the FUTURE is in the POST III

This book is about 'the post' and its future. While it is often assumed that the postal sector is in almost inevitable decline, in fact never has the business been more exciting, and seldom have there been so many opportunities to be grasped. *The Future is in the Post* shows clearly, however, that that there is no 'one size fits all' recipe for strategic success and that each business will need to determine its own route to survival.

In *The Future is in the Post* an international group of highly experienced industry thought leaders discuss some of the strategic choices facing postal operators. Between them the contributors have senior managerial experience in posts in Australia, Canada, Germany, Italy, the Netherlands, Sweden, Switzerland and the UK, and also represent major consultancy organisations and international companies that are major users of, or suppliers to, the posts.

Their insights illustrate how strategically the industry is responding to the main drivers for change, and their accounts of the sector's challenges and opportunities will be of great value to managers, suppliers, customers, policy-makers, politicians, regulators and academics.

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the FUTURE is in the POST III Dr KRISTIAN J. SUND AND DEREK OSBORN

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PERSPECTIVES ON INNOVATION IN THE POSTAL INDUSTRY

Preface by Edouard Dayan

EDITED BY Dr KRISTIAN J. SUND AND DEREK OSBORN

THE FUTURE
IS IN
THE POST

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VOLUME III

Perspectives on Innovation in the Postal Industry

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Kristian J. Sund & Derek Osborn
18th May 2012

Preface

Edouard Dayan
Director General, Universal Postal Union

Today's world is undergoing a triple transformation in terms of communication between people, consumer habits and policy coordination between countries. So is the postal sector. Answers will be provided through innovation. This is why this new edition of *The Future is in the Post – Perspectives on Innovation in the Postal Industry* is so relevant in a time of uncertainty in our industry. Yet postal networks are also endowed with many assets that could be leveraged further in the process of postal innovation and transformation. We should remain optimistic, as is rightly highlighted in the contributions to this book.

The recent IPO of Facebook shows the extent to which the transformation of communication between people has created global economic and social value. The postal sector has been historically associated with communication and trade since the first wave of globalisation in the 19th century. It must reshape itself in this era of social networks, and embrace new information and communication technologies and other forms of innovation. While many stakeholders are still focused on the threat created by the electronic substitution of mail, the new social networks should not be ignored, as they could have a decisive impact on the future of postal exchanges. Think about advertising mail in this new context, and about how direct marketing could be reshaped by social network platforms. Society is seemingly moving from an "ad-and-consume" model to a "dialogue-and-share" model. People used to consume in response to targeted advertisements. Now, not only are people increasingly talking about their consumer experiences, but they are also sharing aspects of their lifestyle choices. In this context, trust is likely to become an even more important factor in consumer choices. Good news for the post, since trust is one, if not the greatest, of its assets! So how can the postal sector leverage this trust asset in the postal innovation process so as to respond to this transformation in

communications? How can the two sides in a postal exchange, the sender and the receiver, engage in increasingly trustworthy relationships? These are real innovation challenges facing the postal industry, which will determine the survival, or even the renaissance, of posts in the forwarding and delivery of messages between people.

Consumer habits are also changing radically, as can be seen in the exponential month-on-month growth of e-commerce. Online shopping, from anywhere and at any time, is transforming the retail sector. With the development of broadband mobile networks, any geographical location is becoming a potential point of sale and trade. Moving goods from e-retailers to e-consumers, or returning items from e-consumers to e-retailers, requires a physical delivery network that is as ubiquitous and reliable as possible. Even more good news for posts! One of the main advantages of postal networks is their proximity, not to say their ubiquity. Another is the quality of service they offer. The design of tomorrow's postal networks must preserve and strengthen this unique proximity asset while maintaining top quality. Investments will be required to foster innovation in the design of tomorrow's postal infrastructure in terms of physical proximity and ubiquity. It will be paramount to answer the needs of both senders and recipients in this regard, and to define relevant quality standards for the development of e-commerce.

As described above, combining greater proximity and trust between people and businesses can empower posts in their role as communication and trade facilitators in the 21st century. Another transformational aspect should not be neglected though. As can be seen through the management of the global economic and financial crises since 2008, systemic effects cannot be controlled at the national level only. Policy coordination needs have never seemed more necessary, and their potential benefits more obvious. The strengthening of regional financial regulation is called for in the European Union, and a European Banking Union could be established as a result. This illustrates the importance of coordination between countries, which can pool their efforts across an entire network, and trigger a positive (or negative) chain reaction. The postal sector also relies on an international network. Institutions such as the Universal Postal Union should think about how to innovate and reinforce the multilateral governance of the postal sector in the coming years in response to an increasingly globalised world that could face all sorts of crises. In this respect, the security of international postal networks requires coordinated actions between all parties, and the strengthening of a multilateral postal platform encompassing all postal stakeholders, including operators, governments and other international organisations.

For almost a decade, the UPU has been fostering a three-dimensional approach to the development of international postal exchanges, be they physical, electronic or financial. In this sense, innovation has been at the very heart of its strategic thinking. Concrete results have been achieved, such as the establishment of the post top-level domain on the Internet. Synchronising all postal stakeholders and their innovations at the international level clearly represents the transformational challenge for the 21st century. In this respect, I particularly welcome this book, which offers an innovative roadmap for the future of posts.

CHAPTER ONE
Introduction and Overview of Contents

Kristian J. Sund

Innovation has become one of the most widely used "buzz words" in recent years. Over the last three decades, as information and communication technologies have been developing rapidly, the telecommunication industry has been liberalised and deregulated, and the Internet has become accessible to the masses, a host of new technology companies have sprung up. Such companies have fuelled a fresh wave of innovation, by some seen as a new long economic cycle[1]. Observing and participating in these developments, academics, consultants, suppliers and managers around the world have latched on to the concept of innovation as the panacea for economic growth and business success. Bill Gates is quoted to have said that

> "never before in history has innovation offered promise of so much, to so many, in so short a time."

As for US President Barack Obama, he declared in his 2011 State of the Union address that

> "innovation doesn't just change our lives, it is how we make our living."

The postal industry has embraced innovation as well. In the 2011 USPS Annual Report to Congress (a 40-page document) the words innovation and innovative were

1 Or what is sometimes referred to as a Kondratiev Cycle, after economist Nicolai Kondratiev, who in his 1925 book proposed that in addition to the existence of shorter business cycles, there are longer economic cycles of 50–60 years that are created by streams of radical innovations. It is considered by some that we are currently about half way through the current cycle, linked to information technology.

used ten times. Ten years earlier, in 2001, they were used only twice. Similarly, in their 2011 Annual Report, Finland's Itella uses these words twelve times, whilst in 2001 they were used only three times. In the case of Deutsche Post – DHL the numbers are 20 times and six times respectively. The point here is not just that innovation is talked about more than ever in this industry, but that it fills a greater space in the collective conscience of industry executives. One thing quickly becomes clear though: there is a certain lack of clarity about what innovation really is, where it comes from, why it is sometimes forgotten, and how to think strategically about it. It is the intention in this overview to help the reader think about these questions.

Not everything that appears new to one person is innovative to others. The first time I rode a bicycle it was new to me, but to the rest of the world there was probably nothing innovative about me riding that bicycle. This example may seem a bit trivial at first, but it actually helps us define what innovation is and is not. Consider firstly that riding a bicycle was for me a new experience. I had to learn to do it, and it was not something easily taught. I thus learned by doing. Once I had learned it I became better at it, could ride faster, with fewer falls, and eventually even without hands! In management terms, you might call this the development of a skill, a competence, or a capability. And in management terms, I saw the effects of the experience curve. With experience, I became more "productive" at bicycling, thereby lowering the "costs" of doing so. But was I innovative? Yes and no.

One reason my successful attempt at bicycling might be considered innovative is that it was new, at least for me. I acquired a new competence that enabled me to move about more rapidly than before. An innovation indeed! However, all the other children in school were bicycling too, so for them (and for the rest of society) there was perhaps nothing innovative in my cycling. In fact I was a late adopter. To some then, a late adopter is just an imitator, not an innovator, whilst for me, my act of imitation was in itself an innovation. This tells us that innovation is to some extent in the eye of the beholder. In other words, innovation is a relative concept, and is in fact relative to social entity (innovative for whom?), relative to object (innovative compared to what?) and relative to time (innovative because it was new).

Innovation can refer to a process or competence (such as riding a bicycle), a product, a service, or the (market) application of this product or service (sometimes referred to as business model innovation). There is also the issue of differentiating clearly between the related concepts of discovery, invention, creativity and innovation, and understanding the role of both technology and entrepreneurship in this context.

It is the intention in this short introduction firstly to try briefly to address what we know about innovation, and to establish some common definitions that hopefully

will be of use when reading the various contributions in this book. The second objective is to provide an outline of the book and help the reader see some of the connections between chapters.

What is Innovation?

The most commonly used definitions suggest that discoveries and inventions precede innovation. Discoveries and inventions are both the result of creative processes, but discovery implies finding that which existed but was unknown, whereas invention refers to that which did not exist before. Discoveries and inventions increase our collective body of knowledge and are often, but not always, linked to some form of methodical or scientific research. In some cases discoveries and inventions are fortuitous – in other words just plain lucky. The outcome of discoveries and inventions are knowledge or ideas and as such they are not commercial per se, although they may present the inventor with new economic opportunities.

Innovation refers to using inventions or discoveries to create new processes or methods of production (often embedded in technology), new products or services, new forms of organisation, or new ways of commercialising such processes, products or services. The innovation is thus the application of knowledge towards commercial goals. In terms of research and development (R&D) activities, it is therefore useful to distinguish between research, which aims to make new discoveries, inventions or technologies, and development, which aims at turning these into useful products or processes with commercial value. Research fuels invention, whilst development fuels innovation.

In many ways innovation is more complicated than invention, and is certainly more critical from both an economic and business point of view. Innovation is what makes a discovery or invention usable to mankind, typically through the marketplace or in the case of the public sector through service delivery. Innovation is thus a critical element of economic development, since it is what pushes new products, processes and solutions to the market place, where these can stimulate economic growth and raise welfare. Not surprisingly, innovation, and in particular technological innovation, is thus considered to be the very engine of economic growth.

