirates (UAE)	0.31
54	Swaziland	0.27
55	Japan	0.27
56	Bulgaria (Rep.)	0.27
57	Benin	0.26

Rank	Country	Norm
58	Chile	0.26
59	Madagascar	0.25
60	Uganda	0.25
61	Iran (Islamic Rep.)	0.25
62	Malawi	0.20
63	Kazakhstan	0.20
64	Tanzania (United Rep.)	0.16
65	Barbados	0.16
66	Cambodia	0.16
67	Macedonia	0.15
68	Ethiopia	0.11
69	Liberia	0.11
70	Bolivia	0.11
71	Niger	0.11
72	Togo	0.09
73	Egypt	0.09
74	South Sudan (Rep.)	0.08
75	Panama	0.08
76	Honduras	0.08
77	Chad	0.07
78	Trinidad and Tobago	0.07
79	Guinea	0.06
80	Central African Republic	0.06
81	Vietnam	0.05
82	Iraq	0.02
83	Seychelles	0.00
84	Gibraltar	0.00
85	Algeria	0.00
86	Botswana	0.00
87	United Kingdom (UK)	0.00

9.2. PES 2

PES 2 (External Environment Index) is based on an assessment of indicators that reflect the external (technological, legal/regulatory, market/competitive environment) forces that directly shape the Post's ability to enter postal e-markets and to gain a substantial market share: barriers to entry, drivers. It is based on external indicators such as the Telecommunications Infrastructure Index (TII) developed by UNPAN (Internet user + telephone line + mobile subscription + wireless broadband subscription + fixed broadband) and data gathered in the survey.

PES 2 focused equally on three environments affecting postal e-services: technological (TII), legal/regulatory, and market/competitive. Possible responses for the latter categories ranged from 1 to 5 and included a "not applicable" option. Questions for which nothing was selected were scored as 0 (zero). To differentiate a deliberate response of "not applicable" from the absence of a response, a "not applicable" response was valued as 0.5 higher than an absent response. In all but six questions, a higher response was favourable (more-is-better). In these cases, "not applicable" was assigned a value of 0.5. In the six cases where less is better (i.e., 5 is the least favourable), "not applicable" was assigned a value of 5.5.

Table 9.2. PES 2

Rank	Country	Norm
1	Iceland	1.00
2	Japan	0.94
3	Finland	0.91
4	Italy	0.87
5	Belarus	0.87
6	Bulgaria (Rep.)	0.85
7	New Zealand	0.83
8	Sri Lanka	0.81
9	Netherlands	0.80
10	France	0.77
11	Austria	0.77
12	Uruguay	0.73
13	Switzerland	0.70
14	French Polynesia	0.70
15	Canada	0.69
16	Hungary	0.67
17	Serbia (Rep.)	0.67
18	Czech Republic	0.67
19	Australia	0.66
20	Macedonia	0.66
21	Greece	0.65
22	Saudi Arabia	0.65
23	Singapore	0.64
24	Russian Federation	0.64
25	Mauritius	0.64
26	Portugal	0.64
27	Slovenia	0.63

Rank	Country	Norm
28	San Marino	0.62
29	Iraq	0.62
30	Costa Rica	0.61
31	Morocco	0.60
32	Iran (Islamic Rep.)	0.60
33	Poland	0.60
34	China (People's Rep.)	0.59
35	Kazakhstan	0.58
36	Kyrgyzstan	0.58
37	Tunisia	0.58
38	Lebanon	0.57
39	Barbados	0.56
40	Argentina	0.55
41	United States of America (USA)	0.54
42	Indonesia	0.54
43	Spain	0.53
44	United Arab Emirates (UAE)	0.53
45	Panama	0.52
46	Brazil	0.52
47	Ecuador	0.51
48	Cambodia	0.49
49	Cabo Verde	0.48
50	Zimbabwe	0.48
51	Vietnam	0.48
52	Chile	0.46
53	Slovakia	0.46
54	China (Hong Kong)	0.46
55	Mexico	0.45
56	Thailand	0.45
57	Benin	0.45

Rank	Country	Norm
58	Uganda	0.44
59	China (Macao)	0.44
60	South Africa	0.43
61	Ukraine	0.41
62	Côte d'Ivoire	0.41
63	United Kingdom (UK)	0.40
64	Chad	0.40
65	Malawi	0.40
66	Colombia	0.39
67	Trinidad and Tobago	0.39
68	Madagascar	0.38
69	Ethiopia	0.37
70	Bosnia and Herzegovina	0.34
71	Paraguay	0.33
72	Nigeria	0.33
73	Tanzania (United Rep.)	0.32
74	Egypt	0.32
75	Togo	0.29
76	Bolivia	0.29
77	Guinea	0.29
78	Swaziland	0.28
79	Liberia	0.28
80	Honduras	0.26
81	South Sudan (Rep.)	0.26
82	Central African Republic	0.26
83	Seychelles	0.17
84	Botswana	0.06
85	Niger	0.05
86	Gibraltar	0.03
87	Algeria	0.00

9.3. PES 3

PES 3 (Innovation Index) reflects the actual development of electronic postal services. It combines indicators from the survey: indicators relating to the level of preparedness to digital innovation (HR, IT, financial and organizational responses to digital transformation) and indicators relating to the strategies being put into place. An indicator from an external source, the Global Innovation Index, was also included in the index. *

This index has a mix of yes/no (0-1) and scaled (0-5) responses. Yes/no-type questions may include "check all that apply" sub-questions. For example, a strategy for a new business department may include any combination of "part of a larger department," "a wholly-owned subsidiary," or "a separate business unit". Scaled responses were scored in the same manner as PES 2. Normalized Z-scores were calculated for each country as before.

