POSTAL INDUSTRY: REVIEW AND REENGINEERING FRAMEWORK FOR SUSTAINABLE GROWTH

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ABSTRACT

No sector of the economy is immune to changes and the associated challenges that come with it as witnessed in the postal industry. The declining demand for postal mail service somewhat attributed to technological changes call for proactive reengineering approaches for sustainability and continual relevance of the postal mail sector in a rapid changing economy. The study reviewed the throughput of the postal industry in terms of operations, logistics and products from a global perspective and it attempts to relate it to what is obtainable in South African Post Office (SAPO) mail business using a comparative analysis approach. The study equally identified innovations within the postal industry and perceived factors that influence consumer demands resulting in declined mail volumes. In this paper, the reality of imminent future technological changes, the impending effect on the postal sector and structures required to remain relevant were also explored. In evaluating innovation, the postal industry trends were considered in terms of business growth parameters. Innovative dynamic models which have the potential of stimulating growth in the postal industry were explored from a technical point of view and recommendations were proposed accordingly. In future, the study can be expanded by considering legislations and social parameters in forecasting innovations.

Key words: Postal service, South African Post Office, Postal reform, technology, innovation, sustainability.

INTRODUCTION

The economic landscape in the current age is characterized by dynamic changes which more often are unpredictable due to global transformations fuelled by creativity and innovation. In this paper, we reviewed the postal industry and the diverse transformations characterized by digitalization and globalization. Also considered is the current position of the postal industry in terms of sustainable innovation with attention on operations, logistics and product offerings. The study equally examines how postal services have dealt with these changes stimulated predominantly by technological shift and it corroborates its findings to propose effective models which align with the transformation agenda of the South African Post Office.

Businesses no longer employ the principle of “one size fits all”. Rather, ventures are continually reviewing their growth plan, throughput and relevance to customers, who are itching for more as technology gives birth to new lifestyles as reflected in virtually all business spheres today. The Logistics and Postal mail business has equally not been left out in this race; this hitherto calls for strategic transformation framework aimed at ensuring the post remains relevant now and in the

future. Taking a cue from words of OOsterlinck (2013), “Designing a transformation journey needs more than just a vision, strategy and partners who have designed and executed the process before. Crucially, it requires leaders willing to take risks and decide about the right timing”.

The relevance of postal mail service has been a debatable question in many quarters. Some unanswered questions are revolving within this service sector and questions often asked are “what will the postal industry look like in the future? Is mail still relevant?” Some are of the opinion that emails and other electronic means of data communication should take over physical mails. However, Industry experts are continuously proposing strategies of reinventing the post for the future but little is certainty known of what will be obtainable in future. Several changes are emerging in the industry which comes with different level of challenges differing from country to country. The post office is gradually becoming less prominent in some underdeveloped countries where private mail carriers are dominant while the reverse is the case as the post office is increasingly becoming prominent in developing and developed economies where they are pulling through to keep tab with evolving customer demands which are predominantly driven by e-commerce product offerings. Accordingly, a few postal industry giants are taking the lead while others are crawling or left behind in the current postal transition. This is justly not far-fetched because the perceived change response within the industry clearly conforms to the Pareto Principle. Mature economies which have adopted smart systems, mobile phones and other technological options are keeping pace with digital trends for which the post is not left out.

The public has lost confidence in some postal systems while public trust in some posts is on the increase and from the study, all the posts gaining public confidence are perceived to have embraced technology in optimizing postal operations and processes. According to Finger et al. (2006), changing customer demands and growing competition resulting from globalization are unarguably fall out of communication technology. The Internet has enabled new business models that have disrupted and even destroyed incumbent models (Atkinson, 2013). In light of these dynamics, business innovation through deliberate planning is increasingly required to keep up with the momentum of change in key areas namely:

i. Operations
ii. Product offerings
iii. Synergy of Information Technology (IT) into processes
iv. Last mile delivery systems, transportation logistics and carbon footprint.
v. Change management
vi. Business to Customer (B2C) relationship
vii. Post outlet configuration (Ericsson, 2013).

The Director General of the Universal Postal Union International Bureau, Bishar (Universal Postal Union, 2014) explained that for postal reform to succeed, the development agenda must include an evidence-based postal policy. Further to postal policy, in his description, regulatory solution approaches in industrialized countries cannot be automatically applied to developing countries using the idea that no “one size fits all” (Universal Postal Union, 2014).

Accordingly, to succeed in the current transformation agenda, decision and policy makers in Africa require economic intelligence tools and applications built on a modern data analytics framework so as to seize tomorrow’s opportunities. It is essential postal stakeholders have a broad understanding

of industry evolution to effectively make decisions which are capable of directing the rudder towards higher positions without sinking the organization.

OBJECTIVES

The study is intended to review the state of postal industry in terms of operations, logistics and products from a global perspective and attempt to relate it to what is obtainable in South African Post Office (SAPO) mail business using a comparative analysis approach. It is also designed to analyze the progress made in terms of innovations within the industry; the perceived factors that influence consumer demands resulting in declined traditional mail volumes and the reality of imminent future technological changes. The historical heritage and evolution of the post is equally considered.

The study try's to explore structures, practices and required product offerings which are perceived to trigger transformation as well as sustainability amidst the keen competition and dynamic globalization in the postal service industry. Figure 1 below presents a highlight of the research scope.