Austrian economist Joseph Schumpeter based his business cycle theory on the premise that economic development is driven by forces of creative destruction. In his view capitalist society is not stationary but in a constant state of change. It is the pursuit of profit that motivates businesses to find new and better ways of production, new products and services, new markets and new ways of organising. The pursuit of the new inevitably leads to the destruction of the old (old products, old forms

of organisation etc.), and often this newness comes as a result of entrepreneurs entering the market and destroying the value of established companies. Established companies seek to create monopolistic power, whereas new entrants challenge that monopoly. Thus society advances and develops not in a simple linear fashion but through the flows and ebbs of innovation and entrepreneurship.

Not surprisingly, studies typically find that successful businesses struggle to remain successful in the long term. Consider for instance the recent experience of Nokia. Ten years ago, had you asked anyone in the telecommunications business which company would be the best selling mobile phone device company in 2012, many if not most would have said "Nokia". No-one would have predicted that the first place would actually be occupied by Apple, at least in the smartphone market!

The story of Nokia is actually the norm, rather than the exception. Consider these facts:

- Out of the Forbes 100 companies that were on the initial list in 1917, by 1987, 61 had ceased to exist; only eighteen managed to stay in the list; and of those only two companies (General Electric and Eastman Kodak) managed to generate returns above the average[2]. And as we know, Eastman Kodak filed for voluntary bankruptcy in January 2012.
- Historically, there has been a turnover rate of around 6% on the Fortune 500 list. This means that every year, around 30 companies leave the list[3].
- The average life span of S&P 500 companies has steadily decreased from around 50 years, to around 25 years today.[4]

The story is similar for smaller start-ups. For example, of all (West) German companies started in 1984, only one in four service companies and one in three manufacturing companies were still alive by 2000[5]. Although there are many reasons why businesses fail, innovation is often at the core of the story, one reason being that innovation can lead to substitution. For example, once the Personal

2 http://innovationzen.com/blog/2006/07/22/long-term-success-or-survival/

3 Morris, L. (2009), Business Model Innovation: The Strategy of Business Breakthroughs. *International Journal of Innovation Science*, 1(4)

4 Morris, L. (2009), Business Model Innovation: The Strategy of Business Breakthroughs. *International Journal of Innovation Science*, 1(4)

5 Fritsch, M., Brixy, B., and Falck, U. (2006) The Effect of Industry, Region, and Time on New Business Survival – A Multi-Dimensional Analysis. *Review of Industrial Organization*, 28:285–306

Computer and client server had developed sufficiently to provide businesses with a cost-effective solution for data analysis, sharing and storage, the traditional high margin mainframe market all but disappeared, leaving IBM in dire straits by the early 1990s. IBM have since changed their core business and recovered – forced to innovate as the mainframe market disappeared.

A similar story has been unfolding in the postal industry over the past decade.

Forms of Innovation

Roughly speaking there are two ways of approaching innovation. The first is what is sometimes called the "technology push" approach, where innovation is the result of investment in technological research and development. In this view it is critical for managers to support and fund their scientists and engineers who will push out new innovative products and processes.

The opposite view is the "demand or market pull" view, whereby innovation in fact often starts with the customer. In this view, companies are better off listening to the users of their products, in particular the most advanced users. These lead users can help companies to identify opportunities for product improvements. Such innovation is often referred to as user innovation, and adopting this view amounts to accepting the usefulness of some forms of open innovation – the idea of collaborating with external stakeholders when innovating.

Innovation is often categorised into radical versus incremental innovation. As suggested by the name, radical innovations are those that disrupt current technologies. It is these innovations that Schumpeter had in mind when he wrote about creative destruction. Such radical innovation seldom occurs as a result of working with existing product users and is the most difficult for businesses to deal with, as it often compromises the existing structures, processes and customer relationships on which a company will have based its success. Much more common are the smaller incremental innovations that lead to steady improvements in production and product.

Over the course of an industry's life cycle it is quite common to find that during initial stages there is a focus on product innovation. New entrants enter the market with improved product designs and only once the industry moves towards maturity does a dominant design emerge that to some extent limits the options for further product innovation. On the other hand, maturity shifts the focus towards process innovation as producers look for ways to increase productivity and benefit from economies of scale. Useful for process innovation is to think of a business's value chain and to recognise that innovation can occur in all parts of this chain.

More recently the idea of business model innovation has gained momentum. Put very simply, a business model can be thought of as the story of how a business makes money. It explains how a business adds value to its customers and appropriates profits. It makes clear what the product is and how it is sold. A business model is not the same thing as a strategy, but it is complementary to strategy.

Examples of innovations in business models include Dell's model of selling directly to customers rather than through resellers, which gave them the double advantage of increasing margins and improving inventory management. Another example is Amazon's decision to sell books online, thus avoiding the cost of high street shop locations, or the bait and hook model used by Gillette, whereby razors are sold cheaply and at low margins, but subsequent razor blades are sold at high margins. This same model is used by printer manufacturers, with new printer toners (cartridges) sometimes costing as much to purchase as the printer itself. In the last decade companies like Easyjet and Ryanair have transformed the European airline industry with their "no frills" approach low cost strategies. Although business model innovation is somewhat rarer than other forms of innovation, innovative business models can challenge existing competitors by changing the basic principles of how to make money in a given industry.

Innovate First or Innovate Last?

It may seem obvious that, given the potential power of innovation to create economic value, all companies should be investing in R&D and creativity in order to be successful. However this would be oversimplifying the options available. Research, development and creativity are all very expensive activities to maintain. The business returns on research investments in particular can be very uncertain, which is why most fundamental research needs public funding in order to be pursued at all, and much of it is carried out in universities and other public research institutions. By its very nature research can only partly be directed towards potential applications and it is impossible to plan important discoveries.

One sector that does invest heavily in development-oriented research is the pharmaceutical sector. For example, Swiss pharmaceutical giant Novartis invested USD 9.6 billion in R&D in 2011, with sales of USD 58.6 billion. New drugs can take many years to discover, followed by years of testing in order to gain authorisation for patient use. Only thanks to strong intellectual property laws and other protective mechanisms is it possible at all for such companies to recover the cost of research.

In most sectors it is much more common to find companies focussing on product development and creativity, but even these are costly and offer no guarantee for long term success. One example is the world leader in computer peripherals, Logitech. For many years Logitech has focussed its innovation on constant improvements to its core products, mice and keyboards, along with the development of other product lines like speakers or webcams. Logitech mice and keyboards consistently have been the preferred choice of users, which has allowed Logitech to charge a premium for some of its products, whilst maintaining a general competitive lead compared to Microsoft and others. However, these incremental product innovations have not spared the company from being under threat from substitution, and it is now facing its biggest challenge of all. Recent developments in smartphone and tablet technologies, including haptic touch-screens, suggest a future where mice and keyboards no longer play as significant a part in human-computer interactions.

Even investments in the creativity of human resources, whilst attractive at first glance, are actually quite expensive and may need to be highly focussed if they are to pay off. Google is famous for its "20% rule" whereby engineers are encouraged to spend a day a week on projects that are not part of their job description. This, along with creativity-enhancing office and technology infrastructure, has led Google to launch a host of new applications, some of which have failed, but some of which have had some measure of success. However, very few companies can afford to add 20% onto HR costs and still remain competitive in a fierce marketplace. Most therefore prefer to experiment with other mechanisms, such as training, innovation forums, improvement groups, quality circles, innovation champions, suggestion schemes, and so forth.

Balancing the pros and cons of innovation with the right amount of focused investment is the most critical and strategic aspect of innovation. An important consideration in this regard is to what extent innovation can create value at all, and to what extent a company can actually appropriate any of the value created. In the case of pharmaceuticals, patent laws guarantee a monopoly for a drug inventor of 20 years – often a sufficient time to recoup any investments made. After those 20 years the drug becomes "generic", and can be copied by other drug manufacturers. In other industries it may be more difficult to protect yourself from imitation, making it harder to retain value.

Those who benefit from a given innovation thus include not only the innovator, but also imitators and other followers, customers or even suppliers. It is interesting to note that in recent years open innovation has become more common. An example of this is the Android mobile operating system (itself based on Linux), which today

operates close to 60% of all newly sold smartphones, over twice as many as are powered by Apple's iOS[6]. Although owned by Google, the operating system source code for Android is available under free and open source software licenses, and can thus be exploited or further developed by anyone, although it should be noted that portions of the code are withheld.

Other companies have experimented with crowdsourcing in various forms, whereby the public is used to help companies innovate. A basic example is "My Starbucks Idea", whereby anyone can post ideas for Starbucks to explore, and improve and vote on the ideas of others. Tens of thousands of ideas have been collected in this way. "Lego Mindstorms" is another example of crowdsourcing where the famous toy manufacturer encourages users to build robots with Lego and share the results. The idea here is that users produce innovative robots with potential real-world applications and share these with other users and the company. Some of these ideas can then make it into future commercial Lego sets.

In general, the appropriability of the value of innovation depends on how easily an innovation can be imitated, which in turn depends on a number of factors, over which a company may or may not have any direct influence. Appropriability is higher in the following circumstances:

- When intellectual property rights can provide protection, for example through the use of patents, copyrights or trademarks;
- When the innovation is complex and not easily codified (i.e. not easy to record or communicate, and not easily identified);
- When the lead-time is high, i.e. it will take a long time to imitate;
- When the innovation is linked to complementary resources to which competitors can not easily gain access.

In some circumstances, it may be more profitable to be an imitator than an innovator. This is because first-mover advantages may not be sufficient to guarantee a good return on investment in innovation. Typical first-mover advantages include the benefits of experience (being the first helps you learn more rapidly), scale (being the first gives you a lead in the race towards economies of scale), resource acquisition (being able to secure access to key resources and to block access for competitors), reputation (building a reputation as the original innovator) and standard setting

6 Source: Gartner Research, as quoted on Wikipedia http://en.wikipedia.org/wiki/Mobile_operating_system

(being able to set the standard that others must follow). However, late-movers have two great benefits. Firstly they can free-ride by imitating, thereby avoiding expensive investments in innovation, which substantially lowers costs. Secondly, they can avoid making early mistakes, by observing the successes and failures of the first mover. In general, where the potential appropriability of value to the innovator is low, it may be more profitable to be a follower, rather than an innovator. There are many examples of successful innovators, but there are equally many examples of successful followers.

