# COMMUNICATIONS AUTHORITY OF KENYA

# WHITE PAPER

# ON

# FACILITATION ANDADOPTION

# OF

# E-COMMERCE

# VIA

# THE POSTAL/COURIER NETWORKS

## 1.    INTRODUCTION

According to the World Trade Organization (WTO), electronic commerce "refers to the production, advertising, sale and distribution of products via telecommunications networks". In the postal sense e-commerce refers to the advertising, sale, payment via Internet or other electronic means, and delivery of products from the retailer to the consumer. Electronic commerce (or e-commerce) encompasses all business conducted by means of ICT networks. It reflects a paradigm shift driven by two primary factors: a wide range of converging technological developments and the emergence of the knowledge economy.

Posts can explore the e-commerce opportunity by providing parcels, payment, hosting and direct marketing services, connecting their solutions to merchants' websites or developing their own e-shopping capabilities to offer merchants' products to the Internet using postal services.

In the wake of emerging new technologies, often mistakenly considered as a threat to the post, it is acknowledged that e-commerce provides growth potential for the postal industry. In fact the growth of the electronic commerce has revolutionized the world business market needs and behaviours, including all aspect of postal services. To adapt its market to customers' needs, the Post is presented with the opportunity to leverage on its distribution network and effectively ride on the growth of electronic commerce by positioning in the logistical aspects of e-commerce era.

Recognizing the above mentioned rapid changes and developments in technology which have blurred the traditional distinctions between telecommunications, Information Technology (IT) and broadcasting, the Government in 2009 enacted the Kenya Information and Communications Act, CAP 411A (KICA, 411A) with a view to aligning the legislation relating to the ICT to these changes. This statute enhanced CA's regulatory scope and jurisdiction to include broadcasting and e-commerce. It is therefore in this context that this white paper was developed with a view to developing an appropriate framework that will promote the adoption of e-commerce via the post.

A critical look at the obtaining scenario with respect to the development of e-commerce through the post in Kenya is highlighted under section 3 below.


## 2.    THE CASE OF E-COMMERCE IN KENYA


A study conducted in April 2014 commissioned by the Authority and undertaken by M/S Analysis Mason (ref: http://www.analysysmason.com/About-Us/News/Press-releases1/) on the postal market that also covered e-commerce, identified two key enablers of e-commerce as being the availability of Internet services and access to financial services.

There are however other factors in addition to these that determine the rate of adoption of e-commerce as highlighted here below.

## 2.1 Access to Internet services

According to the study, the percentage of households in Kenya that owned a computer in 2009 was 3.6%. In six out of the eight divisions of Kenya surveyed in the 2010 ICT Access Survey, the most popular Internet access points were cybercafés. Since then, some mobile network operators have extended their 3G coverage and at the same time the prices for smartphones have fallen considerably in recent time.

Although more up-to-date data is not available, it is expected that a significantly higher proportion of Kenyans now access the Internet via a smartphone or other mobile data device than was the case in 2010. It is expected that mobile networks in general and smartphones in particular, will become an increasingly important way to access the Internet. Therefore, in the following sections we attempt to forecast the growth in smartphone connections in Kenya and compare this with the growth in other types of mobile broadband connections, as well as fixed broadband connections.

By the end of the decade, the growth in smartphones and broadband connections should enable more than half of the population to use the Internet and, in principle, to take greater part in e-commerce.

## 2.2 Access to Financial Services

A significant barrier to e-commerce in many emerging markets is the lack of access to online payment systems. Kenya, however, leads the world in terms of access to mobile payment platforms, and the number of electronic payment cards in use is also rising rapidly – both trends should be favorable to the development of e-commerce.

Since 2006 there has been rapid growth in the number of Kenyan adults using mobile financial service providers and commercial banks, and reduction in the number of adults using Postbank, SACCOs, and informal financial providers (e.g. non-regulated money lenders). The number of adults using Postbank is estimated to have dropped from 5.6% of the population (approximately 975 000 people) to 2.3% (approximately 450 000 people) between 2006 and 2013.

As of December 2013, the Central Bank of Kenya reported that there were 25.3 million mobile money subscribers – over 80% of our estimate of total mobile subscriptions – although the FinAccess Survey suggests that only around half of these subscribers are active users.

Meanwhile, the number of electronic payment cards in Kenya stood at 11.5 million in November 2013, an increase of 8% from 10.6 million cards in November 2012. According to the Central Bank of Kenya, 67% of Kenyan adults had access to formal financial service providers in 2013 (up from 27% in 2006) placing Kenya second only to South Africa in the Central Bank of Kenya's regional comparison.

The study found that despite the fact that Kenya has good Internet connectivity relative to other countries in the region, with increasing access to Internet services, particularly via smartphones, and consumers who are familiar with paying electronically for goods and services via mobile payment platforms, e-commerce is relatively underdeveloped. The e-commerce sector in Kenya was estimated to be worth around USD50 million in 2012, or around USD1.20 per head of population. In comparison, the e-commerce sectors in South Africa, Egypt and Morocco were worth USD624 million (USD12.20 per head), USD200 million (USD2.50 per head) and USD110 million (USD3.40 per head) respectively in 2012.

## 2.3    Physical logistics

Another area considered to be of primary inhibitor is in the area of physical logistics. Research in Europe indicates that issues relating to delivery are some of the principal barriers to the growth of e-commerce in more developed markets, too. For example, a recent study for the European Commission found that delivery-related problems were responsible for 68% of the situations where e-shoppers added items to their shopping chart, but abandoned the cart before finalizing the order. In this survey, the aspects of delivery that caused the greatest dissatisfaction were the arrangements for returns (26% of e-shoppers unsatisfied), delivery prices (21% of e-shoppers unsatisfied), and delivery speed and value-added delivery services (16% of e-shoppers unsatisfied).

Logistics are a particular challenge for retail companies in Africa, since many national postal organizations are poorly equipped to handle packages and parcels in significant volume and do not deliver to the home, and few low-priced, private alternatives exist. Online retailers such as Jumia and Konga in Nigeria, and Zando in South Africa, have attempted to overcome this challenge by building their own logistics and delivery networks, and outsourcing to couriers for international deliveries.

However, in-house delivery fleets are not a viable option for many companies due to the investment levels required, which presents an opportunity for courier and postal services that offer an efficient, integrated and reliable outsourcing option. In Kenya, e-commerce companies, such as Bid or Buy, arrange their own deliveries in Nairobi (typically using motorcycle delivery services) and use the main national courier companies to deliver to other parts of the country.