Table 9.3. PES 3

Rank	Country	Norm
1	Iran (Islamic Rep.)	1.00
2	China (Macao)	1.00
3	Mauritius	0.90
4	Tunisia	0.87
5	Singapore	0.86
6	Cambodia	0.83
7	Chad	0.83
8	Serbia (Rep.)	0.82
9	Iraq	0.82
10	Belarus	0.80
11	Switzerland	0.75
12	Sri Lanka	0.74
13	Russian Federation	0.74
14	Portugal	0.73
15	Uganda	0.73
16	Madagascar	0.72
17	Macedonia	0.70
18	Guinea	0.69
19	China (People's Rep.)	0.66
20	Benin	0.66
21	Egypt	0.65
22	Saudi Arabia	0.64
23	Slovenia	0.64
24	Zimbabwe	0.62
25	Bosnia and Herzegovina	0.62
26	Austria	0.61
27	Nigeria	0.59

* The Global Innovation Index 2014, https://www.globalinnovationindex.org/

Rank	Country	Norm
28	Kyrgyzstan	0.58
29	New Zealand	0.58
30	Uruguay	0.57
31	Indonesia	0.57
32	Tanzania (United Rep.)	0.55
33	Thailand	0.54
34	Malawi	0.53
35	Paraguay	0.53
36	Poland	0.52
37	Canada	0.51
38	Hungary	0.51
39	Ecuador	0.49
40	Lebanon	0.49
41	Czech Republic	0.49
42	Argentina	0.49
43	French Polynesia	0.48
44	Australia	0.45
45	San Marino	0.45
46	Colombia	0.44
47	Slovakia	0.43
48	France	0.43
49	China (Hong Kong)	0.41
50	Ethiopia	0.41
51	Morocco	0.41
52	Netherlands	0.40
53	United States of America (USA)	0.39
54	Mexico	0.37
55	Cabo Verde	0.35
56	Spain	0.34
57	Costa Rica	0.31

Rank	Country	Norm
58	Brazil	0.31
59	Greece	0.29
60	Chile	0.28
61	Finland	0.20
62	Côte d'Ivoire	0.19
63	Japan	0.18
64	Italy	0.18
65	Barbados	0.17
66	Liberia	0.17
67	Ukraine	0.17
68	South Africa	0.16
69	Honduras	0.15
70	South Sudan (Rep.)	0.14
71	Vietnam	0.14
72	Central African Republic	0.14
73	Kazakhstan	0.14
74	Bolivia	0.14
75	Niger	0.14
76	Swaziland	0.14
77	Iceland	0.13
78	Bulgaria (Rep.)	0.13
79	United Arab Emirates (UAE)	0.09
80	Panama	0.07
81	Trinidad and Tobago	0.07
82	Seychelles	0.04
83	Gibraltar	0.04
84	Algeria	0.04
85	Botswana	0.04
86	United Kingdom (UK)	0.04
87	Togo	0.00

9.4. Global PES

By ranking the performance of countries on a relative scale, the report provides relevant information to support policymakers and the leadership of designated operators in providing e-services. As a composite indicator, the postal electronic services (PES) index is used to measure the willingness and capacity of designated operators to use information and communication technologies to deliver electronic services.

More specifically, countries with the highest global PES will be those with the broadest postal e-services portfolios, the most favourable external technological, regulatory or competitive environment, and the highest ability to innovate. Indices were weighted 50%, 40%, and 10% to provide the overall ranking.

This measure of the index is useful for the top management of postal operators, government officials, policymakers, regulators and representatives of civil society and the private sector to gain a deeper understanding of the comparative benchmarking of the relative position of a country in utilizing e-services for the delivery of comprehensive, affordable and reliable services.