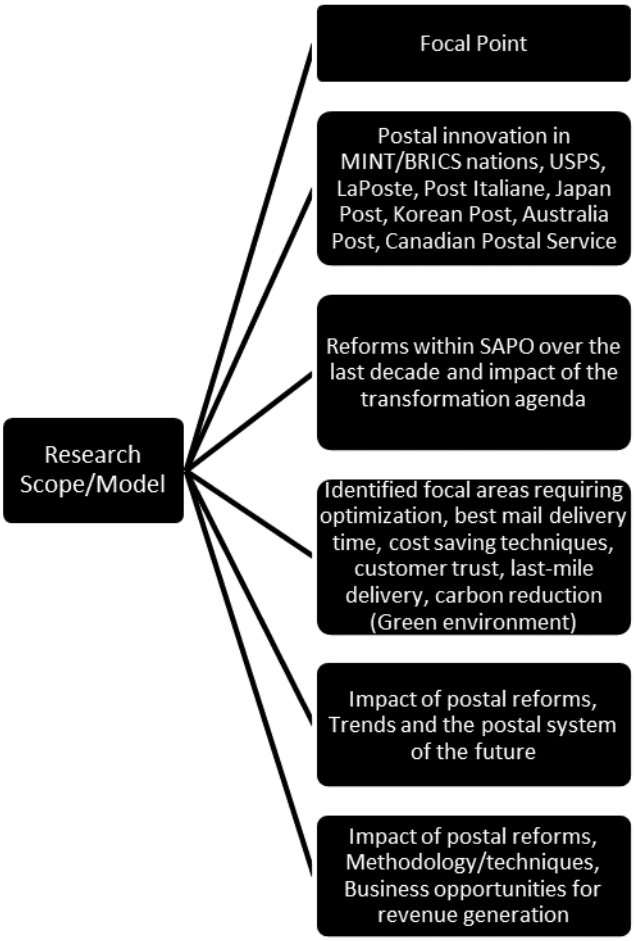

Figure 1: Research scope

METHODOLOGY

The study was carried out largely by evaluating published reports, books, articles and credible online documents with emphasis on postal reforms. To successfully analyze the postal sector, key aims of the transformation agenda were identified, strategies employed were evaluated and the success achieved thus far using the strategies were noted. The evaluation hinged on the sequence and pattern of events influencing innovation and overall throughput of the industry. The study equally sampled opinions of long term and highly seasoned postal professionals in a bid to validate the views shared by authors of referenced materials to eliminate possibilities of bias, preconceptions and prejudice on the part of such authors.

The study was not designed to emphasize weak points nor flaws within the evaluated transformation agenda; it is rather designed to focus on similarities, strategies of success and inherent possibilities of implementing the study findings. Policies, strategies and methods utilized by leading postal service operators were equally highlighted and effort was made to forecast innovations that may transform current models and modus operandi of postal operation processes.

THE POSTAL SECTOR: AN EVOLVING INDUSTRY

To fully understand the contemporary position of the postal industry, it was imperative we dig into history by reviewing the origin, evolution and transformation of the sector to its current position. The great heritage of mail dissemination dates back to 2400BC during the reign of King Pharaoh where courier was used for the dispatch of the king's decrees. However, according to records published by the Universal Postal Union (Universal Postal Union, 2010), an organized courier service came to play much later in Egypt. Similarly, records show that across Asia, Europe, United States including the Middle East, organized methods of mail dissemination had been adopted far back as between 1700BC-20AD which eventually evolved into structured postal systems (Pierre, 2002).

As documented by Pierre. B (2002), the first claim of a structured postal system is traced to Persia through the writings of Xenophon who was then a learner under the great philosopher Socrates. However, claims from other sources indicate contrary view to the origin of the first postal systems. It is noted that the earth is extremely massive and different documentation styles and time reference formats were adopted in earlier days. The Persian Empire used a system of mounted relay messengers. The riders would stop at predefined posthouses "relay stations" to fetch a fresh horse or in some cases pass on their parcels to another messenger for the remainder of the distance. The system was designed such that the tired horses will be replaced with fresh once to achieve maximum speed. Equally, it served as an early form of "track and Trace" in the inception of postal system. The model shows a quest for optimization of transportation and manpower as far back as those days. This is buttressed by the words of the Greek Historian by name Herodotus, inscribed on the wall of New York Post Office which reads "Neither snow, nor rain, nor heat, nor gloom of night stays these couriers from the swift completion of their appointed rounds."

The early mail delivery system revolved round Kings, Emperors, nobles and royal lineages. As the need for postal operations evolved, the instrument which was initially setup for select few was made available to ordinary citizens to equally access and benefit from.

For centuries, messages were delivered by foot carriers, on horse backs, carriages tied to horses, donkey backs and Carts tied to oxen and other beast of burden. Across the coast, the adopted

means of transporting mails was through the use of ships via sea. The use of packets service came to be in Great Britain within the 17th Century and Packets simply referred to small passenger ships used for carrying parcels and mails. By early 19th Century, the use of coal powered locomotives (trains) on rail eased the burden of moving large parcels between distant locations on land and finally, when the airplane was invented, some 1st class mails and parcels were delivered using courier air crafts which is now the norm today.

The postal service enjoyed Government monopoly as they were all established by the leadership of the various empires and provinces but as time passed, private players were allowed to get involved in shipping mails across regions which eventually evolved as global brands. Notwithstanding the concessionary autonomy to private postal operators, such licenses were withdrawn as seen in instances where the government was losing out to the private enterprises which was the case of France in 1672. The Government of France declared all postal services to be a state monopoly and private service operators were either forced out of business or out rightly purchased. Equally in England, William Dockwra opened a Penny post in 1680 which was so successful that he was running a monopoly (Daunton, 1985; Roger, 2013). Penny Post was eventually closed and reopened as a government agency (Roger, 2013; Robinson, 1970).

The invention of the printing press the 15th century increased the amount of mail and was instrumental to the astronomical growth of the mail industry. In time, trade and commercial activities expanded and bilateral agreements become complex. Consequently, there was need for an International Postal service to act as umbrella to manage bilateral trade agreements. This led to a national postal reform of which a notable reform introduced by Sir Rowland Hill in England in 1840 was the introduction of prepaid charges on letters through the use of postage stamps. This marked the beginning of further bilateral agreements and harmonization of postage fees across the countries involved. In 1863, a conference was convened in Paris by the United States Postmaster General aimed at harmonizing the mutual agreements between nations. Due to the difficulty of settling on an international postal agreement, Heinrich von Stephan who was then a senior postal official of the North German Confederation was assigned to draw a plan for an International Postal Union.