Innovation and Strategy

Innovation is a strategic initiative in that innovation can be thought of strategically, and without strategic support has little chance of survival in an organisation. However, innovation cannot necessarily be controlled fully, nor is it likely that innovative ideas start at the top of the organisation. In many of the most innovative companies, the CEO and top management team play only a very limited operational part in innovation. In the words of David Kelley, Stanford Professor and the founder of design and innovation consultancy company IDEO:

> "In a very innovative culture you can't have a hierarchy of here's the boss, the next person down and the next person down... because it's impossible that the boss is the one who has had the insightful experience... Is it the boss that's always going to have the best ideas? Not likely!"[7]

That the CEO is unlikely to come up with the next big idea is particularly true in bigger businesses where top management is further removed from customers, suppliers and production. Here, what is important is to create the right conditions and culture for innovation to take place, rather than to try to dictate how and when and by whom innovation may occur. An example of a company that has long recognised this is 3M, systematically considered one of the most innovative companies in the world. As CEO George Buckley wrote in the company's 2011 Annual Report:

> "[Innovation] is built on a belief in the power of R&D, belief in the people doing that kind of work and a deep conviction that the collective power of their imagination and creativity will generate future opportunity and financial betterment for the company. We don't always know how or when that opportunity will unfold, so it requires an element of faith and it can occasionally be a little scary. The creativity from which product and process innovation is born requires a finely balanced approach to risk, technology and

7 Cited from ABC Nightline, 13th July 1999

> investments and it also requires a little freedom. We offer that freedom to our researchers by allowing them15 percent free time to work on whatever projects they wish, ones of their own making. It is a powerful concept we've had in place for decades and many of 3M's legendary inventions came from it. It also requires optimism about the future, solid knowledge of where opportunities might lay, curiosity, belief in people and good instincts. A company cannot get there by process alone or by punishing what some might see as failure, it needs a sprinkle of "magic dust." At 3M, because of our wide diversity of technologies and end markets, the term "failure" is rarely applied to R&D, and invention here is almost always repurposed and reused. It is my strongly held view that innovation and entrepreneurship flourish best in an environment of stimulation and encouragement nurtured by leadership and driven by the CEO."

Innovation is at its most powerful when it serves the competitive strategy of a company or business unit. If, for example, the competitive strategy is to be a cost leader, innovation activities ideally can be directed towards discovering and unlocking potentials for cost savings, such as developments to reduce materials content, facilitate ease of manufacture, or simplify logistical requirements. For differentiators, innovation can be directed towards product design (to match the exact needs and requirements of customers), the enhancing of product features, the improvement of product quality, or towards increasing switching costs. Innovation that supports the over-all competitive strategy is thus the most likely to deliver short-term benefits and returns on investment.

Within the postal context, not surprisingly innovation has become the big discussion point of the moment. One explanation for this is certainly the fact that technology and innovation in other sectors is now threatening the very existence of parts of the core business of posts, but another is that posts are now, more than ever, free to innovate and create a new future for the industry. Given the starting point of the modern post, becoming innovative is not going to be an easy task. In a small piece of research I carried out on behalf of SAP in 2008, I concluded that

> "the most important internal barriers [to innovation in posts] have to do with being too slow to make decisions, too much bureaucracy and having a corporate culture that doesn't encourage creativity."

A few years on these barriers probably still exist, but an increasing number of postal operators have made substantial efforts to become more innovative and these efforts are starting to pay dividends, as illustrated by the many successful cases contained in this book.

An Overview of Contributions

We invited a group of experienced industry professionals with a variety of backgrounds to contribute their thoughts to this book. These experts each share with us, and with the readers of this book, their perspectives on innovation in the postal sector. These views are sometimes contrasting, often complementary, and in all cases paint a fascinating picture of some of the actions of the industry in response to the many challenges now faced.

This volume starts with a preface by Edouard Dayan, outgoing Director General of the Universal Postal Union who, in his many years at both the UPU, but also at French La Poste before that, has witnessed the major transformations of the industry.

In the next chapters we find some personal reflections on the need for innovation in the postal sector. Botond Szebeny, Secretary General of PostEurop, the association that represents the interests of public postal operators across Europe, comments on some of the dilemmas facing operators when thinking about innovation at the strategic level. Maurizio Puppo, from postal solutions company Solystic, goes on to emphasise the importance of being optimistic about the future, if posts are to stand a chance of capitalising on some of the unique capabilities the post has to offer. He suggests these capabilities include the post's position as a trusted channel.

Mario Suykerbuyk and Manolo de la Fuente from PostNL provide an insightful case study of how what started out as an example of process innovation (the outsourcing and optimisation of video-encoding), was subsequently turned into a new business venture, with the launching of PostNLShore in 2010. Within a year of launching, this new company not only served PostNL, but a further 20 clients.

Eva Malene Hartmann of Post Danmark, a division of PostNord (the company formed after the 2009 merger of the Danish and Swedish Posts), discusses how the company is responding to the particular challenge of digitalisation in the context of the Danish government having declared that by 2015 a majority of communication to citizens (G2C) will be digital. Similarly João Manuel Melo, Maria João Soares, Silvia Jesus Oliveira and Ana João Cardoso from CTT Correios de Portugal provide cases of innovative solutions embracing the new digital world.

The next chapter, by Vincent Kwaks of Vanderlande Industries, describes an example of process innovation and illustrates how such innovations can be developed by a supplier working with an open approach. Philippe Aquin and Patrick St-Louis provide another case, this time about GIRO and their optimisation software, that illustrates the importance of working with users.

In a more personal reflection on the future of the post, experienced consultant Jacob Johnsen argues that the decline in letter volumes should be seen as a signal for posts to move beyond the letter, and to embrace fully the possibility of playing a role in the world of digital messaging, and in the hybrid space between the physical and digital. Toomas Türk from Estonian Post then offers some fascinating examples of how this can be done. In the following chapters Richard Wishart offers an insight into innovation in identification, track and tracing technologies, whilst Leon Pintsov of Pitney Bowes offers a structured approach to the question of the value of mail.

Olivier Salesse of TERA Consultants and Raymond Redding, former Executive Vice President of French La Poste, provide a thoughtful overview of the context within which postal organisations find themselves looking for a new position in the market place, and offer that there is a need to redefine the definition of universal service. David Asher and Bruce Marsh, from USPS, provide further arguments for this in the very particular context of the Unites States.

Salustio Prieto and Víctor Hugo Avila from CorreosChile describe how Correos has developed a new vision for the future, based around the need to provide innovative future-oriented solutions, and how innovation will be used strategically both in the core business and in diversification initiatives. In the following chapter, Stefano Gori and Corrado Soda of Poste Italiane present the case of PosteMobile, the Italian operator's move into the mobile telecommunications industry.

In the final contributions to this book, Graeme Lee, a seasoned consultant with a focus on the developing world, shares with us an example of how a (very) late mover can innovate – in this case by creating a new post code system in Palestine. As for Colin de Vries, owner of BlueMailCentral, he invites us on a personal journey into the postal world, and offers a refreshing view on the importance of a direct form of open innovation, where engagement and dialogue are at the forefront of innovative practice.

Finally, Derek Osborn, co-editor of this volume, describes how anyone can be innovative by thinking differently and developing an innovative mind-set. He gives some hints and tips on how to achieve this, suggesting that the postal industry is on the threshold of following new routes and exploring new territories that could change the business landscape and shape a whole new future - that is in the post.

Collectively the contributors to this book have several hundred years' industry experience, and as such we hope their contributions will provide a rich illustration of innovation and its multiple facets in the context of the postal world. We hope you will enjoy reading these contributions as much as we enjoyed collecting them together.

CHAPTER TWO
Postal Innovation in the Context of the New Digital Dimension

Botond Szebeny
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The postal industry in Europe has been undergoing unprecedented change with, for example, the digital substitution and gradual market opening that has been taking place over the last decade. More recently, the European Commission has taken a strategic position on electronic communication with its so-called Digital Agenda. This chapter reflects the difficulties and dilemmas being experienced by the postal industry at the heart of Europe as witnessed by PostEurop, the membership association that speaks for all the postal operators in the region. The author identifies innovation as the key to a sustainable and profitable future, whilst also recognising that innovation is not easy.

Innovation is often presented by business analysts as the key to becoming, or to staying, a market leader. The postal industry has to cope with declining volumes, budget cuts and operational and strategic choices to be made. At the same time, the fast emergence of new technologies has changed the speed and way of communicating, selling and buying. The postal industry is thus increasingly concerned by the new digital dimension.

Innovation Makes the Difference

Mail volumes that are constantly decreasing do not have to be perceived as a curse. On the contrary postal operators show potential and ambitions for growth to building a sustainable future. The difference between diminishing volumes and growing results is called the need for growth. Innovation is often what makes the difference. Companies like Apple, Google and Facebook prove every day that innovation brings growth. Every new product or new service they launch on the market impacts their financial results and their image, on the market and/or on the stock exchange. But what is most striking, in terms of innovation, is that these most famous brands are companies that are actually riding the wave of new technologies. How tempting it is to play on their field. But how many are already competing on that field? Using which tools? What are the results? Isn't this "blue ocean[1]" of Social Medias and the race for technological novelties too "red" or congested already for our industry?

It is a fact that most industries are indeed now compelled to survive and perform through continuous innovation, and some of them, including the postal industry, are not always that successful. How can we, in the postal sector, explain these difficulties in innovating when we have great assets in our hands that are the envy of many other sectors?

A New Reality

To view the future, we have to understand our past. For decades posts have evolved along two axes.

The first one may be called "*Return to sender*". The model carried by the post was the one of a sender sending a message to a recipient using the post, under the conditions imposed by the post and following the rhythm of the post. The recipient was then

1 Chan Kim, W. & Mauborgne, R. (2005) *Blue Ocean Strategy: How to Create Uncontested Market Space and Make Competition Irrelevant*. Harvard Business Review Press: Boston MA

receiving the message of the sender handed to him by the post. And he discovered it through the post. This is our postal DNA, a PUSH model where the sender was our client. What is happening today? The situation is completely reversed. E-commerce is the perfect example: today, a client, the future recipient, orders a product online to a buyer, the future sender. In ordering, the recipient specifies how and when they want to have the order delivered. If the post is the chosen delivery option, it learns at the time of the order when, where and how the ordered goods should be delivered. The balance of power is totally different. The recipient has taken the power back and dictates his terms, so from now on the delivery recipient is the client and they are the one who has to like the post. We now have to live according to the PULL model of the recipient. And what we deliver to the mailboxes has changed a lot too...