It is worth noting that many e-commerce deliveries do not require the relatively high-cost express service that courier companies are organized to provide. We believe that multi-day delivery would be perfectly acceptable in many cases, providing it was reliable (for example, offering a (near) real-time, track-and-trace facility so that customers could find out where their package or parcel is at any time; or SMS notifications) and offered delivery to customers without their own PO boxes.

It is worth noting that existing PO boxes in Kenya are poorly sized for e-commerce items, and the majority of packages and parcels need to be collected from post office counters, in any case. The provision of an option where the e-commerce company, rather than the customer, could pay for the cost of returns would be a useful option for service development.

## 2.4    Addressing system

The lack of a national addressing system in Kenya has been cited as another major barrier to the development of e-commerce. This is also the view of Bid or Buy, and also   Safaricom which, as the operator of the largest electronic payment platform in Kenya, may be well positioned to benefit from any growth in e-commerce.

Kenya has traditionally suffered from a poor addressing system, which has slowed economic growth and social cohesion. In 2010, the Government of Kenya announced an inter-ministerial effort to build a national address system, in order to:

- facilitate economic development
- promote e-commerce
- improve transportation, emergency, security and postal services
- promote revenue collection
- Better plan for future urbanisation and population growth.

Progress has been gradual and so far confined to a test project in Nairobi. As the Ministry of Information and Communication acknowledges, responsibility for the implementation of a national addressing system lies across numerous stakeholders. Local governments, with support from national government, are responsible for digital mapping and numbering, while the widespread adoption of any addressing system requires collaboration across government, public and private operators, and landlords.

In industrialized countries, the responsibility for addressing is usually the preserve of the local authority, which names streets and numbers houses according to national protocols. The protocols are very important to ensure that there is a systematic approach throughout the country and there are no political issues when naming streets. In countries where street-naming protocols are not defined, there are examples of street names being changed at every election to 'reward' the winning candidates.

In a number of countries, the national postal operator also has a strong influence in address management. The Royal Mail, national postal operator in the UK, is the owner of the national addressing database (the Postcode Address File). This file contains the address of every one of the 28 million address points in the UK, and the Royal Mail updates this file daily in co-ordination with every local authority. Royal Mail 'owns' this address file because it has an obligation to visit every one of the 28 million address points every day.

However, Royal Mail is not responsible for developing maps, naming streets, numbering houses, or installing street-name plates.

By contrast, PCK does not visit every home in Kenya. Instead, it visits only around 600 post offices, where it delivers mail to the 375 000 in-service PO boxes. In this scenario, PCK is probably not an appropriate owner for an address database, even though it would have an important role in designing a standardized addressing format, postcode areas, etc. In our opinion, companies such as Kenya Power, NWSC or similar utility firms would have more knowledge of addressing.

These organizations deploy unique, traceable physical connections to households and multi-dwelling units, and regularly visit homes with electric or water meters to make readings. Kenya Power has almost 2 million meters that need to be read on a monthly basis and has a further 400 000 prepaid meters. The company is also installing 300 000 meters per year to extend electricity access to new customers. Such a programme involves a good understanding of locations of homes and dwelling units. We also understand that Wananchi has built a large addressing database in Nairobi and Mombasa to support its ongoing cable-TV rollout.

However, while national addressing certainly facilitates the development of e-commerce, it is not an essential prerequisite. Low-cost smartphone technology makes it feasible for delivery companies to locate their customers by following directions provided by the customer the first time they deliver, and to record the GPS co-ordinates on a database for use in subsequent deliveries. Similarly, given relatively high levels of mobile penetration in Kenya, it is easy to envisage a service that delivers to a designated secure location and sends a text message to the recipient, advising them when their item is ready for collection.

## 2.5 Customs duties and taxes on items from abroad

Data on the number of e-commerce items being imported into Kenya from other countries is not available, but anecdotal evidence suggests that volumes are increasing quite rapidly, particularly from nearby trade centers such as Dubai.

The delay in, and cost of, importing items from other countries were barriers that were mentioned in interviews with both courier and e-commerce companies.

DHL reports that it frequently took one week or more for consignments to be released by customs. For an express company offering an international, 24-hour service, this is a challenging limitation, particularly as DHL is likely to have detailed documentation about the contents of its consignments.

PCK packages are also subject to delays, as all items received into Kenya must be opened in order to assess their contents and charge appropriate duties. This practice occurs despite the customs declaration itemizing the contents of each package.

Furthermore, if delivery is made in Nairobi, recipients have to go to post offices to collect their items and pay the customs duties – where their packages or parcels are opened in the presence of other visiting customers. If delivery is made outside Nairobi, every package is opened by customs and a duty is charged, which is then collected by PCK on behalf of customs. The process of opening every package and identifying the contents is lengthy, intrusive to the customer and appears somewhat redundant when each package already has a customs declaration.

The total duty and tax paid for an incoming item amounts to almost 50% of the value of the item, which is a significant inhibitor to international trade. Moreover, in Kenya duty and tax is payable regardless of the value of the item being imported, whereas most other countries have minimum value thresholds below which there are no charges, on the grounds that the cost of administering and collecting tax and duty on low-value items exceeds the amount collected (for example, the current minimum value in the UK is GBP15, equivalent to about KES2000).

Finally, online retailers also report that duty and tax calculations are not applied consistently; citing examples where identical items addressed to different customers had been subject to different charges. We believe that this is probably due to errors in assessing the appropriate duty rate (possibly resulting from a lack of clarity in the duty regulations).

## 2.6    Cyber-security

During discussions with Bid or Buy and Safaricom, concerns were raised over cyber security as a barrier to the development of e-commerce. Merchants are concerned about levels of fraud as a result of identity theft and consumers are said to be wary of paying in advance for goods. It was suggested that to reduce identity theft the authorities should support the development of a comprehensive cyber-security framework to protect merchants.

The apparent reluctance by consumers to pay for goods and services in advance may easily be addressed by the merchants and their delivery companies. This could be by way of allowing customers to pay on delivery, a common feature of e-commerce in India, although this couldbe expensive for merchants if they face collection difficulties on a significant proportion of items.

The Kenya Information and Communications (Amendment) Act, 2013 gives CA new responsibilities in relation to cyber security, including the power to make regulations with respect to cyber security and a mandate to develop a framework for facilitating the investigation and prosecution of cyber-crime  offences. CA held a cyber-security forum with stakeholders in May 2013 where it was recommended that the CA should continue to work on cyber security issues to address the concerns of merchants and consumers.