Table 9.4. Global PES Index structure

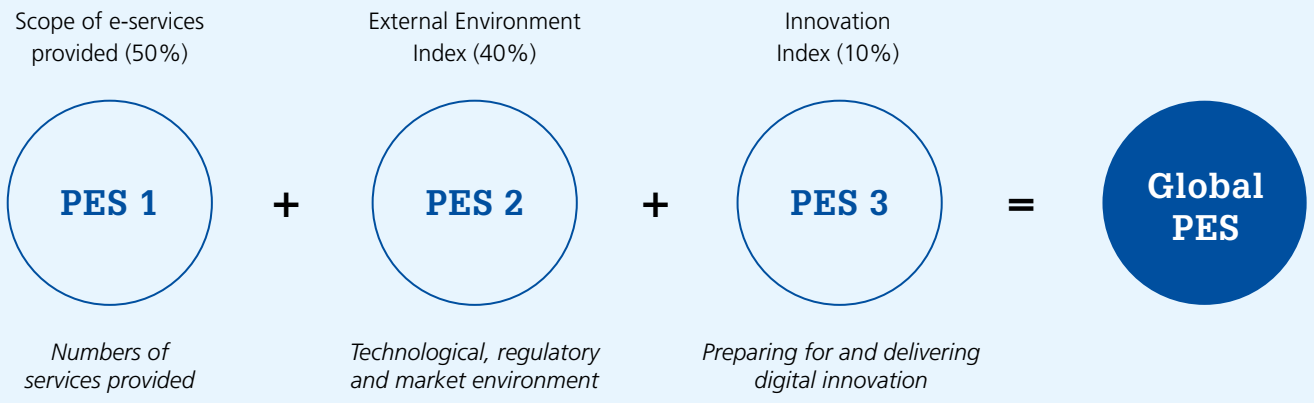


Table 9.5. Global PES Index

Rank	Country	Global PES Index	PES 1 Index	PES 2 Index	PES 3 Index
1	Finland	0.88	2	3	61
2	Switzerland	0.86	1	13	11
3	Belarus	0.82	7	5	10
4	Austria	0.80	5	11	26
5	Czech Republic	0.75	4	18	41
6	Mauritius	0.74	6	25	3
7	Iceland	0.73	15	1	77
8	United States of America (USA)	0.72	3	41	53
9	Italy	0.71	13	4	64
10	New Zealand	0.70	17	7	29
11	Portugal	0.70	9	26	14
12	France	0.69	12	10	48
13	Australia	0.69	8	19	44
14	Tunisia	0.67	10	37	4
15	Hungary	0.67	11	16	38
16	Netherlands	0.67	18	9	52
17	Canada	0.65	14	15	37
18	Uruguay	0.64	19	12	30
19	Saudi Arabia	0.61	21	22	22
20	Sri Lanka	0.57	46	8	12
21	Russian Federation	0.57	29	24	13
22	Greece	0.57	23	21	59
23	Poland	0.56	24	33	36
24	Slovenia	0.56	27	27	23
25	Serbia (Rep.)	0.56	36	17	8
26	Singapore	0.56	35	23	5
27	French Polynesia	0.56	32	14	43
28	China (Hong Kong)	0.53	16	54	49
29	Brazil	0.53	20	46	58
30	Japan	0.53	55	2	63
31	Morocco	0.49	38	31	51
32	Bulgaria (Rep.)	0.49	56	6	78
33	Indonesia	0.49	33	42	31

Rank	Country	Global PES Index	PES Index 1	PES Index 2	PES Index 3
34	China (People's Rep.)	0.49	44	34	19
35	China (Macao)	0.48	37	59	2
36	Bosnia and Herzegovina	0.48	22	70	25
37	Spain	0.47	30	43	56
38	Lebanon	0.47	39	38	40
39	San Marino	0.47	45	28	45
40	Iran (Islamic Rep.)	0.47	61	32	1
41	Argentina	0.46	40	40	42
42	Colombia	0.46	25	66	46
43	Cabo Verde	0.45	31	49	55
44	Kyrgyzstan	0.45	52	36	28
45	Ecuador	0.44	41	47	39
46	South Africa	0.44	26	60	68
47	Nigeria	0.43	28	72	27
48	Costa Rica	0.43	50	30	57
49	Mexico	0.43	34	55	54
50	Thailand	0.42	43	56	33
51	Slovakia	0.41	42	53	47
52	Zimbabwe	0.41	51	50	24
53	Macedonia	0.41	67	20	17
54	Benin	0.37	57	57	20
55	United Arab Emirates (UAE)	0.37	53	44	79
56	Uganda	0.37	60	58	15
57	Cambodia	0.36	66	48	6
58	Côte d'Ivoire	0.36	47	62	62
59	Paraguay	0.35	49	71	35
60	Ukraine	0.35	48	61	67
61	Madagascar	0.35	59	68	16
62	Kazakhstan	0.35	63	35	73
63	Chile	0.34	58	52	60
64	Iraq	0.34	82	29	9
65	Barbados	0.32	65	39	65
66	Malawi	0.31	62	65	34

Rank	Country	Global PES Index	PES Index 1	PES Index 2	PES Index 3
67	Chad	0.28	77	64	7
68	Tanzania (United Rep.)	0.26	64	73	32
69	Swaziland	0.26	54	78	76
70	Panama	0.26	75	45	80
71	Ethiopia	0.25	68	69	50
72	Egypt	0.24	73	74	21
73	Vietnam	0.23	81	51	71
74	Guinea	0.21	79	77	18
75	Trinidad and Tobago	0.20	78	67	81
76	Bolivia	0.19	70	76	74
77	Liberia	0.19	69	79	66
78	United Kingdom (UK)	0.16	87	63	86
79	Togo	0.16	72	75	87
80	Honduras	0.16	76	80	69
81	South Sudan (Rep.)	0.16	74	81	70
82	Central African Republic	0.15	80	82	72
83	Niger	0.09	71	85	75
84	Seychelles	0.07	83	83	82
85	Botswana	0.03	86	84	85
86	Gibraltar	0.02	84	86	83
87	Algeria	0.00	85	87	84

9.5. Regional perspective

Table 9.6. shows the PES Index score of different regions.

Table 9.6. PES Index score of different regions

Region Average	PES 1	PES 2	PES 3	Global PES
Industrialized Countries	0.73	0.72	0.49	0.65
Europe and CIS	0.47	0.64	0.44	0.51
Asia and Pacific	0.35	0.59	0.51	0.48
Arab Region	0.31	0.48	0.42	0.41
Latin America	0.31	0.47	0.33	0.37
Africa	0.23	0.34	0.32	0.30

9.6. Correlation with external indexes impacting postal electronic services

1. Global PES Index and EGDI

As a composite indicator, the e-government development index (EGDI) is used to measure the willingness and capacity of national administrations to use information and communication technologies to deliver public services.