The second axis could be called "Let's get physical". In the past, customers received advertisements through direct mail and then we went shopping convinced by the message that we were buying and bringing home the right product. We were present at the beginning of the chain. What is happening today? The client is besieged with emails, social messages, TV advertisements, reviews, comments. He will check on Google or Facebook whether the product is trendy and then he decides to buy it online. And we, the postal operators, can be there when the decision is made. We can deliver today what we were not delivering in the past, and quite certainly even more in the future. This is a fantastic opportunity. But it is also a radical change in our postal DNA, and we have to assimilate it. We have to change.

The Need for Change

Such a radical change cannot happen overnight, especially when we have to transform huge and complex structures, sometimes heavy to handle. Therefore, innovation has its price and there will be many constraints including cultural, regulatory, financial, and the right expertise.

Every postal operator is already convinced of the need to change. But towards which direction should they now turn? The electronic or digital option has been chosen by many operators, but the electronic market has not matured yet and it does not have its developed pricing, interconnectivity or standards. The technology itself changes at an exponential rate and we have to admit that there are only a few (if any) profitable electronic models compared to the physical models that we know.

The direction to choose is now of strategic importance because the postal world is in the midst of major changes – but the whole world in general is also changing. When the European Commission came to the same conclusion, a strategy linked

to an obligation for growth was proposed. Driven by a similar logic, it defends and promotes electronic options as solutions for sustainable development. The EU released its Digital Agenda and clearly announced its intentions, orientations and needs. Now that we are looking for a direction, for development potential and for global reorientation, why not consider the directions that Europe is proposing? Why not emerge as a solution to their problems and in line with their new policy direction?

Innovation in Europe

In the main axes of the Digital Agenda, there is a clear and strong line: a single European market based on secured electronic exchanges, with well identified and reliable partners, working with high-performance technology based on shared standards allowing international interconnectivity. So physical or electronic – which route to take? Probably a convergence of both with integrated offerings based on the postal industry's strength and heritage in the physical domain, yet connecting with the new digital world.

Innovation means developing an offering that fits the needs of the market with different and new profitable solutions. Innovating starts with choosing a direction and the direction that would serve millions of Europeans should be analysed in depth.

The analysis should start with the notion of electronic that everybody, including the European Commission is mentioning. What kind of Internet are we talking about today? The one which works on IOS or Android? What will tomorrow's Internet be like, this Fast Internet Access demanded by the Commission? Will it be HTML5, optical fibre, WiMax? Will it work from PCs, tablets, smartphones?

Concluding Remarks

As a European association, our view is enriched by our Members' experiences, cultures and differences. We see that Europe will be more and more important in our lives whether we are a citizen, a client or enterprise and whether we like it or not. The Universal Postal Union provides the bases of our worldwide postal network while we witness this European postal network cooperating and bringing fabulous assets: a reliable experience in physical delivery, a strong image of dependable partners with public trust, a retail network, and a presence all over the world every day. And we listen. We listen to Europe which tells us to look for a European solution that should come from an efficient partner, a reassuring solution that should be transparent and safe. And we listen to our PostEurop Members who want to be that partner.

Harmonisation of stakeholders' and shareholders' interests and making innovating easier, this is where we, in PostEurop, can act. But innovating means more than having new ideas; it is above all the process of generating those ideas and then transforming them into new commercially exploitable and profitable products and services, through efficient delivery, imaginative development and effective sales channels. Implementing and driving this innovation process is the responsibility of our members and they have the possibility to adapt the ideas to the reality of their own market.

Questions for thought and discussion

1. What can we learn from the innovation that has emerged from Apple, Google and Facebook, that the author mentions? What is the relevance of "blue ocean" thinking in this context?
2. Why is it often said that the postal sector has difficulties in innovating when it has great assets in its hands that are the envy of many other sectors?
3. Is there a role for international postal organisations such as PostEurop, UPU and IPC in facilitating innovation across the postal sector and, if so, what should that be?

CHAPTER THREE

The Future of the Post: the Pessimism of the Intellect and the Optimism of Will

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According to the author of this chapter, there are two ways to view the future of the post. Firstly there is the pessimism of the intellect, which dwells on gloomy predictions for the future of the postal industry that leave us "staring into the abyss". In stark contrast to this analysis, and the only way to avoid this dark prospect, is metaphorically to build a "bridge" across the chasm using the optimism of will. In this way we can choose to be positive and begin to create a sustainable future for the industry. This can be done by leveraging some key advantages that the post already has in its hand, but this also requires us to think differently about the future and, in short, to innovate as a matter of deliberate choice.

Introduction

What is the future of the post, as suggested by the title of this book? You can probably put forward good reasons both for and against any future, with pessimism or optimism, but one point seems undeniable: post *has* a future ahead of itself, unless and until someone invents a teleportation machine (famous from *Star Trek*), that directly moves objects from one place to another. No matter how much electronic and digital communications grow, people will continue to order goods for physical delivery at their home or business addresses. So it will be worth trying to understand what this future will look like and how this future, in the words of Austrian poet Rainer Maria Rilke "enters into us, in order to transform itself in us, long before it happens".

Our view of the future could be founded on at least two pillars, like in a construction, whereby the one cannot stand without the other. The first pillar, along the lines of the motto of the Italian philosopher Antonio Gramsci, is the pessimism of the intellect (the world as it really is and will probably be, not as we might like it to be) while the other pillar is the optimism of will (what can be done to make the future and not to be subjected to it).

The Pessimism of the Intellect

The pessimism of the intellect says that diversion to digital channels will entirely replace the physical mail with its electronic alternatives. There is some evidence of this:

> "Substitution of mail volume by electronic alternatives is now an irreversible trend in almost all European countries"

says TNT in its annual report of 2009.

> "We forecast US postal volumes to decrease from 177bn pieces in 2009 to around 150bn pieces (or even less) in 2020 under business-as-usual assumptions"

says a Boston Consulting Group Report of 2009[1].

The decline of traditional mail has been slow but steady since the dot-com boom and has dramatically accelerated since 2008, when a conjectural factor, the economic recession, has acted as a trigger, or a "transmission belt", for a lasting,

1 BCG, Projecting U.S. Mail Volumes to 2020, http://about.usps.com/future-postal-service/gcg-narrative.pdf

structural, "genetic" modification of communication: the final advent of digital communication.

> "Notably, volumes will not revisit the high-water-mark of 213bn pieces in 2006 – on the contrary, the trajectory for the next 10 years is one of steady decline, which will not reverse even as the current recession abates"

as stated in the BCG report.

Both businesses and consumers have largely moved to digital communication and payment alternatives including e-mail, as well as mobile information formats like SMS, picture and video messages and social networking. Of course, even though public administrations remain an important market segment, for governments facing a budget deficit, the digitisation of communications is a way to reduce their costs, improve efficiency, modernise processes and to enhance the image of their public administrations. Moreover, there is generational factor: by 2020, it is estimated that 40% of the US population will be digital natives[2], i.e. persons born during or after the introduction of digital technology, into an environment that included e-mail and texting as opposed to what is derisively called "snail-mail".

For most of the digital natives, the simple idea of writing a letter may and will seem more and more prehistoric. Under the most favorable circumstances, writing a paper letter could be an eccentric, peculiar, nice way to have a break from glaring at a computer screen all day. Even e-mail is considered old fashioned by teenagers. In the words of one teenager: "It's just slow. It's not even worth it, really."[3]

So even e-mail, once the real "killer application" on the Web, the first responsible for e-substitution, the "Enemy Number One" of "snail mail", is already going the way of its victim.

Mark Zuckerberg, Facebook CEO, said that

> "high school kids don't use e-mail, they use SMS a lot. People want lighter weight things like SMS, Tweet and IM to message each other"[4].

If even e-mail is perceived by teenagers (the adults of tomorrow) as something for

2 Source: U.S. Postal Service Office of Inspector General, The Postal Service Role in the Digital Age Part 1: Facts and Trends February 24, 2011, http://www.uspsoig.gov/foia_files/RARC-WP-11-002.pdf

3 http://www.capecodonline.com/apps/pbcs.dll/article?AID=/20070423/NEWS/704230308/-1/NEWS

4 Quoted from http://digital.fleishmanhillard.com/social-medias-effect-on-e-mail-usage/

"old fogeys" (person behind the times, conservative and slow), how can traditional paper mail still have real chances?

We can reasonably conclude that, even if recessions are cyclical, volumes of traditional mail will never regain pre-crisis level, far from it. The past as we knew it will never come back. The "volume decline is projected close to 25 % to 50 % over the next 5 to 10 years"[5] while the volume of electronic exchange will keep growing.

Paraphrasing an interesting article of the American Journalism Review about the newspaper's world ("Bridging the Abyss"[6]), we could imagine traditional postal services as if they were standing at the rim of a large canyon, peering toward the other side where the new world of digital communication, source of profitable growth, beckons like an unreachable Hollywood star. One side of the chasm is the world of the physical communication and the other side is the world of the digital communication. One thing is for sure: if you look too long into the abyss which is in the middle, as the German philosopher Friedrich Nietzsche said: "the abyss also looks into you".

So, instead of looking in the abyss, let us try a play a game: to find a few memos for the future, a list of things to do, useful to build the bridge to get over the chasm and to look the future, instead of the abyss, straight in the eye.

The Optimism of the Will

This "game" is the second pillar of our construction: the optimism of the will. The aim of the game is to find a few words, or idiom words, for the future "in the post".

The first word could be: "***identity***" (it could also be "proud"). The post does not need to disavow itself or deny its strong heritage; its long history does not come from nothing. The postal network is still the largest delivery artery in the world: 400 billion letters and 6 billion parcels are delivered each year. This is changing and will keep changing again, but it will certainly not disappear from one moment to the next, and if from one side mail declines, on the other side parcel volumes are now growing at double digit rates. We will still need some sort of physical mail delivery system. And more than this, the post still

> "helps social cohesion by linking rural communities with more densely populated areas of the country, and ensures that older people and those with disabilities have an accessible, reliable means of communication and the capacity to send and receive physical goods"

according to the 2008 Hooper report on UK postal services[7].