Based on plan drawn out by Heinrich Von Stephen, by 1874, the Swiss Government convened an International Conference at Bern, Switzerland which led to the emergence of the General Postal Union (GPU) which later transformed into the Universal Postal Union (UPU) in 1878 which to date, remains the largest postal union in the world with membership strength of 192 countries (Universal Postal Union, 2010). The treaty signed on the 9th October of the same year has harmonized and unified member countries and terminated the confusions and barriers due to varying postal policies adopted across the globe before the treaty. The treaty signed has positively influenced resolutions on several other economic policies allowing for common grounds for commercial operation across the continents. As such, in 1969 at Tokyo Japan, the 9th October was declared World Post Day and it is has since then been observed globally (Universal Postal Union, 2010).

Innovation for change

Innovation and invention are key catalysts stimulating business growth that make the high yielding postal service operators outstanding and relevant in the global space. Creative thinking generates innovation when blended with current Research and Development (R&D) strategies. Nonetheless,

according to a study conducted by the Chair MIR of EPFL (Sund, 2008), a prime stimulant of change which has led to innovation in the postal industry is customer demand. We cannot overemphasize the relationship between demand and supply and fuelling demand output with the required supply input gives birth to innovation. As such, by increasing the average response rate of the postal service industry, there will be transformation in the industry's value proposition.

Product and service improvement to meet customers' expectations are paramount in today's changing market. Change is disruptive when poorly managed causing reject of long term strategies in favour of quick fix solutions. It is equally disruptive when proposed solutions have not been fully thought through and reviewed within the organization. On the contrary, Change is transformational when used as a catalyst for continuous organization improvement. Transformation change involves the application of tools and techniques capable of stimulating product development.

Continually improving products and services to achieve optimization is extremely needful as the business landscape is engulfed by keen competition among postal service providers. According to Shailendra K.W (2013), customers do not just buy products and services, they are looking for the benefits these brings them and how conveniently they meet their needs. The new paradigm for post is to define itself through offered benefits.

Beyond product and service optimization, new products which appeal to the consumers can be created as witnessed in the telecommunications, electronics and automobile industry.

Taking opportunity of the weaknesses of others by strengthening perceived loopholes identified in industry peers have been observed to catapult some operators to greater heights. Melo (2013) emphasized the comparative advantage the traditional post brand have as trusted intermediary of all kinds of products and services. Trust is a costly asset which cannot be bought; rather, it is earned over time. According to Joao, posts do play a critical role and are perceived as trusted third parties and as neutral and equidistant vis-à-vis all society main economic agents.

According to publication by Accenture (2012), human capital is the most important element of transformational change. People are the key enablers to innovation; they innovate, develop and sustain the much needed change. The publication further mentioned the following as key aspects of transformation change:

i. Process transformation
ii. Technology
iii. Governance
iv. People

OVERVIEW OF GLOBAL TRENDS IN THE POSTAL SECTOR INFLUENCING DEMAND

Generally, traditional postal services have earned societal trust and confidence over decades evolving into strong brands with goodwill of citizens thus assuming a recognized position which cannot be easily overthrown. One key advantage of the postal sector over other service sectors is its extensive network and global reach. They were established to provide an avenue for interconnection between businesses, individuals, governments and communities as secure platforms. With massive strides in technological development, greater capability has been placed in the hands of citizens who now define how they desire to be serviced. With its massive spread from country to country, the

post has the ability of reaching virtually the last mile where several other enterprises will not venture to go with the exception of few enterprises such as telecoms, health and utilities. With increasing pace of technology, many countries have developed consolidated hybrid solutions for seamless financial transactions and settlements through the post. Vehicle registration, Utilities (Electricity bill, Water bills, municipal fees) are few of the many service offerings the post office delivers in this age. The embrace of technology in the right direction is why the post can effectively function in what was at some time in history, different from their core objectives. Technology has given birth to mobile telecommunication systems, e-commerce systems and social media platforms which have totally changed how the society communicate. Customers are confronted daily with new ways of interacting. The system is extremely dynamic and being static simply means retrogression in the current business landscape. Customer Relations Management (CRM) has grown upscale with brilliant CRM management applications. Needless to say, Supply Chain Management (SCM) has taken a new dimension with various opportunities of tracking, managing, promoting and fast tracking supply. Human Resource (HR) management applications have transformed the process of managing workforce within the postal sector. The growing trend in the use of Project and portfolio management Software applications have increased the output and productivity level of the post.