The figure below shows that one may expect a positive linear relation between the development of postal e-services and the development of e-government services.

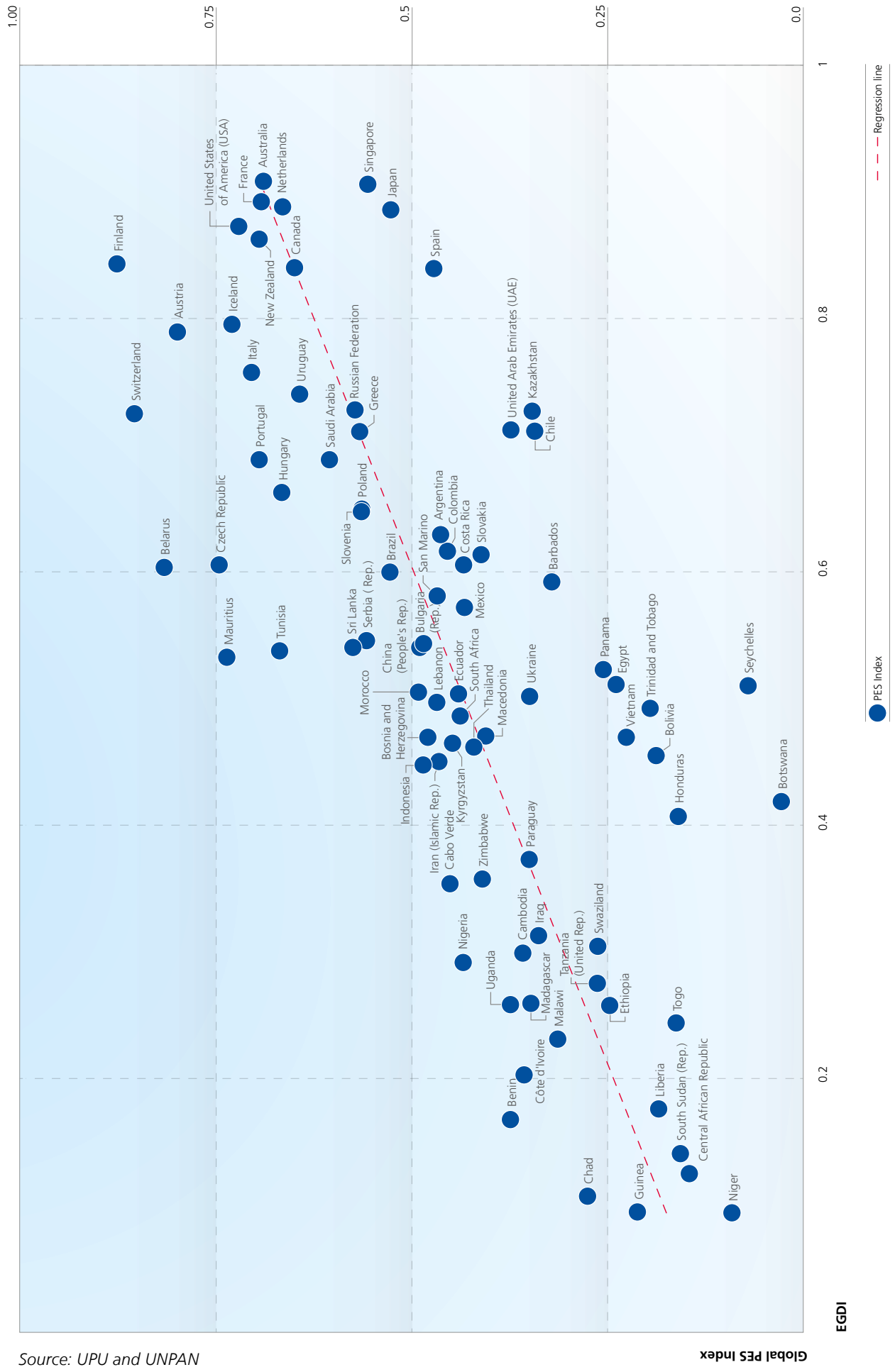
If we analyze the upper-right quadrant, we can extract some conclusions when it comes to the relations between the two indexes:

- *Leaders:* In this quadrant, we find countries with a high PES index and EGDI such as Finland, Austria and Iceland. The DOs of these countries are taking advantage of the digital potential of the country represented with the two indexes.

- *Challengers:* In this quadrant, we find countries with a low PES index in comparison with a higher EGDI, such as Spain, Japan and Singapore. The DOs of these countries are not exploiting the digital potential of the country.

- *Top performers/niche players:* In this quadrant, we find countries with a high PES index in comparison with a lower EGDI, such as Switzerland, Belarus and Czech Rep. The DOs of these countries are over-performing the digital potential of the country.

Table 9.7. Global PES Index and EGDI



Source: UPU and UNPAN

2. Global PES Index and UNCTAD e-Commerce Index

The UNCTAD e-commerce index allows countries to compare their e-commerce readiness with that of others and also indicates their relative strengths and weaknesses with regard to different elements of the e-commerce process (for example, Internet access, e-commerce sites, payment, and delivery)

The figure below shows that one may expect a positive linear relation between the development of postal e-services and the e-commerce readiness of the countries.