## 3. THE UNIVERSAL POSTAL UNION'S (UPU's) MODEL ON E-COMMERCE

### 3.1 Overview

The development of e-commerce in the postal sector is being spearheaded at the global level by the Universal Postal Union (UPU) which is the specialized institution of the United Nations that oversees the global postal services particularly among its membership (in terms of countries) and the designated postal operators who also are its members. The postal services of its192 member countries form the largest physical distribution network in the world with more than 5 million postal employees working in over 660 000 post offices all over the world. Its membership handles an annual total of 434 billion letter-post items in the domestic service and 5.5 billion in the international service.

The UPU organized an E-commerce Forum on 26 and 27 March 2014 in Bern, Switzerland (ref-http://news.upu.int/news/speeches/opening-e-commerce-forum/) in which it was highlighted that e-commerce provides growth potential for the postal industry. There are however many barriers to the growth of cross-border e-commerce, such as complexity of the postal product offering, lack of adequate infrastructure support, and outdated and inefficient postal–customs–transport processes. Besides, customers require access to simple, affordable and reliable international postal services.

The Forum speakers who included sellers, client representatives and Posts identified many needs that must drive e-commerce services. Some of the needs are beyond the postal industry responsibility. However, they must be addressed in cooperative work with Governments, clients, as well other e-commerce players.

### 3.2 Postal Consumer needs

The main consumer needs identified at the forum were as follows:

a) While "instant" delivery is now a reality in many markets, consumers still favor solutions that are based on "free" delivery and include a returns policy;
b) Expect choice (cheap, traceable, time certain home delivery);
c) Control (ability to decide when, where and how the items will be delivered);
d) Compliance (delivering what you promise with date and time designation, quality of service and customer service in case of failure, and no unexpected charges);
e) Return options;
f) Flexible delivery point options;
g) Value-added features.

Certain customer expectations may surprise when, for example, consolidation trumps delivery speed, especially where it reduces the number of individual deliveries a customer receives.

For cross-border e-commerce, it is necessary to simplify duties, taxes and customs regimes, to overcome fragmentation of consumer protection rules, to facilitate international dispute resolution processes, and to provide trustworthy and efficient payment systems and logistics, including escrow features.

## 3.3 E-Tailer Needs

Accordingly to the Forum discussions E-tailers (those who sell on internet) have the following needs:

a) Simplicity: easy-to-understand portfolio and simple delivery options that suit customers;
b) Speed: improved customs processes, including features such as delivery duty paid, seamless customs, pre-delivery notice, standardized labeling, and label integration;
c) Tracking/visibility: shipping and landed costs calculation tool, global integrated and shared full track and trace, taking account of the complete fulfillment cycle, and more predictable delivery times – 10 to 21 days is not a suitable range for e-commerce;
d) Security: trust and reliable delivery services and information, enhanced compliance with customs documents and procedures, trust identification (verification of customer ID);
e) Domestic features made available in the international product, such as parcel lockers, pickup, click and collect, returns, and customer services;
f) Rational, easy-to-understand prices based on size, weight and speed and optimized routes based on destination are preferred;
g) Reliable and flexible payment options as payment on delivery, with cash paying, card or account;
h) Escrow service is required, so that the payment is not released until the product is delivered and accepted;
i) Move away from paper-based to electronic-based processes;
j) Integration with technology interfaces provided by Posts, and request straightforward, well-documented access to postal technology, logistics platforms and globally unified system interfaces. They are able to share advance information with Posts and Customs to speed up customs and delivery processes, and also wish to harmonize information about products.

In particular, there is an increasing demand among small and medium enterprises (SMEs) to sell online. SMEs need training, assistance, guidance, and the development of policies to facilitate exporting and importing, in cooperation with governments, Posts and other solution providers such as e-marketplaces.

Where a reliable postal network does not meet e-commerce requirements, e-retailers are investing in their own delivery solution, which is not their preferred option.

It is interesting to note that instead of simply pointing out shortcomings, e-retailers were seeking changes, and were willing to invest in partners like the postal sector to achieve these changes in the networks.

The e-commerce market requires all players to take a global and integrated approach, based on a market and customer focus, towards the development of an intelligent postal e-commerce delivery framework for cross-border trade, using a worldwide multifunctional integrated infrastructure for simple, reliable access to postal services for everyone around the globe.

Some notable barriers that hamper ecommerce development include underdeveloped legal, cyber security and inadequate physical structures. Others are complexity of the postal product offering, outdated and inefficient postal–customs–transport processes. Besides, customers require access to simple, affordable and reliable international postal services.

## 3.4     Key elements of e-commerce

There is wide agreement that certain elements are essential in driving ecommerce. These elements need to be considered in any e-commerce planning and implementation. They are grouped into seven broad categories:

i.     **Web hosting:** elements related to stores' websites, considering technical tools and support, content management, and mechanisms for searching products and comparing prices;

ii.    **Payment:** Remuneration model between UPU member and market players. Elements that implement physical or electronic payment services, essential to e-commerce transactions;

iii.   **Logistics:** Logistics is the core business for Posts. This category comprises the essential services and tools to ensure shipping, delivery and information;

iv.    **CRM (Customer Relationship Management):** This category includes elements related to client relationship, considering both buyer and seller;

v.     **Promotion channels:** Direct Marketing in order to improve vendors' visibility and, consequently their sales. Besides Direct Marketing, but fully integrated with it, other web channels must be considered, such as web advertisement tools, sponsored links websites, and B2C e-marketplaces;

vi.    **Data exchange:** standards and tools for data exchange related to electronic messages, products, duty and taxes, customers, orders, and other information that need to be shared among e-commerce players;

vii.   **Supporters:** trust, reliability and capacity building are essential for e-commerce. The elements related to transactions and information security, market development, standards, partnerships and finance comprise this group.

## 3.5    E-commerce markets

The markets in ecommerce can broadly be categorized into domestic, regional and global markets. The network established by members of UPU and other players allows postal operators to engage on global markets. This condition is of great importance and provides a competitive advantage for the postal industry.

However, there are conditions imposed by each market coverage. The domestic environment is usually more affordable and with greater availability of business amenities, mainly due to the strong link between postal operators and their governments. In addition, the postal operator also exercises authority over resources and processes in their home market, giving them greater freedom to develop solutions for e-commerce to better meet the needs of local businesses.

On the other hand, in many countries the greatest e-commerce opportunities are not in the domestic market, but in the regional and global ones. This is typically the case of countries with small population or very economic dependent of other countries. In such cases, it is inevitable to deal with new complexities brought about by cross-border e-commerce, such as customs, involvement of other logistics providers, legal differences, various currencies, and other languages.