The second word (more precisely, an idiom) could be ***"competitive advantage"***. Postal operators are in a critical moment but not in a weak position. They have at least one real, strong competitive advantage: they are

> "'in the unique position of being the trusted channel positioned at the heart of the dialogue between a nation's government, businesses and consumers/citizens. Expanding that channel to include electronic communications is a logical extension of a postal organization's core business"[8].

The third word could be: ***"diversification"***.

"The majority of international posts already derive 40% or more of their revenue outside of mail", according to a study by Accenture[9], that further tells us that "non-mail represents 63% of the collective revenue of international posts in 2008, up from 49% in 2003" and "non-mail revenue grew by 60% while mail revenue declined."

If mail declines, other adjacent areas grow: at least five areas (once more, according to Accenture analysis) stand out as the most sizeable diversification opportunities: parcel services, logistics, retail with banking, integrated marketing and document management. If you couple these five areas to the competitive advantage (the "hub" or pivotal intermediary position between a nation's government, businesses and consumers/citizens), you have already found a strong source of development, no matter how much mail will decline.

The fourth word is: **"credibility"**. This is a prerequisite for a diversification strategy. Adrian King, a consultant with Strategia Group, explains this very clearly:

> "If I try to sell an email service as a post, I have little credibility against a telecom company (recent example is the competition between Deutsche Telecom and Deutsche Post). But if I try to sell an electronic document delivery service, which is integrated into physical mail, I am a universal

5 *The Business of Digital Mail*, Accenture Research 2011, http://www.accenture.com/SiteCollectionDocuments/PDF/Accenture-Business-Digital-Mail-Part-1.pdf

6 Layton, C. (2008) "Bridging the Abyss". *American Journalism Review*, June/July 2008

7 The challenges and opportunities facing UK postal services, May 2008, http://www.bis.gov.uk/files/file46075.pdf

8 *The Business of Digital Mail*, cit.

9 http://about.usps.com/future-postal-service/accenture-presentation.pdf

> service provider of physical and electronic services and have a lot more credibility"[10].

The fifth word (again, an idiom) could be "**cost management**". Without a real cost management strategy, in the letter market the postal operators will lose lots of money, because, while mail volume is dramatically dropping, they have to deliver to more and more addresses every year (+900,000 addresses in US only in 2009). To manage internal costs does not mean blindly to cut investments and resources. On the contrary, blindly cutting costs does not lead to long-term success. An established company in a maturing and changing market has to balance cost reduction with investments that will grow the top line: investments in technology, in automation, in internal sorting and delivery process, in e-services development. New technology, in order to reduce significantly the cost of the delivery process, is now emerging: e.g. to process all letters in the same flow instead of separating letters and flats flows.

The sixth word: "***innovation***".

"Everything that can be invented has already been invented" said Charles H. Duell, director of the US Patent Office, 1899. What has followed since 1899 has proved that he was wrong! Postal operators have a lot of things to do, proposing innovative processes along the value chain and new digital-physical services. The limits of the postal offer have not been fully explored yet. Consider the story of Reginald Bray. Reginald, an Englishman living in London in the early 20th century,

> "purchased a copy of the Post Office Guide, and began to study the regulations published quarterly by the British postal authorities. He discovered that the smallest item one could post was a bee, and the largest, an elephant. Intrigued, he decided to experiment with sending ordinary and strange objects through the post unwrapped, including a turnip, a bowler hat, a bicycle pump, shirt cuffs, seaweed, a clothes brush, even a rabbit's skull. He eventually posted his Irish terrier and himself (not together), earning him the name 'The Human Letter'"[11].

A new Reginald Bray could be again fascinated by the potential of the operation undertaken by the postal services, and set out to explore the limits of what this service could provide.

10 *Union Postale*, n°4, December 2011, p. 20

11 Cited from the publisher's description of John Tingey (2010) *The Englishman Who Posted Himself and Other Curious Objects, 2010, Princeton Architectural Press, New York*

So what are a few examples of postal innovation? As reported by *The American Prospect*:

> "Itella, the Finnish postal service, keeps a digital archive of its users' mail for seven years and helps them pay bills online securely. Swiss Post lets customers choose if they want their mail delivered at home in hard copy or scanned and sent to their preferred Internet-connected device. Customers can also tell Swiss Post if they would rather not receive items such as junk mail. Sweden's Posten has an app that lets customers turn digital photos on their mobile phones into postcards. It is unveiling a service that will allow cell-phone users to send letters without stamps. Posten will text them a numerical code that they can jot down on envelopes in place of a stamp for a yet-to-be-determined charge"[12].

Many more examples could be given; here, let me mention only the case of DOCAPOST, the operational holding of the French La Poste group, proposing a complete suite of services helping the optimisation of the process of business relationships. If some things have been done, a great deal still remains to be done here.

Conclusion

Identity, competitive advantage, credibility, diversification, cost-management and innovation – these are six memos for this millennium and for the future of the post. As the French writer Georges Bernanos says, we are not just invited to wait for the future as we wait for a train. The future is something we overcome. We are not subjected to it, we make it. If the future is really in the post, we have to create it.

12 "The Postal Service Faces the Future", *The American prospect*, http://prospect.org/article/postal-service-faces-future

Questions for thought and discussion

1. Part of the author's contention is that the same factual analysis of the current situation of the postal industry can be viewed in either a positive or negative way, like a glass that is half full or half empty. Does our outlook and prognosis for the future depend more on our attitude, reaction to and interpretation of the facts, than on the facts themselves?
2. What role does innovation play in facilitating "the optimism of the will" as the author describes it?
3. One of the levers described is diversification. If postal companies continue to diversify into different markets, products and services will they still retain a common thread or ethos that keeps them together in a single industry sector and if so, what will that be?

CHAPTER FOUR
Transforming a Cost Reduction Programme into a Sustainable Business Model

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The need for PostNL to reinvent itself led it to embark on major cost reduction plans and these involved subjecting all internal processes to a "fresh pair of eyes". This case study illustrates the truth of the old saying "necessity is the mother of invention". Looking hard at how to reduce costs definitely can lead to innovative ideas if all options, however unusual, are considered. But innovation is also about doing things differently and implementing new ideas. This case shows how PostNL not only introduced off-shore video coding but did not stop there. This innovative solution to cutting costs soon became a new and growing business venture that has expanded and developed well beyond the original idea.

Introduction

PostNL is the incumbent Dutch mail and parcel operator. The company is over 200 years old and is planning to become much older, but because of declining volumes it is beginning to reinvent itself in order to achieve this. PostNL is investing in several areas, one of them being the offshoring of video coding. Video coding involves manually entering address data from envelopes so that postcodes which sorting machines cannot read automatically can still be sorted. This article describes the start-up and launch of PostNL Shore B.V. Through this company PostNL offshored video coding and turned this cost-reduction project into a profitable and fast-growing commercial unit within PostNL.

The Challenge for PostNL: Declining Mail Volumes

Over the past two years, PostNL's mail volumes have declined by 7% to 9% per year. The causes are not new to anybody familiar with the postal world:

- Other mail companies are penetrating the fully liberalised postal market in the Netherlands;
- There are more and more digital mail alternatives for direct mailings, invoices, payment slips and bank statements.

It is clear that if mail volumes keep on falling at the current rate, in about five to ten years from now PostNL probably will be delivering much less mail than at present. This decrease will not be offset by the growth the organisation is achieving in parcel delivery.

PostNL is following two parallel paths to deal with the declining mail volumes:

- PostNL is focusing specifically on cutting costs and making the organisation more flexible in order to remain healthy. All cost-saving projects have been grouped into what PostNL calls the "master plans".
- At the same time, new business initiatives are emerging, like credit management, e-business and e-billing.

PostNL Shore started as a cost-saving project, so we will start by discussing how PostNL is implementing the "master plans". The second part of this case will deal with the establishment of a new business case within PostNL.

Cutting Costs: Drafting and Implementing Master Plans

To achieve lower costs and become more flexible, PostNL has drafted a number of master plans spanning several years. Implementing the retrenchment projects is a full-time job for many people. PostNL is currently executing its third master plan, comprising cost-saving and cost-flexibility projects. When selecting a project, the company assesses whether it will meet its aim of saving millions of euros, whether the processes it adapts will introduce an essential new and modern vision, and whether it is feasible for employees and clients. The current master plan is made up of dozens of bigger and smaller reorganisation projects, one of which is offshoring video coding.

Offshoring Video Coding

Video coding involves data entry of postcodes and addresses that cannot be read automatically by sorting machines. PostNL has to deal with between 750,000 and one million "unreadable" mail items a day. The images of these unreadable items are transmitted electronically over a fast and fully redundant data line, video coded in Asia, returned and fed into the organisation's sorting machines again to be sorted. This all occurs in a matter of seconds each and every time.

The Process of Offshoring Video Coding

October 2009 saw the launch of the third PostNL master plan. One idea involved cost saving in video coding. Good quality video coding is in itself an important component of cost saving. If a postcode is incorrectly sorted, the letter is sent to the wrong address. It then has to be returned to the pre-sorting centre, sorted again and delivered to the right address: a very expensive process.

Postal operators usually do their video coding in-house. However, PostNL innovatively considered whether video coding could be done more cost effectively, by centralising it, moving it to Eastern Europe or even offshoring it to Southeast Asia. It explored various opportunities around the globe, starting with a long list of sixteen potential partners, gradually reducing it to six and later to three. PostNL then tested the final three during the peak Christmas season in 2009, before finally selecting a solution that delivered the desired cost reduction.

The offshore solution went live in June 2010. PostNL immediately found that the solution was well adjusted to volume fluctuations, allowing the easy handling of volume deviations in daily planning, volume peaks and troughs during the course of the year, and delays due to weather or traffic. Multiple video coding sites ensure

real-time delivery; in just 0.5 seconds images are transmitted to PostNL's Asian sites with a turnaround time of less than six seconds in the online process.

PostNL benefits from cost reduction, cutting labour expenses by 50% in comparison with those in Western Europe. An unexpected benefit was the improvement in video coding quality. We assumed that employees in Asia would need to get used to Dutch addresses, but the opposite was true. The quality went right up from day one and increased even further in the months that followed thanks to the use of Lean Six Sigma. The business impact for PostNL was immense. The quality improvement alone means that some 80,000 more letters are correctly and automatically sorted and delivered every single day.