SUMMARIZED PRODUCT OFFERINGS THROUGH DIGITALIZATION

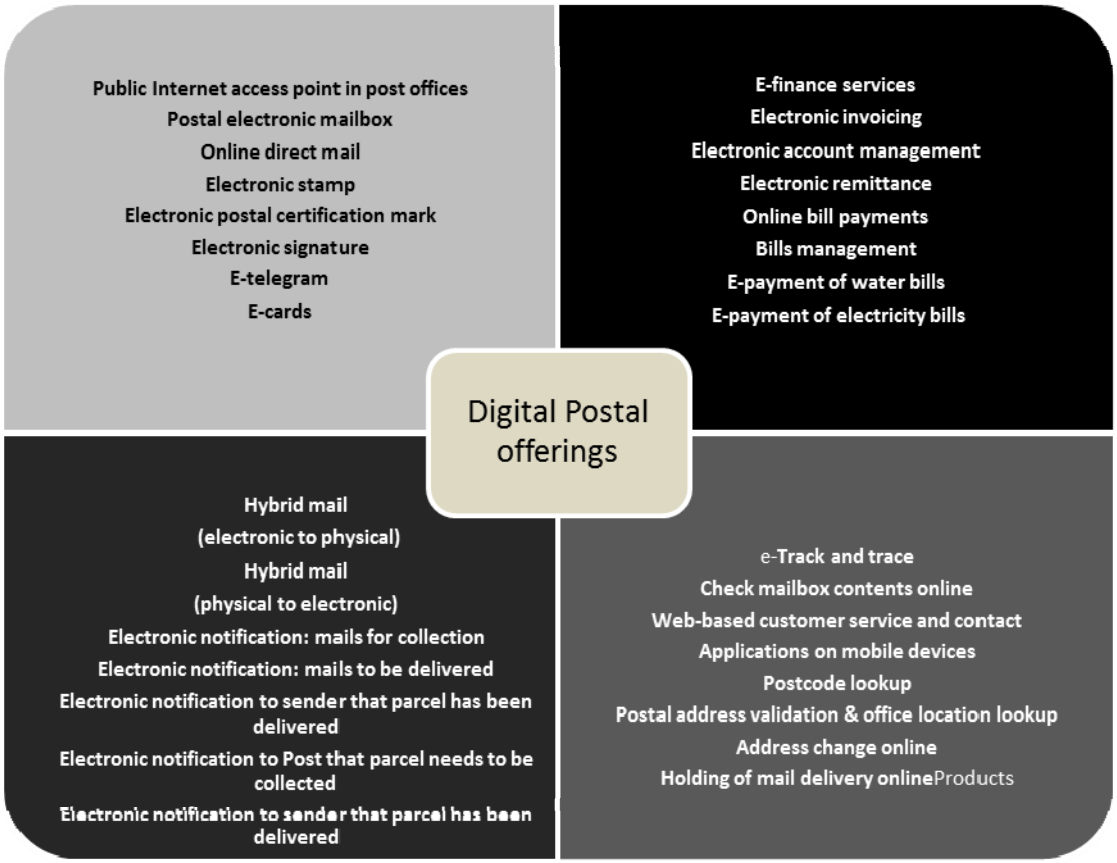

Figure 2: Chart showing product offerings through digitalization Source: Adapted from Abdallah, F. and Shakurova (2012)

Differentiation

Product and service differentiation is a distinguishing factor capable of revolutionizing the post and keeping it ahead of its peers. According to Sibio (2013), Innovation is happening at all times. Innovation serves to sustain existing products more often such as adding web based mail tracking for mail items. What is really needed for reinvention is "differentiated innovation". A typical example is the differential innovation of apple which involved the invention of the ipod, 10 years down the line apple announced on February 6th 2013 that it had hit 25billion music downloads by music fans. Evaluating apple from growth and profit, the introduction of the ipod with a market for music download is indeed innovation. Sibio (2013) emphasised the need for re-packaging existing capabilities for achieving differentiation. A possible approach to achieving differentiation is carving a product and service niche which will appeal to customer needs.

Diversification

Sund (2013) emphasized that diversification seems to be the rule and no more an exception to remain relevant in the current postal system. Diversification and synergies was mentioned as key ingredients bringing about innovation. He mentioned 3 different types of diversification taking place in the postal industry. These were categorized as follows: 1. Diversification of mail aimed at moving either up or down the value chain e.g adding value to digital substitutes such as digital advertising. 2. Diversification related to parcels which includes logistics, warehousing, logistics related IT as seen in Finland Itella with the aim of capturing more value from customers supply chain. 3. Diversification via product offerings such as banking, insurance or mobile telephony e.g. PostMobile in Italy has developed interesting applications in mobile banking which is a clear differentiation from other mobile network operators.

Outsourcing of non-core operations and business acquisition

Within the last few years, one growing trend is the outsourcing of non-core operations to smaller industry operators who will achieve a quicker service delivery with a relative level of cost efficiency. It is perceived to reduce cost by saving on long term capital expenditure. Globally, most businesses are shifting towards product outsourcing in a bid to focus on core values. The long term overhead cost are spread over the cost of sending the items and it lifts the burden of planning for robust overhaul of several operational units within the post.

Postal operators are expanding their geographical presence and expanding to other regions through build and buy. A typical example is the TNT which is expanding its parcel network through acquisition to gain presence in other geographical locations. Equally, Poste Italiane has introduced a new service called Postemobile as its expansion drive by creating multichannel customer access points.

Logistics to home

Logistics to the Home (LTTH) is now replacing traditional way of one way logistics with several customized delivery option. In the context of a fast changing market, new technologies influence customer behaviour and the growth in parcels and ecommerce /online shopping. The post is dedicated to its universal service obligation and in a bid to meet customer requirement, strategies

must be set in place for convenient mail delivery by ensuring customers get their parcels even if they are not at home.

According to OOsterlinck (2013), offering a solution to help consumers with anything they need to get into their homes, and anything they wish to get out of their homes is actually the new direction of the post. It includes delivery of fresh foods, laundry, groceries, frozen foods, boxed electronics, parcels and mails. The concept has been developed and pilot tests are being run in some select locations within Belgium with the aim complete roll out across Belgium by the end of 2014.

Bpost adopted a wise and cost effective strategy. Instead of investing in very expensive robust Softwares and hardware interfaces, they tested the service in a lean way; they built a small scale tests and decided to implement it on consumer reaction, delivery time, operations, customer service, food regulation and market acceptance. The result showed that both the consumers and retailers reacted positively to the subscription based service policy (OOsterlinck, 2013).

Emergence of smart cities

The post is a primary stakeholder to be part of the concept of an optimized interconnected city. In the postal and ecommerce business space, the smart city will describe a fully optimized transport infrastructure with online real-time communication infrastructure providing customized services to client within the shortest possible time. Carbon free electric vehicles with zero emission will be utilized and an almost paperless system will be used for exchange of information between pick up point and drop point of parcels. Barcodes, smartcards and Fingerprint technology will be adopted for user authentication, payment and verification upon delivery of customer requests.