In any case, even for countries with strong domestic consumption, cross-border e-commerce is an opportunity to explore.

For the regional market, there are facilitations provided by economic blocks' agreements, always including facilitations for exchange of merchandise. Usually these groups support cross-border e-commerce activities. Such activities need to be followed by postal operators, as they are doors for configuring solutions that meet regional market needs.

## 3.6    E-Commerce Business Models and Strategies

There are several possible e-commerce business models for Posts. These models are not mutually exclusive and may be combined depending on Post's capabilities and characteristics of the market, as shown below.

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

| E-commerce relationshipmodel | Description |
|---|---|
| Business-to-Business (B2B) | Companies doing business with companies. |
| Business-to-Consumer (B2C) | Companies selling merchandise and services to consumers. |
| Business-to-Employee (B2E) | Companies selling merchandise and services to employees. |
| Consumer-to-Consumer (C2C) | Individuals selling merchandise or services to individuals. |

| Government-to-Business (G2B) | Governments offering services to businesses. |
| Government-to-Citizen (G2C) | Governments offering services to citizens. |
| Government-to-Government (G2G) | Government institutions offering services to other governmental institutions. |

There may be other relationships, but the above are the most relevant to the postal industry.

After the definition of the e-commerce relationship model, it is necessary to define the target audience. From this definition, Posts can identify clients' profile: geographic location, needs, types of products wanted, location, habits, knowledge / skills available, and restrictions. It is also important to separate the audience into segments according to profile affinities.

With the target audience and their defined segments, it is recommended to make an assessment of the competitive situation of the Post in providing e-commerce solutions to the market. Familiar tools for analysis of competitiveness can be used, such as SWOT (Strengths, Weaknesses, Opportunities, and Threats) and Porter Five Forces analysis.

These analyses are important in order to provide a clear vision of how competitors work, what are the opportunities and competitive advantages of Posts, as well as for the definition of a market position (leader, follower, complementary, or work in niche market). This definition is a precursor for a business model selection.

The table below summarizes the main business models and the most common forms of compensation/remuneration.

| Business Model | Description | Remuneration |
|---|---|---|
| **Parcel Delivery** | Provides national, regional or international delivery services for shops, e-malls and e-marketplaces. | Per successful delivery. Additional services may be considered. |
| **Logistics provider** | The Post operates beyond delivery of products. It manages all or part of the seller's logistics chain. In this case, the postal operator can manage warehouse, inventory, order processing, fulfillment, delivery, and after-sales. | As solutions arehighly customized, the remuneration model considers costs of many operations. |
| **Digital Delivery** | Safe delivery of digital items such as music files, image, video, and documents acquired via the Internet. | Per successful delivery. |
| **E-commerce payment** | The Post provides electronic or physical payment services to web stores. | Per transaction and / or periodic fees. |

| Escrow services | Post acts as trusted third part for payment and delivery of goods bought on the internet. | Per transaction and / or periodic fees. |
|---|---|---|
| Postal web store | The Post has a web store to sell products and postal services on the Internet. | Buyer pays for product purchased and also the delivery of physical items, if any. |
| E-store hosting | The Post provides hosting services for web stores. | Monthly, half yearly or yearly fees. |
| Postal E-Mall | The Post provides an electronic mall for hosting virtual stores and products. | Monthly, half yearly or yearly fees. Commission on sales. |
| E-marketplace | The Post acts as intermediary for e-commerce transactions. | Monthly, half yearly or yearly fees. Commission on sales. |

### 3.7    Parcel Delivery

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

Parcel Delivery model can be offered to any e-commerce relationship model. However, each one requires different service attributes. Delivery services to B2C, B2E, G2C and C2C websites are formatted for small and medium parcels, without customizing, delivered to various regions, express or non-express, and unscheduled demand.

On the other hand, delivery services for B2B, G2B and G2G site send to be used for larger consolidated volumes, with customization, non-express, and scheduled demand.

As already detailed in the description of the key element Delivery, e-commerce clients' demand more features and information than other customers of postal services. E-commerce parcels delivery demands quality, agility, reliability, technology integration, and lowest price possible.

### 3.8    Quality

Expectations of consumers in e-commerce are very high - many of them are buying online for the first time, there is constant fear of fraud, in most cases the payment is made in advance, and many sites experience demands beyond the expected capacity. Therefore, success for e-commerce hinges on the quality of delivery services, fulfilling the promise agreed between couriers, merchants and consumers.

The best practice for e-commerce is the establishment of a Service Level Agreement (SLA).

A SLA defines deadlines, percentage of attendance, bonuses and fines, depending on whether the agreed level of service was reached. SLA increases confidence of retailers and better organizes the relationship between Post and sellers.

From consumers' point-of-view, delivery deadlines must consider the processing time of payment confirmation, the preparation of the order, collection, shipping and, finally, delivery.

## 3.9 Agility

The e-commerce market is highly competitive and demands fast response in adjusting services to meet customers' needs. This is a particular concern for postal operators, often under complex and multiple instances of organizational decisions, as well as restricted to legal issues that impact hiring, resource allocation, and that demands equitable treatment to all customers (adjustments services must meet the entire market equivalently). These conditions can lead to slow responses to particular customer groups for which adjustment would be much more relevant for these groups than for all customer segments.

## 3.10 Reliability

Continuity of e-commerce is greatly affected by the experiences of buyers with online transactions. If the transaction is not successful, the likelihood of the client using this service again diminishes. Problems are unavoidable, but the way they are resolved can significantly minimize a drop in consumer confidence. Hence, it is important to build a customer service framework to deal with problems. Thus, reducing friction and actively pursuing customer satisfaction, providing them with appropriate solutions.

This should, therefore, include improvement of reverse logistics services, tracking of orders, customer service structure, process verification and troubleshooting channels, as well as indemnities. Finally, it is important that problems are registered and the products are continuously updated based on lessons learnt from these cases.

## 3.11 Technology Integration

For e-commerce, information about delivery is just as important as the physical delivery. So it is important to develop API (application programming interface) and protocols for integrating processes between postal operators and online stores.

The API must provide the seller information about delivery in a user-friendly, standardized and high available IT structure. The technological integration covers all the processes in relation to posts, sellers and buyers. This requires a wide range of system integrations. Therefore, the gradual deployment of this technology framework is recommended. The suggested order is listed below:

a) Track and trace;
b) Delivery time calculation;
c) Postage price calculation;
d) Shipping preparation (pre authorization and shipping label);
e) Package pickup;
f) Domestic return of merchandise;

g) Customs information (including pre advice, import/export info harmonization and restrictions, duty calculation and payment, Delivered Duty Paid (DDP) solutions);

h) International return of merchandise.