Overcoming the Perception that Offshore Quality is not as Good: Testing the Toughest Conditions

One of the most important barriers that had to be overcome was quality perception. PostNL had itself become a video-coding expert over the years. How could others do the same work more cheaply while maintaining the same quality standards? This question was answered by testing the toughest coding situation. During the Christmas mail peak in December 2009, PostNL ran a video coding test with the three remaining suppliers on the shortlist, tapping off part of the actual Christmas mail volumes being processed at its sorting centres. This volume was coded in real time in Asia and Central America.

During the test period, the weather conditions in the Netherlands took a turn for the worst. Extreme cold and snowfall meant that many video coding staff could not make it to their work and mail transport was coming in very late due to the poor road conditions. PostNL decided, without prior warning, to multiply the coding volume for the three potential suppliers by eight in order to get all the Christmas mail sorted. All three of the shortlisted companies handled the extra volumes without complaints, managing to keep the video-coding quality at a higher rate than was ever reached in the Netherlands. After this successful proof of concept nobody at PostNL dared raise the quality issue again.

Overcoming the Perception that Working Conditions at the Supplier's Site do not Meet Minimum Standards: Confront – Don't Discuss

The second internal barrier had to do with the perceived working conditions in Asia, especially among the unions. Although they did not necessarily say so in so many words, some union members thought that the offshore working conditions would perhaps not meet the minimum standards. Although the PostNL project

team was able to answer all their questions, stating all the facts to address these issues, support was still lacking. The team therefore came up with a drastic measure, inviting union members to visit the site in the Philippines and showing them around. By letting them talk face to face with the people actually doing the job, all the issues concerning the working environment, working hours, employee profiles and corporate social responsibility were tackled almost immediately. Our lesson: if the unions cannot be convinced in the meeting, room convince them in the offshore location instead.

A New Business Model

After implementing the project PostNL found itself with an extremely good data entry contract and one with very competitive pricing due to the large volume PostNL entered itself. The organisation found itself a partner offering extreme flexibility thanks to a 14,000-strong workforce available in two locations. At the same time PostNL had a platform with a turnaround time measured in seconds. Suddenly, it was not only an expert in scanning and data processing but also a Western European market leader in data entry. Looking at the opportunity with a fresh pair of eyes, PostNL identified a new business model and went on to set up its subsidiary PostNL Shore at the end of 2010. It kicked off by winning the Postal Technology International Award 2010 in the category Automation Technology of the Year.

PostNL Shore after One Year

At the end of 2011, a year after its official start, PostNL Shore was serving around 20 customers. The international customer base includes companies like GfK and Office Depot. PostNL currently scans incoming invoices, order forms, statements, reply mail etc. in six European countries and has opened data entry sites in Bulgaria, the Netherlands and India as well. It is the fastest growing entity within PostNL and is already branching out in the digital areas of e-invoicing, e-books and e-ordering. In 2012 the first two external postal operators will start using PostNL's video coding solutions.

The "No More Hand Sorting" Alliance

PostNL has joined forces with a sorting machine supplier to try to banish hand sorting altogether. Over the years, postal operators have worked on automating their sorting systems. Optical character recognition (OCR) is essential for sorting but not a watertight solution. Depending on the quality, 5% to 20% of mail still has to be sorted by hand. The solution devised by the sorting machine supplier and PostNL is able almost completely to cancel out hand sorting. Together they are able

to increase the 80% to 95% sorting results to almost 100%. The solution includes mail flows like return mail, prepaid mail and postage due. An extra benefit of the joint solution is that it is also a low investment revenue protection tool. This joint cost-effective solution will be presented at the Post-Expo 2012 and will be available to incumbent operators, alternative carriers and downstream access consolidators.

There are several reasons for postal operators to consider this joint solution:

- During the critical sorting hours, usually in the evening, they no longer have to rely on the flexible labour force in their own sorting centres being willing and able to come to work.
- Unforeseen peaks in mail volumes can now be handled with ease.
- Postal operators are able to achieve growth in mail volumes without growth in the labour force and additional square metres of working space. These are not always available or, if they are, come at a high price.

Conclusion: from Cost Reduction to a New Business Model

The PostNL case shows the mail world that new business opportunities for postal operators can be found, even in cost-saving projects. Projects can be transformed into new business ventures like PostNL Shore. You need to look at your surroundings and projects with a fresh pair of eyes, bearing in mind that, even then, not all opportunities are suited to postal operators and that not all cost-saving projects will turn into new business ventures. But some will, like PostNL Shore.

Questions for thought and discussion

1. Internal cost reduction initiatives can often seem to be very tough and difficult for all concerned. How can a focus on innovative thinking help to turn "problem stating" into "exploring new opportunities" or "different ways of doing things"?
2. Often "old thinking" holds back "new ideas" – the author mentions perception of quality and union doubts about working conditions in Asia. How do you challenge and change traditional thinking and views?
3. The authors say that with the PostNL Shore solution, "postal operators are able to achieve growth in mail volumes without growth in the labour force and additional square metres of working space". Yet, volumes are declining across the industry. How can PostNL Shore grow its business despite this?

CHAPTER FIVE
The Innovative Channel and Contact Strategy

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The Danish government has declared boldly that 80% of communication between itself and its country's citizens needs to be digitised by 2015. In this chapter the response of Post Danmark (part of PostNord) to this challenge is discussed. It is argued that there are opportunities to be pursued and that the post can remain relevant and grow in the changing environment, by becoming more focussed on the ease of use of postal products and services.

If I were to ask the average Dane if they had written and mailed a physical letter recently, the answer would most likely be "No". The number of letters that reach Danish mail boxes is declining rapidly as private correspondence by e-mail and text messages is increasing. Furthermore, the digitisation by the end of 2015 of 80% of the correspondence between the public sector and all citizens, as well as fiber-optic broadband for all Danes before 2020, are points on the Danish government's official agenda. The digitisation strategy published in 2011 reads:

> "By 2015, we expect to be able to send 80% of all correspondence to citizens in digital form. We also expect that 80% of all applications and correspondence from citizens will be in digital form... Digital channels of communication are not just an alternative to traditional paperwork and letters; they should replace them. As a rule, all citizens should use the Internet whenever possible to make applications and correspond with the public sector. From 2014, the majority of all public sector letters previously sent via the postal service will be sent to citizens' digital letter boxes (Digital Post)."[1]

Despite municipals' efforts to realise the digitisation strategy for 2011–2015, they have not been entirely successful so far. The public websites are far from user-friendly, and citizens are not prone to communicating with the public sector through a site to which they cannot relate.

The digitisation strategy is a serious threat to the traditional letter market in Denmark, but digitisation also holds new possibilities. E-commerce is growing – the Danes receive more parcels than ever, and we have a golden opportunity to position ourselves on the market as the preferred logistic partner of the Internet businesses. We must think of new and innovative approaches to ensure that we are ready to take advantage of the upside of digitisation, and our answer is an innovative channel and contact strategy.

The Challenge – Providing Flexibility and Accessibility

In recent years, Post Danmark (a subsidiary of PostNord) primarily has met its customers' needs for flexible and accessible physical channels by turning post offices into post shops. By placing post shops in supermarkets, it has been possible to combine cost reduction with the customers' need for longer and more flexible opening hours. However, turning post offices into post shops is not a sufficient

1 *The Digital Path to Future Welfare, eGovernment Strategy 2011–2015*, The Danish Government/ Danish Regions/Local Government Denmark, August 2011.

strategy if we intend that the customer should regard us as a flexible and dynamic company, in touch with the customer's needs and in sync with digital developments. It is evident that the challenges we face to a great extent are the result of the digitisation strategy, but digital development reaches far beyond the intentions of the government. The Internet has become the new supermarket for a great deal of our customers – customers for whom flexible opening hours mean 24/7 availability – and smartphones have become common household items. A new an innovative approach is called for, and therefore we have launched a channel and contact strategy for private customers in order to realise the following vision:

> "The future customer interaction is digital, self-serviced, outsourced – and surprisingly simple.
>
> We make the Danes want to buy more post."

The Overall Approach

The postal future may seem dismal in light of the growing digitisation, but digitisation holds demands for new products and services which can accommodate the customers' need for mobile solutions and growing interest in e-commerce. Cost-optimisation, sales, and investment in the channels of the future are key words in the strategy we have laid down in order to meet the new market.

On the overall level, our channel strategy aims at increasing accessibility and flexibility for all customers – senders and receivers alike; creating new businesses by investing in digital and self-serviced channels; and cost-optimising by adapting our physical channels – making it much easier for the modern customer to choose us.

Making it easy for our customers is an essential point in our strategy. The limited success of the government's digitisation strategy has become an important learning point for us, and the demand from our customers for user-friendly and easily accessible services and products is the underlying basis of everything we do. We have chosen to take a quite different approach from that of the public sector, and instead of trying to force our customers to deal with solutions that do not meet their requirements, we are listening to their demands and wishes and turning towards commercial businesses for inspiration.

First Important Steps

The first important steps towards developing digital channels and adapting physical channels to meet the demands of the future have already been taken. If we want to make the Danes buy more post, we must make ourselves available at touch points

that cover the needs of all customers. In 2008, we introduced the self-serviced parcel depot, which makes it possible for customers to send and receive parcels 24/7. By the end of 2012, we will have 190 parcel depots installed, covering most of the larger towns in Denmark. Furthermore, we have a small number of self-serviced post offices which are accessible 24/7/365.

For the customers who are not able to use the parcel depots for every delivery and still want to receive parcels at their house even though they are not home, we have introduced a flexible delivery solution which makes it possible for the postman to leave parcels at a delivery point chosen by the receiver. The aim is to create new business by making it easy for the customers to receive the items they order on the Internet. By offering easy and flexible delivery we intend that the Internet businesses will consider us to be the preferred logistic partner – "the best friend of e-commerce". In order to make it easier for the receiver to choose flexible delivery solutions as the parcel depot or flexible delivery at home, these services are, of course, free of charge.