Smart mailbox (SMB) system

There is a shift towards secured and connected recipient mailbox facilitating e-commerce. Traditionally, mailbox are physically locked with keys and numbered accordingly. The smart mail box (SMB) will be electronically accessed, controlled and available for other usage related to postage, post-delivery, reverse logistics and community information sharing. This will promote a smart city innovation and serve as link to LTTH market. The SMB will equally serve as tool for interpersonal communication in the neighbourhood and beyond that, serve as a tool for intelligent gathering to promote a safer city. A group of University researchers, external ideas providers have motivated the executives of La Poste in France to develop the smart mail box system. It is ready for testing in some identified locations and it simply leverages on the ability of existing logistic infrastructure. The aged and old are major major group put in consideration during the product development due to their physical limitations and timely needs of medication and other health care deliveries.

It is imperative the post key into this opportunity today in response to the emerging smart cities of tomorrow.

Intelligent Fleet Management

A major advantage of technology is the synchronization of sorted mails/parcels with that of delivery vehicles. The address information can be electronically tied to the delivery vehicle which is equally tied to the vehicle delivery route. The fleet can be designated to optimize delivery by efficiently

distributing the vehicles within the delivery path using the principles of “Shortest path analysis” and “least cost rule”.

Parcel Shops

There are no regulatory postal policies which hinders the post corporations from setting up parcel shops inside shops. The USPS has agreement with online stores such as amazon.com and a similar model for physical retail stores was ventured into during the long Swedish Post strike. The result was astronomically rewarding for which an innovation was stumbled into out of exigencies. The idea was for customers to place their orders using mail order companies and alternatively, select a particular local store of choice close to their residence from which they will pick up the delivery. This gave birth to a completely different product offering which was born out of the failure of the Public post office. From SWOT analysis, this was an opportunity which was cashed into to bring about innovation. Right from its inception in 1992 to the year 2013, the total units of parcels sent through post shops in Sweden is well over 9 million units. Hence, B2B operators had now successfully developed a C2C operation (Ericsson, 2013). This grew into a service station where customers can label their parcels, pay bills, make deposits into bank accounts and created opportunity for other financial services

E-commerce

With the advent of e-commerce, posts can comfortably offer solutions which cover logistics, payment systems, web shops, pick up and final delivery (Joao, 2013). According to Lenhardt (2013), Research showed that top reasons for increasing online purchases included time savings, more variety and the ability to compare prices more easily. In spite of the economic decline, online commerce is growing steadily. He further shed light on the growing need for finger print technology in mail/parcel handling. Finger print technology is a key enabler for open parcel networks and efficient collaboration between Courier, Express and Parcel (CEP) Operators.

Despite the economic crunch, Online retail sales have increased at a compound annual growth rate of 13% since 2008 (Euromonitor, 2012). Parcel delivery has also been on the increase as ecommerce is transforming the way parcels are delivered to the customers. This transformation is not limited to developing nations. Quiro´s and Iturralde (2008) correlate’s this as they equate the liberalisation process in the post as similar to that being experienced in other sectors of the economy

Integrated electronic value added services

As implemented by USPS, there are numerous plausible digital solutions which will gain prominence as the post moves further towards ecommerce. Digital identity and authentication service are major point the post should consider. To complement these services, some digital solutions such as digital collection on delivery (COD), Digital Escrow and digital currency have great potential of promoting postal integrity (Balk and Marsh, 2013).

Electronic Postage

The summarized inscription affixed by the postal service reads “the postmark shall be proof”. From the introduction of postal stamps as tool of exchange of mail in 1840, the stamp has been the major ingredient which differentiates a post office document from other transited mails. However, the digital economy has dematerialized physical content by exchanging the use of envelopes and stamps

with electronic recognized document format (Rabii, 2013). The use of electronic postage referred to as PC postage by USPS has been a remarkable inclusion to existing resources. Private postal entities have similar models of PC postage as displayed on regular FedEx parcels. PC postage is designed to capture several details built into a mini slip. Most slips contain a barcode, reference number and tracking number. The unique barcode has extensive functionality for capturing payment, sender & receivers information and as many details are required for interpretation at the various transit points. The technology keeps witnessing improvement and one striking innovation is the possibility of downloading the generated slip and subsequent printing from a simple home printer which an electronic code reader will scan and interpret effortlessly. Integrating PC postage with related digital identity tools, encryption tools and decryption tools increases the security and confidentiality of postages. This inclusion is enhancing the speed of ecommerce processes and has avoided long queues which naturally limits productivity. As presented by the co-founder of Endecia, Amine khechfe who is a worlds distinguished postal innovation driver, at the Postal Vision 2020 seminar with theme "Positioning Americas Commerce", PC Postage was put at 2.4% of US eCommerce Market and growing at a faster rate (12% vs 9%) of which shipping and mailing solutions was responsible for $1.75B of postage printed in 2012 (Euromonitor International, 2012).

Green buildings, Hybridization of vehicles and carbon emission free vehicles

Fossil fuel remains the greatest source of carbon emission globally. Carbon emission from burning fuel and other sources pose great challenges to the environment, hence the need for alternative sources of energy for electricity, vehicles and industries. The postal sector has been a major contributor to the greenhouse effect which has negatively altered the ozone layer of the earth stratosphere. With rising need for safer sources of energy, the postal industry became one of the early industry's to champion the course for green environment. The Volkswagen Alternative Propulsion Strategy has implemented an alternative vehicle solution for postal fleet. Of note is the caddy Blue-motion vehicles tested by the Deutsche Post DHL in 2011.

The International Post Corporation (IPC) equally implemented a programme called Environmental Measurement and Monitoring System (EMMS). Several programs to ensure buildings go green have been adopted. Australia Post for example had achieved CO2 emission reduction of close to 40,000 Tonnes within a 3 year window according to the Australian national rating system (International Post Corporation, 2014).