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

## 3.12 Lowest Possible Price

Due to high competition and the attractiveness of free shipping for buyers, the e-commerce market pressures delivery prices. On the other hand, it is necessary for Posts to preserve a sustainable business model.

The best way for postal operators to seek a better competitive position and to avoid an unsustainable financial situation is through the continuous improvement of processes that can balance quality of service, increase operational productivity, and reduce costs. For large e-commerce operations, for example, receiving advanced information electronically and consolidating loads can enable Posts to skip steps in the operational process.

In this scenario, Posts can offer multiple shipping options with different service agreements. Merchants can choose to market e-commerce services to their customers in terms of shipping options and associated delivery prices.

## 3.13 Dedicated Delivery Services

Considering the aspects above, there is still the question of creating new delivery services dedicated to e-commerce. This is a strategic decision that needs to be properly evaluated by the postal operator because it results in significant impact on the short, medium and long terms.

The creation of delivery services dedicated to e-commerce can be applied to very incipient markets, where Posts can build new services together with small group of players. This gives greater freedom to make adjustments to new services, without impacting established services used by the majority clients, who still do not sell electronically.

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

In any case, at some point of time there will be a risk of cannibalizing other delivery services, considering that there will always be common attributes among current products and the ones dedicated to e-commerce. Another point to consider is that because of the intersection of attributes, clients can get confused about the delivery service portfolio.

To avoid these problems, it is best to seek to adapt services already established and known by the market. It is important to understand that e-commerce is already the main customer segment of parcel business. So the entire portfolio of services must be prepared to meet the needs of the electronic commerce market.

## 3.14    Logistics Provider

In this model, Posts provide services beyond the physical delivery of merchandise. They manage all or part of sellers' logistics chain. In this case, postal operators can manage warehouse, inventory, order processing, fulfillment, delivery, and after-sale, as detailed in the "Warehouse and Fulfillment" key element.

This model generates customized solutions for each client, based on understanding of their needs as a fully integrated system. Thus, the remuneration model considers activities ranging from storage of items to after sales activities, such as return and exchange of merchandise.

This business model can also be applied to any e-commerce relationship model. However, each of them requires different formats depending on the vendor's characteristics. A warehouse can be solely dedicated to a single large vendor in B2B, B2C, G2B, G2C and G2G operations. On the other hand, a single warehouse can be shared by many smaller vendors in case of B2B, B2C, B2E, G2B, G2C and G2E websites.

For C2C websites, the Logistics model faces great difficulty in operating due to the enormous fragmentation of items and tax complexities involved. Therefore this model is only recommended when vendors' items are under the management of an e-commerce intermediary who effectively acts as a proxy for a large amount of individual sellers.

This model seeks to increase the dependency of market on postal services, establishing entry barriers for new competitors and enabling web stores to focus on their core business - selling online.

The Parcel Delivery business model occurs predominantly under the "best product" strategy. This option drives innovation and aims to offer the best solution for the market, as a required strategy to become a market leader. Parcel delivery solutions should take into consideration the increasing dependence of customers on postal services. This means finding innovative ways to meet customer needs.

## 3.15    Digital Delivery

In this model, Posts offer secure electronic distribution of digital files such as music, image, video and documents acquired via the Internet. Postal operators can build solutions for electronic transport of digital content, adding reliable mechanisms to the digital transportation as available in physical postal deliveries, such as privacy, inviolability, authenticity, time-stamping, and quality of services.

In this context, tools such as digital certification, EPCM and PREM, built on the platform .post, are available to build the Digital Delivery business model.

It is important to build a robust technological platform for high availability and for user-friendly connection to web stores. Thus, an online store could sell a digital product hosted and operated by the Post, who provides a storehouse of digital content, using the Internet as a new mode of transportation as the product is now a digitalized one.

From the market perspective, this service is not simply a repository of files on the web. The defining factors that set the postal digital delivery service apart from other file exchange services is the degree of security and reliability of its technological platform, and its widely respected brand of confidence already established in the physical means.

### 3.16    E-commerce payment

For several years Posts have provided payment services to their customers, using mostly the physical presence of its service network-commerce payment model extends this postal business as it offers a variety of payment means for online retailers such as payment at the post office, payment on delivery, electronic payment on web sites, as well as via mobile device applications.

It is important to note that postal payment solutions need to be easily integrated to web stores using API with high availability.

Another important need is the inclusion of mechanisms against fraud. This implies, for example, build a risk analysis structure. Purchasers do not guarantee sales made over the Internet by credit card. In these cases, in many countries, vendors absorb the risks: If a consumer informs the credit card issuer that he/she had not made the purchase, the payment value is returned to the consumer, to the loss of the seller. This process is called chargeback.

As payment by credit card is the most used in online sales, a solution is needed for risk analysis of orders paid by credit card. There is also a need for the definition of a process for evaluation of suspicious requests. These steps can minimize risk of fraud.

Besides the risk of fraud, the return of purchase values in cases of cancellation of purchase, exchange of items or sale cancelation is a process that needs to be designed and executed with care. These kinds of request usually result in tension between buyer, merchant and payment provider. It is necessary to quickly resolve problems without neglecting involved safety aspects.

The remuneration model typically occurs per transaction and/or per periodic fees. The per-transaction model consists of a commission or a fixed amount paid for each payment event. This is the preferred retailer option, as they only pay when sales occur. In cases where there is allocation of equipment for the processing of payments (such as card readers or smartphones), it is also common to apply a periodic fee to cover the costs of those devices.

### 3.17    Escrow services

The Escrow business model expands the e-commerce payment model by incorporating two postal skills: products delivery and payment. To increase trust in e-commerce, an escrow service is required, so that the payment is not released until the product is delivered and accepted:



| 1 Seller's web store connected to the postal escrow service | 2 Consumer chooses the items | 3 Consumer buys the items, paying to the postal escrow service through a connection between the web store and the post's API | 4 Post picks up the items at the seller's warehouse and delivers them to the consumer | 5 After the complete confirmation of the delivery, the post enables money transfer to the seller |

In this model, Post acts as trusted third party in the online buying process. For consumers, the model guarantees delivery. For sellers, it guarantees payment.

Similar to the E-commerce Payment model, the risk of fraud and the rapid processing of reversal are points of great concern. But these points are even more complex in the escrow model as both parties' properties are temporarily under the responsibility of the Post: the sellers' product and the buyer's money.