We are currently in the process of further developing a web based self-service and information site with easy log-in, and we are well on our way to fulfilling our vision of *The post office in your pocket*. The latter is our response to the fact that still more people use their smartphone instead of their computer for shopping and banking transactions. The concept of *the post office in your pocket* is based on mobile services such as apps for smartphones with access to postage calculators, guides to the nearest post office, mail box, etc, and access to our tracking system. Furthermore, we launched Mobile Postage in 2011. With Mobile Postage, which is also accessible via an app, it is possible to use a mobile phone to buy a stamp code for a domestic letter. The service has proven to be very popular, and in 2011, Mobile Postage received an innovation award as well as a user award. We are, of course, proud to receive recognition from our colleagues and our customers, but the awards mean more to us than recognition. In combination with the Mobile Postage sales figures for 2011, the awards serve as clear indicators that we have succeeded in meeting our customers' demand for easily accessible solutions, and they encourage us to take on more of our traditional products with an innovative perspective.

The Future – Turning Challenges into Possibilities

Even if the Danish government were able to fulfil the goal of digitising 80% of the interaction between the public sector and the citizens by 2015, it will have no effect on the implementation of our channel and contact strategy. The road that will take the channel and contact strategy into the postal future is mapped out, and since

digitisation of the interaction with our customers is already a condition, we are embracing the possibilities that digitisation and the needs of the modern consumer bring.

The roadmap for 2012–2014 for the channel and contact strategy plans for an acceleration of the development described above. Based on the assumption that satisfied receivers generate more business, we will work systematically towards becoming the best friend of e-commerce by further developing flexible delivery solutions. We will adapt our services to the fact that the modern customer is a customer "on the go", and enter into cooperation with business partners who can benefit from the central locations of our parcel depots.

We will adjust the number of physical channels without compromising our customer service – ensuring that contact with physical channels is still a good experience for the customers. We will ensure the commercialisation of the digital customer interaction and make all services available via mobile web as an addition to *the post office in your pocket* – making it still easier for the customers to meet us on a digital platform – because it is easier!

Conclusion

The development of Post Danmark's channel and contact strategy for private customers is rooted in the modern customer's demand for flexible and digital solutions, and the Danish Government's digitisation strategy sets the pace for this development. The future for the physical letter is not optimistic, but digitisation opens new doors. If we are able to meet these challenges with a mind that is open to new possibilities and ready to challenge the future with innovative thinking we believe we can turn this development into an advantage.

The roadmap for 2012–2014 is based on the vision that the future customer interaction is digital, self-serviced, outsourced – and surprisingly simple. If we are to fulfil this vision and meet the customers where they are ready to buy, the future will mean less physical channels and more flexible and digital solutions – if the customers are ready, so are we!

Questions for thought and discussion

1. By facilitating access to postal products and services for customers, it is argued that Post Danmark can capitalise on the opportunities of digitisation. Can this truly make a difference? Aside from making the most of growth in parcels, is there a chance that the digital substitution effects could be reversed if postal operators become more customer focused?

2. The author makes a strong case for the value of looking positively on the challenges facing mail – to focus on opportunity, rather than threat. How easy is it on the one hand to focus on cost-cutting and optimisation to deal with drops in mail volume, whilst on the other fostering an atmosphere of innovation and customer orientation to pursue opportunities , for example in parcels?

CHAPTER SIX
Trust: Posts' Most Valuable Asset for Leveraging Innovation

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This chapter argues that the dual concepts of trust and the traditional intermediary role of posts, positioned between citizens, businesses and government, must be instrumental drivers of new postal initiatives, in particular the development of innovative products and services. Three short case studies of innovative services are offered, which have built on this trust that the post enjoys and have enabled CTT Correios de Portugal to provide new technology-enabled services that extend the CTT's presence deeper into the value chain of customers.

Introduction

There are many possible theories and methodologies for setting up a pipeline of innovation within organisations like Postal Operators. At CTT – Correios de Portugal – it is believed that prior to all those "recipes" a critical *sine qua non* condition for innovating successfully is correctly to realise what Postal Operators really deliver – "what are we?" Beyond delivery, logistics, financial or any other type of services, CTT activities are based upon an intangible asset, and yet one of paramount importance: *Trust*.

To put it in other words: a deep and comprehensive understanding of the very intrinsic nature of posts, along with an equally deep and comprehensive knowledge of posts' customers' businesses, constitute the basis for providing innovative, encompassing and added value solutions.

This chapter underlines, with three paradigmatic examples, how this self-perception was invoked by CTT in order to design, implement and deliver innovative services.

CTT: Pivotal and Trusted

CTT – Correios de Portugal, S.A., the Portuguese Public Postal Operator – aims to be a Communications Hub interconnecting all elements of society (citizens, governmental organisations and corporations) and enabling any of them to communicate with each other. In order properly and successfully to accomplish this mission CTT must be perceived by anyone using their solutions as a *pivotal* organisation (neutral and equidistant) and one that can be *trusted* and relied upon; CTT must be perceived as a (very much) *Trusted Third Party*.

This is in fact CTT's essence – and that of any postal operators – when providing their services. Posts work according to a "push model": the senders are the ones that trigger the action, inject into the postal network the postal objects (letters, parcels) they want to have delivered and, in most cases, pay in advance, even before the injected mail reaches the final destination.

The more customers trust CTT, the more they strengthen their relationship with the posts, so that at the end of the day, a stronger relationship is constantly being built, enabling the design of mutually beneficial and innovative solutions. In this chapter we will explore how CTT leverages this trust to provide innovative solutions to their customers.

A Solution for Water Management and Sanitation Entities

Mailtec Consultoria, a division of CTT, developed a water management and sanitation entities solution, which is composed of an innovative customer care and billing solution (solution's core) and a wide range of services configured according to businesses' requirements and the structure of each entity. This solution gives a global and integrated vision of the business cycle, through access to relevant information and providing an efficient service to its clients at a lower cost. The solution is available for CTT's customers in a "software as a service" (SaaS) model, allowing them to have access to it, without having to invest in hardware and software licenses. Municipalities, for instance, can dispense with their own customer care and billing solutions, which represent a burden in more ways than one (functional obsolescence, huge investments first and severe hardware and software maintenance costs later), and entrust CTT to take care of that.

The way that CTT provides this solution goes beyond the functions one could assume to be typically addressed by a classical customer care and billing solution supplier:

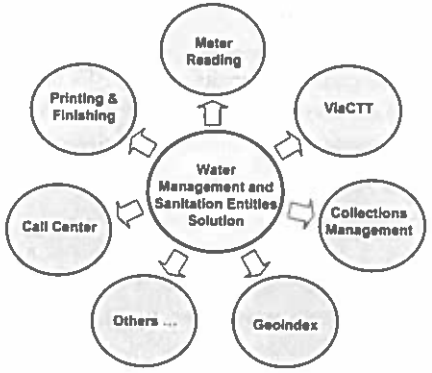

Figure 1: Water management and sanitation solution

Meter Reading Service – service provided by CTT using mailmen, which includes the registration of water distribution network malfunctions (leaks, ruptures).

Collection Management – entire management of payment channels, which encompasses the setting up of the channel (contract), files processing and exchange and supervision of financial flows.

Printing & Finishing and ViaCTT – ensures the production of physical (or digital, using ViaCTT) invoices (and any other documents) to be sent to end-customers.

Self-Care Site – provides final consumers with access to invoices, checking meter readings and submitting questions or complaints.

Institutional Site – for the entity to convey information to their end-customers or visitors, about events that impact on regular water supply, notices publication, regulations and tariffs.

Call Centre – provides the end-consumer, and through a distinguished phone number, information about the services, recording status complaints, readings registration, and supply service malfunctions information.

Database "Treatment" – to correct customer data and so ensure quality, speed and effectiveness in the mail delivery service.

Mailmanager – for high-volume and high-speed scanning, classification, indexing and digitally displaying back to the entity any piece of physical mail.

Geoindex – GIS (Geographic Information Service) for providing information about the territory, the universe of customers and, in particular, business opportunities through the different geo-referenced map variables.

In this way, CTT's "Water Management and Sanitation Entities Solution" is able to provide a wide range of CTT Group services, integrated with the customer care and billing solution. According to the nature of each service, it is possible to configure and adjust it to the entity's requirements or characteristics. These services are selected according to the structure of the entity, seeking to complement and strengthen the image and service provided to its end-customers.

Electronic Notification Solution

Nowadays, in Portugal, there are several bodies (various Municipal Police Forces, EMEL (Lisbon Municipal Parking Agency), GNR (Guarda Nacional Republicana)) with legal authority or power to fine drivers and car owners whenever they commit a traffic offence or violate parking laws. Sooner rather than later, the offender will be notified via physical mail (Registered Mail with Receipt Notice (AR)) in order to pay the fine for parking tickets, speeding and radar tickets, or any other traffic

offense they may have committed. If they refuse or ignore the first Notification, then a second one (without AR) is sent and, for all legal purposes, henceforth the offender is assumed to have been rightfully notified.

CTT, by means of ENS (Electronic Notification Solution), provides each body in the process with a trustful integrated solution – based upon CTT Group's portfolio offer (Collections Management, Mail Delivery, Mailmanager and Printing & Finishing Services), mixing ICT (Information and Communication Technologies) components and analogue/physical ones – that enable them to efficiently manage the Notification process.

ENS is a solution that allows for full control of the complete "offence life cycle", speeding the whole notification process, suppressing bureaucratic and time consuming activities and keeping tight control of who has paid (or not) and therefore providing the various agencies/bodies with tracing information about the "defaulting ones" until their fines are fully paid. Figure 2 illustrates how this solution works.

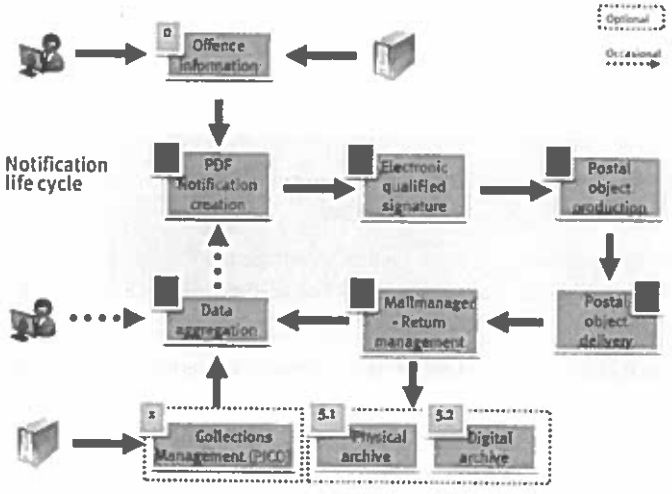

Figure 2: The Electronic Notification Solution System

0 – Offence information's reception (ex: parking ticket). ENS allows either data to be keyed in or file reception (XML file) depending on the original source (paper ticket or officer's PDA).