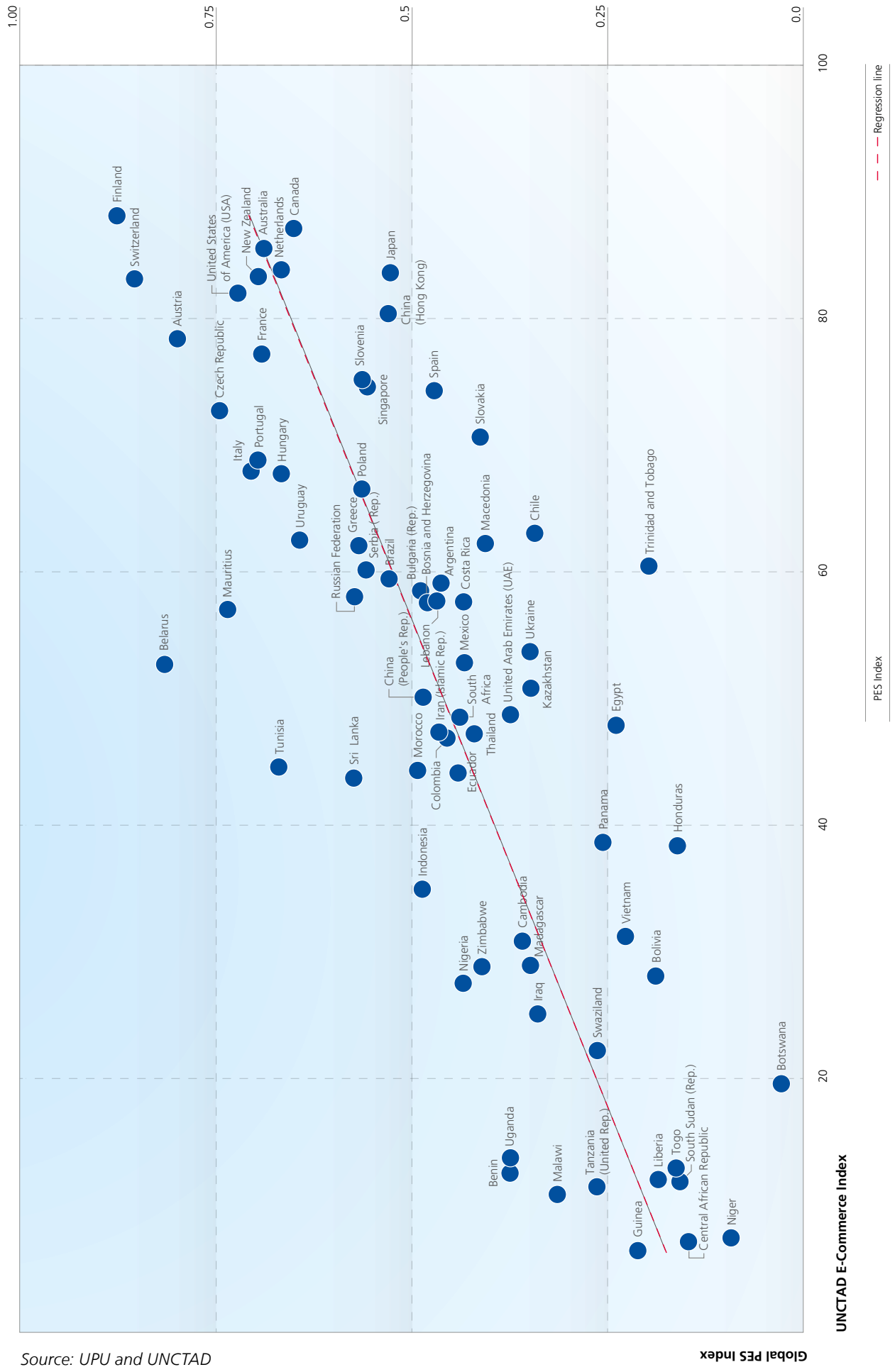
If we analyze the upper-right quadrant, we can extract some conclusions when it comes to the relations between the two indexes:

- *Leaders:* In this quadrant, we find countries with a high PES index and UNCTAD e-commerce index, such as Finland, Austria and Switzerland. The DOs of these countries are well positioned to meet customer expectations regarding e-commerce.

- *Challengers:* In this quadrant we find countries with a low PES index in comparison with a higher UNCTAD index, such as Canada, Japan and Spain. In these countries, DOs are not exploiting the e-commerce potential of the country.

- *Top performers/niche players:* In this quadrant, we find countries with a high PES index in comparison with a lower UNCTAD index, such as Mauritius, Tunisia and Belarus. In these countries, DOs are exceeding the e-commerce potential of the country.

Table 9.8. Global PES Index and UNCTAD



Source: UPU and UNCTAD

3. Global PES Index and Global Innovation Index

The Global Innovation Index (GII) 2015 covers 141 economies around the world and uses 79 indicators across a range of themes. The GII aims to capture the multi-dimensional facets of innovation and provide the tools that can assist in tailoring policies to promote long-term output growth, improved productivity, and job growth. The GII helps to create an environment in which innovation factors are continually evaluated. *

The figure below shows that one may expect a positive linear relation between the development of postal e-services and the multi-dimensional facets of innovation of the countries.