### 3.18    Postal web store

A Post can build its web store to sell its own products and postal services on the Internet, in order to learn how to offer further e-commerce services.

Philatelic products are prime candidates for a postal web store. But it can also sell postal services such as hybrid mail, change of address and electronic postal services.

In order to build a web store, Posts might follow the suggestions for implementing describe in the "Web Stores" key element.

Buyers pay for products and services purchased. They also pay for items delivery, if any.

### 3.19    E-store hosting

In the e-store hosting model, Posts provide technological environment for web stores hosting, with full integration to postal delivery and payment services.

The hosting of online stores should allow any company to create and manage web stores in a simplified manner. All infrastructure needed to sell on the Internet might be ready for sellers, who need to be focused on configuring products' inventory, means of payment, delivery services, ads, as well as to manage sales.

Micro, small and medium businesses that wish to join e-commerce are the traditional audience for this model of service. This is a new audience with incipient experience on e-commerce. Thus, even though the technology is simplified to the maximum, the fact is that this feature does not preclude the need of a structure to provide the necessary assistance for sellers in creation, configuration and operation of a hosted web store. This assistance is one of the key factors of success of this business model.

The remuneration may come from monthly, semiannual or annual fees for hosting service.

### 3.20    Postal E-Mall

In the E-Mall model, Posts provide online malls for product advertising and online store hosting. This model gathers many stores in one single website with tools search, promotion and sale of goods.

An e-mall may host web stores in its own IT infrastructure, as an expansion of the E-store hosting model. As another option, an e-mall may not host web stores. In this case, the website will be just a showcase of products from stores hosted in other hosting providers.

The best option is to adopt both approaches: hosting web stores and at the same time giving visibility to stores hosted in other providers. The advantage of this option is that it increases attractiveness of the website as promote major brands of electronic retailing. These big stores are anchors that attract consumers to the e-mall, where they may find products of other less known sellers.

Postal operators' websites are usually among the most popular in their countries. Site's visitors can be attracted to the e-mall. For retailers, participation in an e-mall brings greater confidence to their stores when associated to the brand's postal operator, usually well recognized in the market.

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

Therefore, a good strategy for e-malls is to integrate their search and comparison features to big websites dedicated to these activities. Search Engine Optimization (SEO) tools such as sponsored links, sharing of product information, and HTML code improvement are available for e-mall management. These tools seek to better rank products on sites like Google and Yahoo.

Social media and mobile web are other available tools to increase visibility of e-malls. It is recommendable to integrate e-malls and sites such as Facebook, Twitter, Google+, and interest, seeking to attract users to the website. This E-Mall model requires reaching buyers everywhere they are.

The structure to support vendors can use web, phone and even personal assistance in case of bigger sellers. Furthermore, support needs to consider not only the tool for hosting, but also delivery services, payment methods, showcase management, post-sales, advertising, items search and comparison, and logistics.

Remuneration may include periodic fees, sales commissions, and advertisements.

### 3.21    E-marketplace

The E-marketplace model gathers other business models' features as it encloses products from several vendors within a wide range of item categories, receives payment, distributes orders, delivers items and releases values for sellers after successful delivery.

While in the E-mall model sellers are the only responsible for the sale, in the E-marketplace model Posts assume a role of trusted third party and so they are responsible for ensuring that parties will be well served. In this model, Posts also accept risks of payment fraud - ultimately they become operators of payment.

The model of E-marketplace is complex and faces competition from large e-commerce sites. The best strategy to reach this level is to have a clear strategic objective to support the adoption of this model and to start with simpler models: own virtual store, then hosting, payment gateways, e-mall, and finally E-marketplace.

However, in some countries, large e-marketplaces such as eBay, Amazon and Alibaba are well established. It is important to evaluate the influence of these e-marketplaces. It is risky to Posts enter into competition route with specialized e-commerce companies like these ones. An alternative strategy for this can be to find some niche market to act as an e-marketplace for products like handcrafts, for example. Another option can be to build partnerships with e-marketplaces to provide postal logistics, delivery, and payment services, forgoing the creation of an own e-marketplace.

### 4.    CASE STUDIES ON E-COMMERCE IN OTHER MARKETS

### 4.1    India

While India's e-commerce sector remains relatively small compared to the total retail market, its rapid development and the drivers behind the rise of e-commerce in the country offer some interesting lessons for Kenya.

#### a) Market context

The e-commerce market in India has grown rapidly: a CAGR of 54.6%was recorded between 2007 and 2011. Online retail penetration in proportion to total retail remains quite low, with online sales only accounting for 0.1% of total retail sales in India in 2012 – total sales amounted to USD4 billion, 0.0008% of GDP. However, there were over 18 million unique users of retail e-commerce in India by mid-2011, amounting to around 1.5% of the total population.

### b) E-commerce drivers

A major macroeconomic driver of e-commerce in India is the increase in disposable income across urban households within the Indian middle class. This has impacted upon the shopping habits and tastes of some Indian consumers.

The presence of organized retail stores in India, the biggest vendors of branded products, is mostly limited to Tier I metropolitan cities, such as Delhi or Mumbai. Online retail businesses have helped address the demand from Tier II and Tier III cities for organized brand retail. The growth of cash on delivery as a means of payment has also helped to include a large share of people who either do not have a credit or debit card or feel uncomfortable using them online.

### c) Role of the postal industry

India's public postal operator has been largely bypassed in the e-commerce sector, as firms look to partner with courier partners, or set about using their own logistics networks as a means to guarantee the quality of after-sales service and secure payment. All delivery firms, including the post office, are reliant on the local knowledge of their personnel when delivering to an area, due to the existence of different addressing formats within different regions (based on the historical development of the area). India is divided into postal index areas, which refer to a post office location and its coverage areas. However, street and residence locations differ in addressing convention, which changes according to the infrastructure and development of a location.

## 4.2    Saudi Arabia

Saudi Arabia has a growing e-commerce sector, which is one of the most vibrant in the MENA region. Through its 'Wasel' project and other initiatives, Saudi Arabia Post has taken an active role in promoting e-commerce in the country.