Equally, the Deutsche Post (DHL) has adopted a GoGreen Programme aimed at achieving a 30% carbon efficiency by 2020. Electric vehicles, Hybrid trucks and vehicles dependent on biofuel have been adopted thus far.

The use of renewable energy sources is growing in the postal industry and this has been a significance trend observed over the past decade. Numerous pilot programs for energy efficiency are being implemented across the globe. Global measures need to be considered to ensure postal operators in developing and underdeveloped economies consider some of the energy saving options.

Track and trace

The process of mail and parcel delivery has changed over the last two (2) decades. It is possible to send anything around the world while keeping track of the package location online real-time. This is

made possible through technological advancements which is influencing the service delivery clients are expecting from their service providers.

Tack and trace is now a part and parcel of most international postal systems. The postal industry must keep tab with changing technology which is bringing more flexibility and increasing functionality of the tracing component of the business. Consumer desire to know precisely the exact location and what is happening to their mails and parcels at every stage, and when exactly the delivery will be made. Failure to provide accurate answers to these questions discourages customer's thereby loosing trust in the postal system hence, and creating reason to search for alternative providers.

The main appealing role of track and trace to customers is the possibility of determining the position of the item and when the package will get delivered. The track and trace system can only be reliable if it is fast, safe, precise and user friendly. Ideally, a customer is given a unique tracking number through which the status of the parcel can be accessed online. The unique number is attached to the parcel and read at each point of transfer along the journey. In most cases, scanners read the tracking number on the package and automatically tracks the time and location. In some cases, the status of the package is manually imputed and uploaded on the server.

Digitalized Last-mile

The last mile proves to be one of the most important knot in the postal process. It involves getting the mail, parcels and customer request to the doorstep. Growing technology is fast changing the practices of last mile through dynamic solutions existing within reach. According to data from the International Data Corporation (IDC, 2014), worldwide smartphone market grew 27.2% year over year in the second quarter of 2014. It is estimated that over a billion smart phones will be sold across the world. With growing applications enhancing smarter ways of executing business, the smart phones in reality is indeed smart. The smart phone application developed by "Solutions & Innovation" makes it possible to modify desired time for delivery of packages. From the device, several opportunities abound as it is entirely client based. There are opportunities for middle men as quick bridge to facilitate delivery time.

A pilot project is on the way by DHL which is intended to quantify client reception and acceptability of the innovative idea transforming the last mile. According to Hanser (2013), the Proof of Concept will provide an insight into possibility of crowdsourcing the last mile of parcel delivery. Crowdsourcing is out rightly a disruptive innovation approach but the findings at the end of the pilot will tell if indeed the idea of moving from the traditional closed process to an unconventional open system is feasible. DHL intends to use incentives as a means of capturing attention of recipients and freelance couriers. In addition, the new offering will be promoted through the use of Facebook fan page and it intends to partner with online stores which shall have this as an additional delivery option.

Smart phones are fast outnumbering computers which were the core hardware for online value exchange just a decade ago. With increasing mobile apps, track and trace can be achieved on the go, delivery options can be altered, pickup and delivery can be scheduled, online account verification and payment can be seamlessly concluded from the smart phone.

From the Last mile delivery mode across regions, published by Universal Postal Union (2014), home delivery is at the minimum in Africa while majority depend on collecting mails from postal establishments. Beyond that, a whopping 49.2% of Africa's population reflects no access to postal service. This figure makes up half the continents population which is a true reflection of potential business opportunities in the last-mile component of Africa's postal service for which South Africa Postal Service is not an exception.

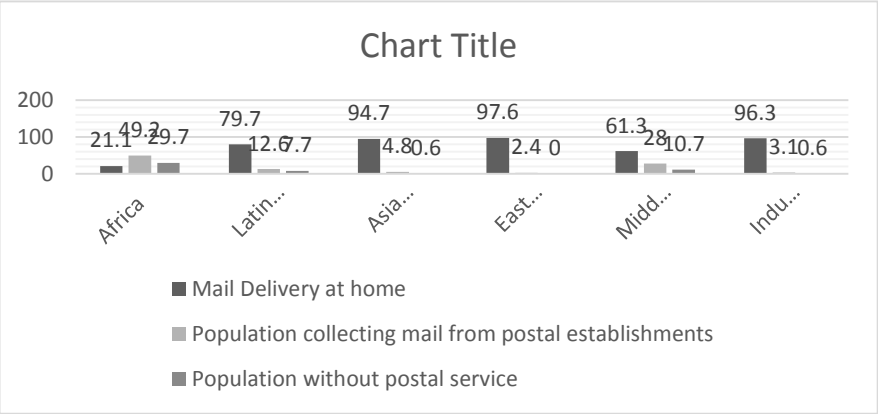

Figure 3: Postal statistics: Last-mile Delivery mode across regions (2011) Source: Adapted from "Universal Postal Union Postal statistics (2014)"

CHALLENGES LIMITING POSTAL INNOVATION AND INDUSTRY GROWTH

According to Sund (2008), poor leadership and poor management are major limitation to realizing innovation. In his opinion, some category of persons must be shielded away from innovation within the organization because they will draw back plans for creativity, such stereotyped individuals especially in management should be brought in when the innovative move is concluded. Because innovation may replace some products and processes, people within sometimes terminate innovative initiatives. Therefore, new innovations should be shielded from the rest of the organization during its incubation for it to grow.

According to research findings by Accenture (2012), diversification is an essential element of any successful postal operations strategy. Cost cutting strategies have been seen to fail and cannot successfully secure long term commercial viability. Highly performing postal services pursue diversification with strategic intent of generating high revenue and profit. For a post to achieve business diversification, it is vital to have clarity of vision around the market. In carrying out diversification for wider product offering and geographical expansion, one way of achieving quick throughput is to apply Build and Buy. A typical example is what TNT is adopting by acquiring new postal ventures similar to the acquisition of DHL express by the world's largest logistics company, Deutsche Post.