If we analyze the upper-right quadrant, we can extract some conclusions when it comes to the relations between the two indexes:

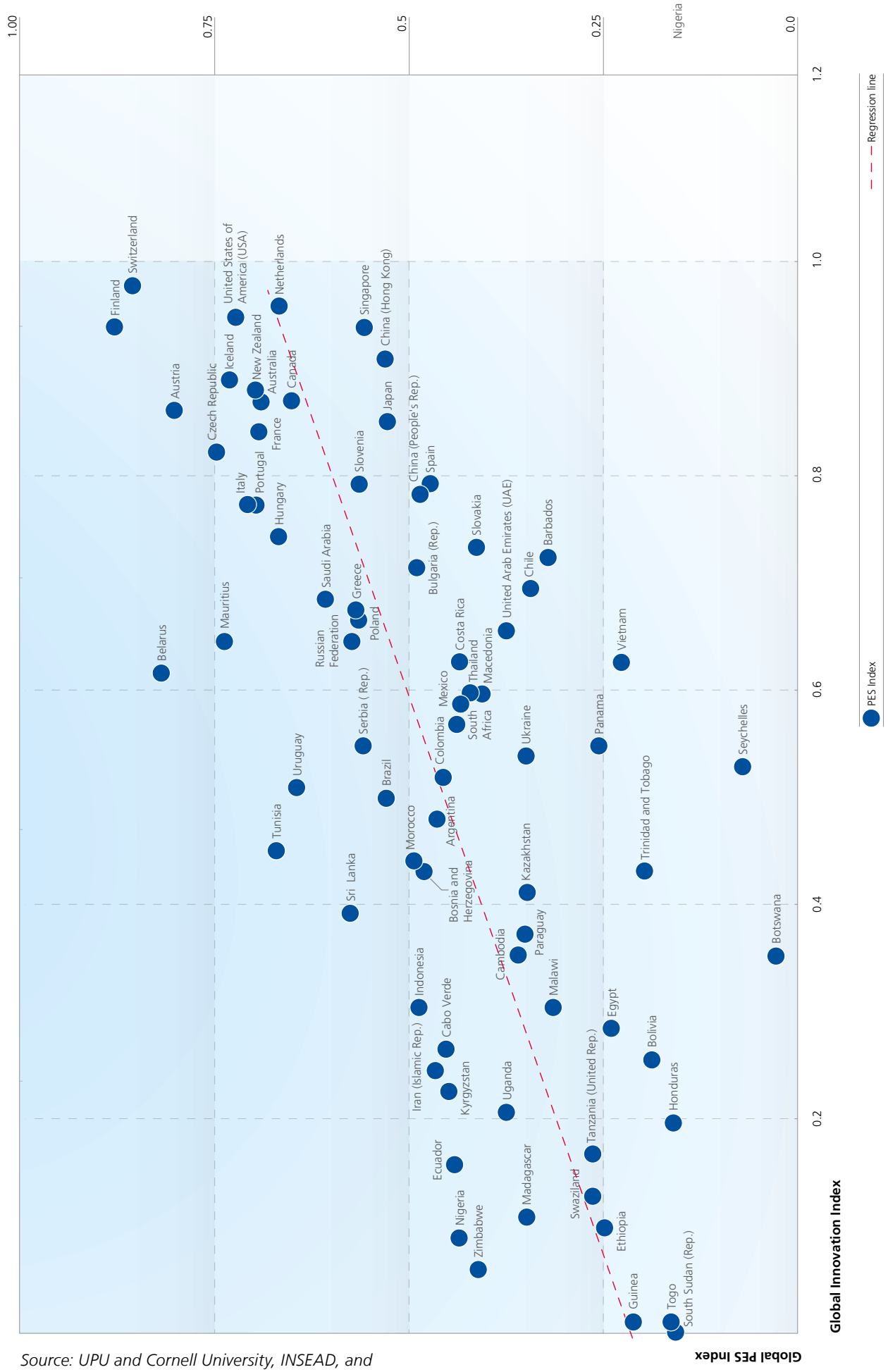
– *Leaders:* In this quadrant, we find countries with a high PES index and GII, such as Finland, United States of America, and Switzerland. In these countries, DOs are well positioned to meet the innovation potential of the country.

– *Challengers:* In this quadrant, we find countries with a low PES index in comparison with a higher GII, such as Singapore, Hong Kong, China and Japan. In these countries, DOs are not exploiting the innovation potential of the country.

– *Top performers/niche players:* In this quadrant, we find countries with a high PES index in comparison with a lower EGDI, such as Mauritius, Tunisia, Uruguay and Belarus. In these countries, DOs are exceeding the innovation potential of the country.

* https://www.globalinnovationindex.org/

Table 9.9. Global PES Index and Global Innovation Index



Source: UPU and Cornell University, INSEAD, and World Intellectual Property Organization (WIPO)

10. Chapter V: Concluding remarks

Since the 1st UPU Measuring Postal E-Services Report was published in 2012, there has been a strong growth in importance of ICT within the postal business and especially the internet as medium of communication, information dispersion and customer support in all regions of the world.