### a) Market context

The Ministry of ICT in Saudi Arabia has stated that it believes e-commerce in the country will surpass USD13 billion by 2015,[1] 0.007% of projected GDP for the year. In 2011, around 39% of adult Internet users in Saudi Arabia bought products and paid for services online

### b) E-commerce drivers

Compared to other countries surveyed in the Middle East region, inhabitants in Saudi Arabia were the most likely to use the Internet to buy products online, invest in stocks or funds, or pay bills.[2]

Many Saudi Arabians are benefiting from a growing disposable income, with GDP per capita estimated to have risen to USD31 890 (PPP) in 2013.[3] Saudi Arabia's total retail market is rapidly growing, with forecasts suggesting that the sector will produce USD73.6 billion by 2014, 4% of GDP. Over 50% of e-commerce customers in Saudi Arabia lie outside major cities,[4] which may indicate a similar trend to that seen in India, where organised brand-retail is yet to spread from Tier I cities and e-commerce fills the gap for consumers who live outside these locations.

The government-backed 'Wasel' project, launched in 2005, established a standardised national address system for Saudi Arabia, where previously each city effectively had a different scheme for numbering homes and there was a lack of postal zip codes. Saudi Post built a postal address system that now serves over 2 million locations in the country.[5] Satellite imagery was used to create digital maps of the country and split it into the segments required to build a postal zip code for each address.

## 4.3    South Africa

South Africa has the largest e-commerce sector on the continent. However, the public postal operator does not appear to have made use of this opportunity, and has fallen behind private operators in supporting online retailers in the country.

### a)  Market context

South Africa's e-commerce sector was recorded as worth over USD600 million in 2013. As the largest economy in Africa, the e-commerce sector, in absolute terms, will naturally be larger than those of its smaller neighbours, but at 12% the e-commerce sector accounts for the largest proportion of any African nation's Internet related GDP. Online retail is expected to account for 1.5% of total retail in South Africa by 2016, valuing it at USD4 billion, or 0.36% of GDP

### b)  Market drivers

There are a substantial number of Internet users in South Africa, estimated at 41% of the population, a figure which has grown with a 38.4% CAGR between 2007 and 2012.[6] Alongside personal use, businesses and institutions in South Africa have been active in increasing their Internet presence, with the nation referred to as a market 'leader' for companies utilising the Internet in Africa in a recent study.

Moves have been made to make Internet commerce more secure. Secure online transaction services such as PayPal or PayFast have been launched in the country (PayPal was launched in 2010 in conjunction with the First National Bank) and South Africa has developed 'comprehensive' legislation on e-transactions and e-commerce since 2001.

However, there does not appear to be a dominant means of secure payment processing in South Africa, leading high volume transaction retail platforms such as Bid or Buy (the parent of the Kenyan company of the same name) to set up their own payment process services.

### c) *Role of the Postal Industry*

The South African Post Office has so far not developed many initiatives with the view of promoting e-commerce. All that was mentioned of the subject in the 2012 annual report was that the "*development of new e-commerce services and activities are essential for the continued viability of mail business in the South African Post Office*". Consumers and companies have instead turned to private postal services companies such as PostNet, DHL or local courier firms for logistics and delivery support, which may currently indicate a missed opportunity for the post office.

## 4.4 South Korea

While South Korea's broadband development is extremely advanced compared to Kenya, the initiatives taken by the public postal operator in exploiting the opportunities presented by e-commerce provide useful examples for Kenya.

### a) *Market context*

South Korea's Internet economy accounted for 7.3% of GDP in 2012,[7] with online retail calculated to account for 14% of total retail in 2012.[8] The e-commerce market in South Korea has been calculated as being worth USD23.7 billion in 2013, equivalent to 1.43% of total GDP[9] in 2013.

### b) *Ecommerce drivers*

South Korea has high broadband and mobile penetration rates, factors which facilitate broader e-commerce use across the population. Broadband penetration is calculated to be 107.9% of households, and mobile penetration is 108.1%.With a strong economy producing an annual GDP of over USD1.6 trillion in 2013, and GDP per capita of over USD32 000 (PPP), many South Koreans have considerable disposable income. E-commerce in South Korea, driven by the high smartphone penetration of the population, has taken on an innovative character: the world's first virtual public supermarket was opened in a subway station in Seoul in 2011, and expanded to over 20 bus stops in 2012.

*4.5* **Singapore**

Singapore e-Commerce program was developed to help any retailer reach out to Singapore's rapidly growing number of online customers. The retail and wholesale sector forms a significant portion of the Singapore economy (17.4% of GDP 2011).

With a high penetration rate of smart mobile devices (3 in 4 Singaporeans), and an increasing role of social media in influencing a consumer's purchasing decisions, retailers in Singapore are in a unique position to take advantage of social media to develop new business models and strategies for e-Commerce.

a) **Objectives**

The intention of the program is to;

- Establish a Retail Services Framework (RSF), which incorporates the best practices of retail services adoption while lowering the barrier of entry for retailers and other stakeholders in the retail ecosystem;

- Ensure an open, scalable and interoperable ecosystem through the development of common data specifications across Retailers, e-Commerce and logistics service providers' systems; and
- Encourage adoption and sophisticated usage of ICT in retail by demonstrating the business value of e-Commerce with integrated fulfillment and in-store operations management technology.

b) **Benefits of the Program**

The program is to bring the following benefits to these stakeholders:

- Retailers-Access to ecommerce with integrated fulfillment capabilities and adopt ICT in operations management to improve in-store productivity -ICT Companies to develop and acquire enhanced capabilities in developing and delivering more innovative retail applications

- Logistics and service providers are enabled to achieve better resource utilization and cost efficiencies through demand aggregation and Consumers to enjoy convenience of ecommerce through the new online channels offered by retailers.

### c) Ecommerce & Operations Management

The Retail Services Framework (RSF), incorporates the best practices of retail services. This framework aims to foster adoption by lowering the barrier of entry and encourage mass adoption of retail services by retailers and other stakeholders in the retail ecosystem.

The RSF consists of 4 main services and 2 interfaces

Service 1 - Channel Innovation aims to provide Retailers with essential e-Commerce services to incrementally extend their capabilities in accordance with their business needs.

Service 2 - Fulfillment aims to provide Retailers, who are extending their revenue channel with e-Commerce, with hassle-free fulfillment services through the seamless integration with e-Commerce service providers to best serve the fulfillment needs of different retailers at a cost effective price.

Service 3 - Retail Insights and Optimization leverages available analytics shared services across the retail value chain to increase the competitiveness of retailers through the use of data analytics.

Service 4 - Operations Management increases the productivity of in-store operations through the adoption of innovative solutions.

The collective technology capabilities of Services 1, 2 and 3 provide any retailer with an effective e-Commerce presence that can be used to complement their existing physical stores and the necessary ICT tools to strengthen their business strategies to manage future challenges from online stores.