Further diversification witnessed in the industry include the introduction of a service called "Postmobile" by Poste Italian which is aimed at creating multiple points for customer accessibility.

Globally, there have been significant decline in product demand for post mail service and increase in parcels and express.

Another major challenge facing most public postal enterprises is the international limitation of the postal network unlike the private postal enterprises which have global spread. Absolute control of cross border operations is a major challenge which leads to several interoperability issues with limitations such as ineffective cross border track and trace, international returns processes and reverse logistics processes. National postal corporations usually depend on work output of partnering national mail carriers for the last mile portion of post which is based on a co-share agreement between the corporations. The UPU has a software application "Globaltracktrace" designed to harmonize track and trace internationally but studies reveal that current status of mails/parcels per time often differ from online records. The inefficiency of postmasters updating the log electronically leads to the experienced lag which depletes the trust and performance credibility customers have of public postal providers.

According to a SAP survey, it was deduced that barriers to innovation can either be internally driven or externally motivated. Figure 4 below presents the findings of the survey.

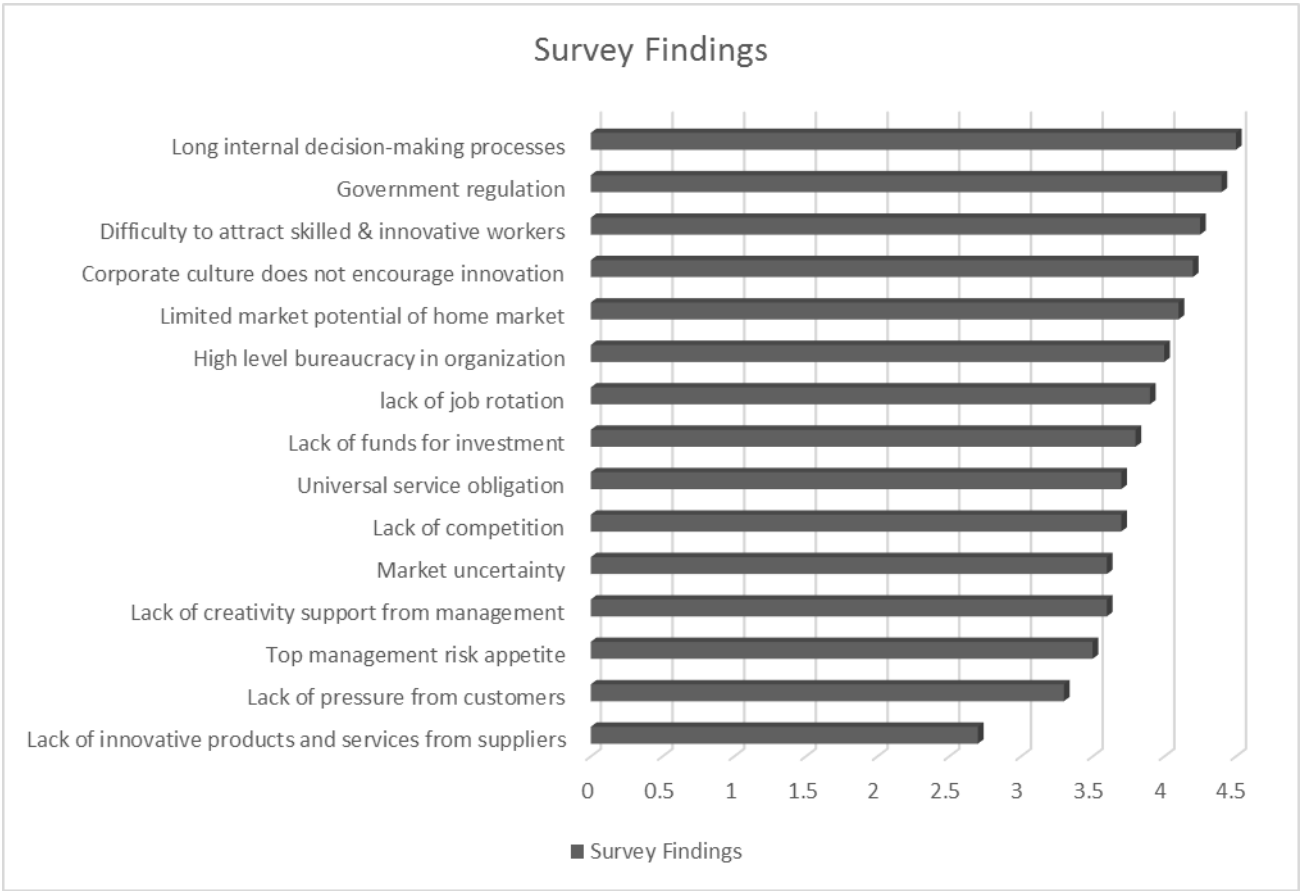

Figure 4: *Barriers to innovation* ***Source****: Sund (2008)*

BUSINESS PROCESS REENGINEERING FRAMEWORK FOR THE POST

Business Process Redesign, mostly termed (BPR) is the framework for improving and redesigning the organization approach to providing its services and products. Efficient and effective business processes are critical to organizations who desire to maintain, or improve, their products and service offerings. Improvement in product/service quality, service delivery time, and costs can result in increased performance and profit. Therefore, the way an organization structures and manages its business processes has a great impact on these outcomes.

According to Hammer and Champy (2011), Business Process Redesign is the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance such as cost, quality, service, and speed. The authors equally explained the three (3) forces driving organizations towards process re-engineering. The 3 mentioned are: i. Competition ii. Customer increasing demand iii. Changing technology.