The UPU Doha Postal Strategy, adopted by the UPU's member countries in 2012, outlined four broad goals in the continued development of the international postal network. One of the goals was to promote innovative products and services, recognising that Posts that have diversified their activities and invested in the postal network's three dimensions – physical, financial and digital/electronic – have fared better than other Posts. The UPU is promoting this approach and helping member countries to take advantage of opportunities that result from the diversification of products and services. Also within the Doha Postal Strategy is the goal to improve the interoperability of the international postal networks, which includes the importance of developing adequate standards and regulations for interoperability. It is critical for further study to be undertaken in the area of cross border e-services to ensure that relevant interoperability is beneficial.

This report provides a solid references for member countries to refer to in developing their strategies and policies for innovative products that can lead to sustainable development of the postal network, where innovation, inclusion and integration will drive the future of the Posts.

It's clear that the changing ICT landscape is having a strong influence on the way the Posts are providing products and services to citizens, business and governments these days, and will continue to have an even greater impact in the future. This changing ICT landscape has seen the internet transform how posts view e-services as well. This report shows that much progress has taken place in four years. Postal electronic services are widely seen by posts as a key driver of their long term sustainability and relevance. Mirroring other industries embracing of ICT to transform the business, the Posts are now advancing rapidly away from a purely physical services based business model towards a multi-channel or even omni-channel business model.

This report shows that Posts are using e-services a tool to diversify, to protect the core, and to leverage trust and competences. Four of the five services more widely spread are services that support the core business. Posts in emerging and developing regions are now offering support e-services such as track and trace, online contact and customer services, or e-post services such as e-cards, electronic notification, or hybrid mail to help protect their core services. These services have already been well established in the early adopter posts. Many industrialised countries have expanded services building on long-established expertise. These posts are completing their portfolio with next generation services: mobile apps, digital identity, website integration with e-commerce portals amongst a range of activities they are exploring.

Nonetheless while the reasons for launching e-services are different across regions the obstacles remain common across the world.

Much progress has been made in the area of strategy and capability development with a significant number of Posts reporting to have increased funds dedicated to digital and have developed a new dedicated digital market strategy, hired digital experts, and invested in digital development. However, as shown in this report, the extent to which posts are using e-services still varies widely as they struggle with the implementation, indicating the potential is far from fully exploited across the entire network.

There has been a strong development of e-post and e-government services in countries where the environment is favourable. Posts are well positioned to digitize government processes, which meets the growing interest of policy makers to use e-government to reduce the costs of providing services to citizens. However, the availability of postal e-communication services, e-commerce platforms, e-payment, e-health and e-government solutions leveraging technology can be further improved in many developing countries in ways that correspond to their specific needs and capabilities. Efforts in these areas should be complemented with continuous improvement in the legal framework at national and international levels, recognising the capabilities of the post to foster trust in online transactions.

E-commerce services are top of mind in Posts' product innovation plans (website integration and payment solutions, and online management of delivery options). But many posts still don't have those basic building blocks. Partnership are seen as a key enabler to help bring capability to the posts and ensure timely deployment of services in the rapidly evolving information society.

The post can leverage its ubiquity and tradition as a universal service provider at the national level to ensure this trust in online transactions is non-discriminatory and universally available to all citizens and businesses. By leveraging the legal frameworks available under the UPU treaty this trust can be extended across all regions of the world. The post has the ability to provide an international trust framework for e-services.

The technology radar in this report provides a tool for identifying trends that should be further researched or monitored in the evolution of posts e-services developments.

The first area is in cybersecurity, a topic which continues to be seen as a strategic opportunity for the Posts as they move into more and more e-services. Yet at the same time, it also provides tremendous opportunities for Posts to position e-services for internet users looking for protection against threats related to cybercrime – such as identity theft, e-commerce and payment fraud, privacy and protection of sensitive communication. The UPU has established the .POST internet domain to facilitate the protection of Posts and increase trust and confidence in postal e-services. More research and development in this area is needed to fully exploit the potential of an industry regulated trusted space for e-services.

The second area concerns the impact of mobile access to postal services. With more and more transactions for e-commerce being generated from mobile devices, posts need to be adapting services and customer experience to the needs of users increasingly using mobile devices. This requires a specific strategy for the development of services and more efforts need to be expended in this area to ensure the right frameworks are in place to support universally accessible e-services.

The third area to examine is the growth in importance of Big Data within the post and logistics sector. The major shift from offline to online e-commerce changes the ways in which consumers and enterprises interact. Advances in scanning technologies and tracking applications are now producing rich data sets that enable posts to understand customer needs, trends and optimize business models, increasing efficiency and customer satisfaction. This creates an opportunity for greater efficiency and cost savings along the entire e-commerce value chain, including customs and border control partners. However, the issues of data privacy are foremost in the minds of consumer and policy makers. Greater research is needed to identify the role the posts can play at the national level and international level via the UPU to enhance the opportunities that Big Data can provide to policy makers and the postal sector participants.

With the world embracing digital technology at an ever increasing rate customers, both senders and receivers increasingly expect to directly interact with the Post through all available channels – be that mobile, computer or direct device to device (internet of things) connections. Therefore, it's clear that postal e-services landscape will continue to evolve in a variety of directions, and Post and Governments will face a continuous challenge in keeping up to speed with these developments.

From a policy perspective it is important to try to create an environment that provides as equal opportunities as possible for all citizens in all countries to benefit from these services. In this context, international cooperation and effective dialogue between policymakers, Posts and other stakeholders will be instrumental to ensuring that the e-services provided by Posts can bring the greatest benefit to all.