The two interfaces are defined as being between the Retailer and the e-Commerce service provider (Retailer-EC Interface), as well as between the e-Commerce service provider and the logistics service provider (EC-LS Interface). The entry or update of data in either the Retailer, e-Commerce or logistics systems shall auto-populate the relevant data fields in the Retailer, e-Commerce and logistics systems, with the aim of increasing workflow efficiency and accuracy.
National Authentication Framework (NAF)

The National Authentication Framework (NAF) seeks to realize the vision of the iN2015 master plan for a secure and trusted enabling information communication infrastructure that can facilitate the delivery of online services by the public and private sectors.

With the increased availability of online services offered by key sectors such as banking & finance, Government and healthcare, National Authentication Framework can safeguard against unauthorized access to sensitive information available online, such as bank account details, securities trading account details or electronic health records. The NAF will be a timely nationwide strong authentication infrastructure that can provide consumers greater assurance when performing online transactions.

# 5. LESSONS THAT COULD BE DRAWN FROM THE INTERNATIONAL CASE STUDIES

## 5.1 Rise in disposable income

One of the main drivers cited in the rise of e-commerce in India has been the greater disposable income available to the growing middle class in the country. A similar trend can be observed in Kenya where average disposable income in Kenya increased at a CAGR of 12% between 2007 and 2012.

## 5.2 Role of the postal industry

In 1999, Korea Post launched an online shopping platform, designed to link rural farming and fishing producers with consumers from across the country. The post office established a secure payment system, and maintained strict control over the quality of the products listed on its site. Any items bought through the platform are electronically processed for home delivery by the post office. The mall is integrated with a user's post office bank account to allow for secure and efficient transmission of funds. By 2012, the ePost shopping mall listed over 8000 different products, with sales revenue of over USD172 million. Total sales for Korea Post increased by 6.4% between 2011 and 2012, an increase which Korea Post attributed to "*the steady growth of e-commerce*", to which the online mall contributed. Items sent through Korea Post's EMS service also increased by 13.8%, which is partly attributable to products bought through the post office shopping platform.

## 5.3 Growth of branded retail outside major cities

This appears to be a driver of e-commerce in India and Saudi Arabia. Further study on the growth of branded retail in Kenya, especially outside of Nairobi, may provide insight into whether a nascent market of online buyers outside main cities could develop. A broader examination into whether there is a growing section of society that has more disposable income within Kenya, and where these people are located, may also assist with understanding the future of the retail market in Kenya.

## 5.4 Role of the public postal operator

The case studies tell a mixed story about the involvement of the public postal operator. In Saudi Arabia and South Korea, the operators appear to have been quite influential in supporting the growth of e-commerce, or at least some parts of it, whereas in India and South Africa they appear to have been largely bypassed.

## 6. FACTORS CONSIDERED TO BE INHIBITING GROWTH OF ECOMMERCE IN KENYA

Kenya has relatively good Internet connectivity compared to most countries in sub-Saharan Africa and over a third of the population uses the Internet (a proportion that is expected to rise to over half by 2020). Kenya also benefits from having very high take-up of mobile payment services (over a quarter of the population) and rapid growth in the number of electronic payment cards in services.

Despite these positive factors, levels of e-commerce in Kenya are relatively low by international standards. The main factors considered to inhibit ecommerce growth in Kenya are:

  i.   The lack of reliable, low-cost delivery services for e-commerce items (meaning that, in practice, virtually all domestic e-commerce items are delivered by courier services that are not cost-effective for low-value items) and, to a lesser extent, the lack of services to enable consumers to return unwanted or defective items.

 ii.   The lack of a national addressing system (which makes it harder, though not impossible, to deliver items to people's homes).

iii.   The high level of import duty and taxes on items coming from other countries (which generally makes it unattractive for Kenyans to order from foreign e-commerce sites) and, to a lesser extent, the delays associated with imports.

 iv.   The lack of a cyber-security system that allows merchants to verify the identity of their customers and manage potential fraudulent usage.

  v.   A lack of trust on the part of consumers that items ordered online will (a) be delivered and (b) be as described, which makes them reluctant to pay in advance.

## 7. *INTERVENTION MEASURES FOR ADOPTION OF E COMMERCE*

Following the expiry of the consultation period, the following intervention measures have been developed to promote adoption of ecommerce in the postal courier sector:

  i.   The major players in the postal/courier sector such as the public postal licensee and big courier firms should leverage on economies of scale and provide a reliable, low-cost delivery services for e-commerce items as virtually all domestic e-commerce items are delivered by courier services that are not cost-effective for low-value items. They could also develop services to enable consumers to return unwanted or defective items.

ii. Develop a quality national addressing system (NAS) which makes it easier, though to deliver items to people's homes. This is achievable by ensuring that a centralised and authoritative body is created to drive the project that will see development of appropriate legislations including and not limited to requiring all property owners to append agreed physical addresses on properties; creation of an authority to authenticate addresses among others. It is therefore suggested that the process of developing a NAS should be reviewed particularly the role of MOICT and the CA as leaders of this national project. This is because the resources needed go beyond those available by postal stakeholders alone. Perhaps pegging security, emergency, and tax revenues concerns on the project and attendant attention by Authorities could greatly propel its faster realisation than envisaged.

iii. Creation of a standing customs/operators committee to address the high level of import duty and taxes on items coming from other countries (which generally that will make it attractive for Kenyans to order from foreign e-commerce sites) and, to a large extent eradicate the delays associated with imports. In these regards, the Finance Ministry should introduce a minimum value threshold on imports below which no duties, taxes and insurance charges are made. It should further examine steps to speed up processing of imports that remain liable for import duty and taxes.

iv. Development of a cyber-security system that allows merchants to verify the identity of their customers and manage potential fraudulent usage. The development of law to curb cyber-crime be spearheaded by the CA working with MOICT in collaboration with the Directorate of Public Prosecution. THE starting point would be the ca setting up a stakeholder working group on cyber security to verify among others identities of customers(e.g. by accessing national ID data bases or SIM registration data and also introduce trust marks to assist consumers in identifying reputable merchants.

v. Repositioning of the public postal licensee- the PCK as a guarantor of security and trust over electronic communication. By creating postal applications within the UPU framework that have legal and authentication values to carry out cross border commerce under the .post platform. This platform includes strong security precautions ever incorporated in a top level domain where visitors are guaranteed not to be diverted to a phishing or criminal site.

On this platform, posts can authenticate companies, verify addresses and handle payments and deliveries along the supply chain supported by regulations and standards set by the Universal Postal Union (UPU).