Selecting a tool to support BPR can be challenging due to the complexity of processes. It is necessary to be aware of the concept of processes underlying the identified problems and the functions requiring re-engineering. A "single size fits all" approach is not ideal as appropriate approach for implementing BPR in departments within the post. Needs and challenges differ across departments. Lean management of processes using a bottom up approach in the South African Post Service within some departments have been quite successful. Studies are still ongoing to prove how appropriate the method is but from survey result, management level buy in is extremely important in effectively implementing BPR. Figure 4 below presents a generic approach being proposed for BPR in the postal industry.

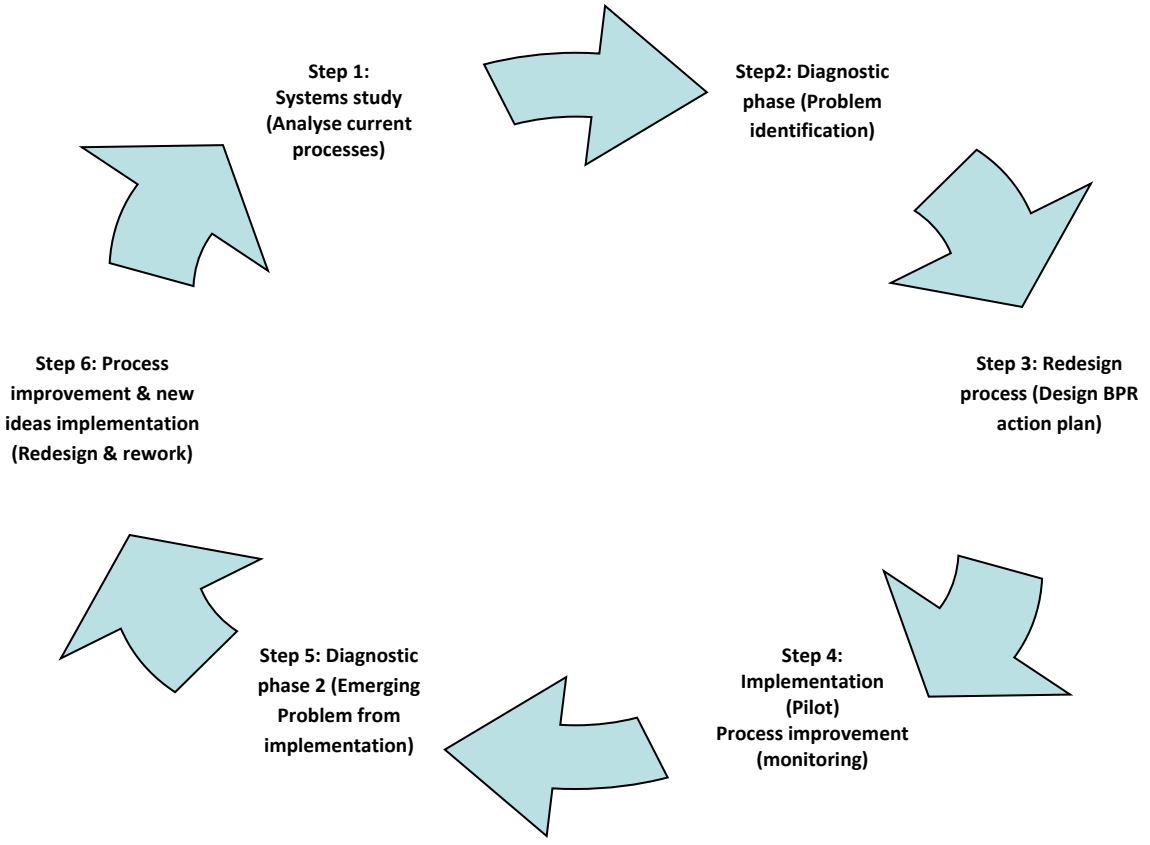

Figure 4: BPR approach for the public post

6RECOMMENDATION

Use of robust route planning software applications is essential to effectively analyse shortest time and shortest path required for each delivery. An effective queuing system which will reduce the number of postal delivery vehicles on the road per time, will ensure efficiency and productivity, while reducing the total carbon emission from the fleet.

Hybrid powered vehicles should be considered but more emphasis should be on zero emission vehicles such as electric vehicles. The use of compressed natural gas (CNG) should equally be thoughtfully considered. The carbon emission policy of the European Union and US mandating vehicle manufacturers to shift to safer environmentally friendly transportation systems should be considered in South Africa Automobile Industry. Content needed for long term sustainability of the proposed should be sourced locally which will stimulate a home grown technological base as against buying foreign technology which will keep the nation dependent on support of foreign experts.

The post should re-evaluate its entry requirements and processes. Undelivered oversees parcels due to issues bothering on customs clearing requirement (clearing fees) and postal clearing requirement (processing fees) are reasons for loss of public trust in the post. A carefully designed last-mile process will equally control the volume of returned parcels.

Hand held readers should be directly integrated to communicate with track and trace systems in order to have online real time status of postages as such preventing lag often experienced with some of the current models which require manual update of received items along the delivery chain.

Postal operators should consider the digital product/process offerings available which have the potential of saving time, increasing profitability and building customer trust in the post. The Post should identify opportunities of diversifications that will bring about differentiation.

The South African Post Office should put together a Research and Development team with the sole purpose of reengineering the post through innovative ideas which has potential of yielding long term profits and sustainable growth. Electronic commerce (e-commerce) is the future of the post. Mail is on the decline while parcels fuelled by ecommerce is on the increase. Postal operators should strategically position themselves early enough and key into this golden opportunity.

CONCLUSION

In summary, with all the digital solutions capable of birthing efficient processes and improving overall service delivery, technology should not be seen as threat to the existence of the post. Rather, the current drift from the traditional system into technological based, should be embraced at all levels across the rank and file of the postal industry. The growth and sustainability of the post office greatly depend on the choices that are made today. Future study can expand on the role of Government, legislations and social factors that affect innovations.

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