Table index

Pag 9 Table 6.1. Drivers of digitalization
Pag 10 Table 6.2. Current offering of postal products related to identity and data protection
Pag 11 Table 6.3. Long term trends in Internet and cellular phone penetration: 2000 – 2015
Pag 12 Table 6.4. Number of mobile app downloads 2011 – 2017
Pag 13 Table 6.5 B2C e-commerce sales worldwide, by region, 2013 and 2018 (USD Billions)
Pag: 14 Table 6.6. Digital ad spending worldwide, 2012 – 2018 (USD billions)
Pag 15 Table 6.7. Digital Single Market, European Commission.

Pag 17 Table 7.1. List of definition of e-post and e-government services
Pag 19 Table 7.2. List of definition of e-commerce services
Pag 20 Table 7.3. List of definition of e-finance and payment solutions
Pag 21 Table 7.4. List of definition of support services
Pag 23 Table 7.5. Global penetration rates for postal e-services
Pag 25 Table 7.6. Development of postal e-services in Africa
Pag 26 Table 7.7. Development of postal e-services in the Arab Region
Pag 27 Table 7.8. Development of postal e-services in Asia and Pacific
Pag 28 Table 7.9. Development of postal e-services in Europe and CIS
Pag 29 Table 7.10. Development of postal e-services in Latin America and Caribbean
Pag 30 Table 7.11. Development of postal e-services in Industrialized Countries
Pag 32 Table 7.12. Changes in Service Penetration Rates: Africa
Pag 33 Table 7.13. Changes in Service Penetration Rates: Arab Region
Pag 33 Table 7.14. Changes in Service Penetration Rates: Asia and Pacific
Pag 33 Table 7.15. Changes in Service Penetration Rates: Europe and CIS
Pag 34 Table 7.16. Changes in Service Penetration Rates: Latin America and Caribbean
Pag 34 Table 7.17. Changes in Service Penetration Rates: Industrialized Countries
Pag 35 Table 7.18. Number of services "under development"
Pag 37 Table 7.19. Number of postal operators offering a mobile app
Pag 38 Table 7.20. Postal e-services which are open to customer residing in other countries
Pag 39 Table 7.21. Business models: E-post and e-government
Pag 39 Table 7.22. Business models: E-commerce
Pag 40 Table 7.23. Business models: Digital financial and payment solutions
Pag 40 Table 7.24. Business models: Support services
Pag 41 Table 7.25. Percentage of countries in the region offering E-Post and e-government
Pag 42 Table 7.26. Percentage of countries in the region offering E-Commerce services
Pag 43 Table 7.27. Percentage of countries in the region offering digital financial and payment services
Pag 44 Table 7.28. Percentage of countries in the region offering support services

Pag 45 Table 8.1. Estimated number of Internet of Things devices in the world, by sector
Pag 46 Table 8.2 Paths to digital transformation
Pag 47 Table 8.3 Approches to digital transformation
Pag 48 Table 8.4 Completeness of vision
Pag 49 Table 8.5. Reasons that lead (led) your organization to launch postal e-services
Pag 51 Table 8.6. Reasons that lead (led) your organization to launch postal e-services in Africa
Pag 51 Table 8.7. Reasons that lead (led) your organization to launch postal e-services in the Arab Region
Pag 52 Table 8.8. Reasons that lead (led) your organization to launch postal e-services in Asia and Pacific
Pag 52 Table 8.9. Reasons that lead (led) your organization to launch postal e-services in the Europe and CIS
Pag 53 Table 8.10. Reasons that lead (led) your organization to launch postal e-services in Latin America and Caribbean
Pag 53 Table 8.11. Reasons that lead (led) your organization to launch postal e-services in Industrialized Countries
Pag 54 Table 8.12. Main obstacles to the growth of postal e-services provided
Pag 55 Table 8.13. Main obstacles to the growth of postal e-services in Africa
Pag 56 Table 8.14. Main obstacles to the growth of postal e-services in the Arab Region
Pag 56 Table 8.15. Main obstacles to the growth of postal e-services in in Asia and Pacific
Pag 57 Table 8.16. Main obstacles to the growth of postal e-services in Europe and CIS

Pag 57 Table 8.17. Main obstacles to the growth of postal e-services in Latin America and Caribbean
Pag 58 Table 8.18. Main obstacles to the growth of postal e-services in Industrialized countries
Pag 59 Table 8.19. Strategies and actions used for the provision of e-services
Pag 61 Table 8.20. Strategies and actions used for the provision of e-services: Africa, Arab Countries, Asia and Pacific
Pag 62 Table 8.21. Strategies and actions used for the provision of e-services: Europe and CIS, Latin America & Caribbean, Industrialized Countries
Pag 63 Table 8.22. An approach to the implementation of digital transformation
Pag 64 Table 8.23. Global technological trends expected to impact postal e-services
Pag 65 Table 8.24. Global technological trends expected to impact postal e-services: Regional analysis

Pag 67 Table 9.1. PES 1
Pag 69 Table 9.2. PES 2
Pag 71 Table 9.3. PES 3
Pag 73 Table 9.4. Global PES Index structure
Pag 74 Table 9.5. Global PES Index
Pag 77 Table 9.6. PES Index score of different regions
Pag 78 Table 9.7. Global PES Index and EGDI
Pag 80 Table 9.8 Global PES Index and UNCTAD e-Commerce Index
Pag 82 Table 9.9 Global PES Index and Global Innovation Index

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