1 – Generation, for database archiving purposes, of the Offence Record and References (codes) for payment; afterwards, Notification's generation according to legal approved layouts (in PDF format) – a document with all the data, which later will be sent to the offender. The Payment References allow fine payments to be made via: ATM, Web (online banking), PayShop, agents' network or CTT Post Offices' network.

2 – Notification PDF signature with a Qualified Digital Certificate.

3 and 4 – In order to send the signed Notification by Registered Mail with Receipt Notice (AR), a Registered Mail Code is assigned and an AR is generated. Then this data plus the signed PDF Notification are sent to the Printing & Finishing facility which produces the Postal Object to be delivered to the offender's address.

5 – Upon reception of the Postal Object either the offender accepts the Notification and signs the AR or refuses/ignores the Notification and doesn't sign the AR, which means that either the signed AR or the Postal Object is returned. Regardless of which option was chosen, whatever is returned is digitised (via Mailmanager), then the relevant information is registered and afterwards the physical documents are correctly prepared for storage (5.1) and the digitised "returns" and their relevant information is made available for analysis and digital archive (5.2).

X – Delivered documents' payment information (references, amounts) is gathered and made available to ENS.

6 – ENS possesses all the information to automatically decide and perform the next step: issue a new regular mail Notification (without AR), or mark the process as paid or as complete.

Prior to the introduction of ENS the offence process management had characteristics that made it very slow and intensively human resource demanding. ENS now enables legal agencies to manage the entire offence process with less human interaction, more information and more automation, and altogether faster and more accurately than before.

Moreover, it is now very unlikely that the offences expire (for not being managed within the time limits imposed by law) and this contributes not only to securing more financial income for the Government but also fights feelings of impunity among certain offenders.

New CTT Post Office Station Concept

The CTT Post Office Station (P.O.S.) that opened its doors to the public on September 2011, at CTT Headquarters in Lisbon, represents a new paradigm in providing services "over the counter" to the public. Bearing in mind the challenges of European postal liberalisation, CTT intended to test a new concept that was ecological, strongly supported by ICT (Information and Communication Technology), providing postal services on a self-service basis and where the postal staff (now reduced to a minimum) are perceived more like helpers (or assistants) rather than the typical postal clerks.

When entering this innovative P.O.S. one will not find several counters behind which postal employees are ready to attend but, instead, self-service equipment which provides a wide range of services in such a way that customers feel, on the one hand, the same trust they are used to when entering a typical post office and, on the other, even more convenience, simplicity and speed.

Figure 3: Prototype Post Office Station

P.O.S. is open and available 24 hours per day, all year round (for self-service attendance). From 10am to 7pm (5 days a week) assistants are available to provide general help about all the available services, or more specifically, concerning financial products and any other service not provided through self-service machines.

The customer self-service 24-hour area contains five self-service machines enabling for example:

2 Photo: Pedro Mónica – CTT

Self Picking: This equipment, which resembles very much a packstation (with a number of lockers of different dimensions), allows customers to pick up specific postal objects that, due to any number of reasons (such as receiver's absence), could not be dropped into a physical mailbox. Whenever this happens the mailman leaves a specific notice inside the addressee's mailbox. Later, the receiver accesses the Self-Picking Equipment, identifies themself (via Citizen Card) and using information (pin codes) printed on that notice, opens the locker where post staff previously stored the postal object. If applicable the equipment itself also deals with situations that require payment prior to handing over the postal object to the receiver.

Payments and Tickets selling: for the payment of invoices, fees and bills (utilities, social security fees, IRS), topping up mobile phones and pre-paid public transport (chip or RFID) cards and buying tickets for spectacles/shows/theatre/movies.

Postal Services: for posting registered/express, national and international mail (letters and parcels). This equipment also has weighing capability.

Vending Shop 24h: for purchasing envelopes and packages.

Personalised Service Area: In this area postal staff assist customers whenever help is required for acquiring services and products not provided via self-service machines. Examples include financial/savings solutions or third-party products (books, movies).

All the self-service machines have a modular design and therefore can have, in principle, the same logical/functional and hardware/software capabilities. Then, each one may have specific functions enabled or disabled according to the deploying purpose, that is to say according to the type of needs intended to be served in the place in which the Post Office Station will be geographically located.

The P.O.S. concept "de-materialises" the interaction between the customer/visitor and the equipment. Whenever possible and applicable, keypads are replaced by touch screens and the machine has become much more people-friendly. Interactive LCD touch screens "communicate" with people whenever cameras detect a human presence within a certain range. The customer then follows the display options menu by means of touching the screen. An example of a service is that a customer can create a personalised stamp on the spot based on the customer's photo caught by the built-in cameras. Customers can also send an email or determine (via a 3D-based application) what would be the best package for sending/mailing a certain object.

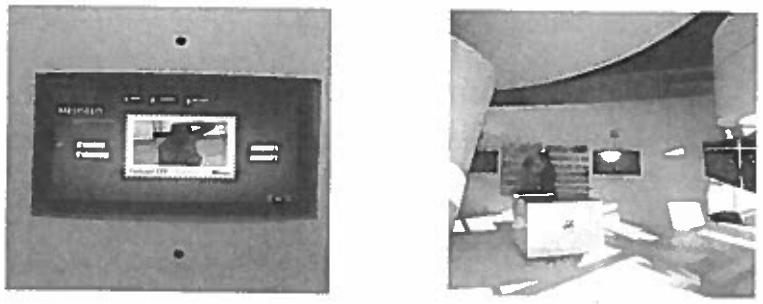

Figure 4: Prototype self service equipment

For financial products it was decided to use a touch screen table whose purpose is to guide the user, in an easy to use manner, through the set of displayed choices/options, to the financial solution that best fits the customer's objectives and investment profile.

Finally, motion-activated sensors power on a video device (whenever bystanders pass in front the external windows of the P.O.S.) that projects promotional images on these windows.

Conclusion

The above three paradigmatic examples underline how *Trust* is perceived by CTT as a Critical Success Factor for designing innovative ICT solutions that on one hand go "deeper" into the businesses of postal customers (corporations, governmental organisations) by adding value and creating links between these and posts, beyond the classic mail picking and delivery; And on the other hand, is a powerful enabler for creating modern, technology-enabled ways of serving and interacting with the public in general.

3 Photos: Pedro Mónica – CTT and Pedro Cruz

Questions for thought and discussion

1. Why is the concept of *trust* so important for these technology-enabled innovations? Would they work without trust?
2. The first two innovation examples build on the pivotal position the post often has as an organisation between Government or public institutions, citizens, and businesses. In what other ways could this strategic position allow the post to play new roles or offer new services?
3. Given the liberalisation of the postal market, how easy will it be for CTT to sustain a competitive advantage over other (postal or non-postal) competitors in each of the three markets illustrated by this chapter?

CHAPTER SEVEN
Optimising Logistics Processes in Parcel and Postal Sorting Hubs by Using Product Characteristics

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Vanderlande Industries B.V.

This chapter describes an example of process innovation and illustrates how such innovations can be developed by a supplier working with an open approach. This case describes Vanderlande Industries' work on automated parcel identification and classification. The ideas in this case stem from an innovation in a different but related sector, namely conveyors in airport baggage handling, which shows the potential value of adopting good practice and innovations from other industries.

Introduction

In the past decade vision technology and image processing hardware and software have evolved into reliable and cost-effective platforms for a wide range of applications. Triggered by developments such as smart Closed Circuit TV (CCTV) cameras, new image-processing techniques and algorithms have become available. These developments make the real-time identification and classification of objects a viable option.

New and innovative applications in many different areas have been introduced, ranging from determining product quality (e.g. ripeness of tomatoes) in the food industry right up to detecting suspicious persons in area and building supervision (e.g. at airports and railway stations). Many of these new applications are being developed by start-up companies aiming to make the technologies suitable for the specific domains involved.

An example of such an innovative application for the automated material handling domain is BAGCHECK, aimed at improving airport baggage handling processes. BAGCHECK was developed by QuinTech[1], a start-up company in the Netherlands, in cooperation with Vanderlande Industries.

BAGCHECK classifies baggage items into two distinct categories: conveyable or non-conveyable. This is done by correlating image attributes to a benchmark created by "training" the system using examples. In operation the benchmark is constantly updated by experience, resulting in an adaptive system that can deal with changing product characteristics.

BAGCHECK has been successfully introduced on the market, and has already been implemented at a number of large airports around the world where it has resulted in higher system availability and lower operational costs. These improvements are demonstrated by specific Key Performance Indicator (KPI) monitors maintained on a daily, weekly and monthly basis.

There are similarities between baggage handling at airports and parcel and postal handling in sorting hubs and depots. For this reason Vanderlande Industries is exploring the potential of applying the same techniques in the logistics and related processes in parcel & postal hubs and depots.

1 See www.quintech.nl for detail about QuinTech

The Innovation Centre – an Open Innovation Platform

One of the methods for driving innovation is to facilitate the exploration of new ideas and concepts in an environment allowing easy prototyping in a representative application setting. This is one of the aims of the Vanderlande Industries Innovation Centre. As well as allowing testing and demonstration of new Vanderlande Industries concepts and products, it also provides an environment for trying out new ideas from customers, partners, universities and knowledge institutes and start-up ventures. The development of the BAGCHECK system for baggage handling is a good example of how the Innovation Centre works.

The Innovation Centre has an area of around 10,000 square metres, and includes a number of larger material handling systems which are operational and available for testing and trials. These systems are mainly built from completely new product developments or prototypes, which can be integrated into typical operational scenarios and processes to test their potential benefits.

Outside parties such as existing and potential customers, partners and knowledge institutes can use the facilities of the Innovation Centre to test the potential of innovative ideas. Bringing together new ideas and existing knowledge in this way has already resulted in concrete innovative products.

Potential Benefits of Product Classification

The rest of this chapter focuses on parcels only, and not on letters and their sorting. Looking at parcels, there is a gradual change in size, weight and shape. And of course the global trend towards increasing e-commerce volumes also has an impact on parcel characteristics; an increase of smaller products and large products.

A second development is the increasing level of mechanisation and automation in parcel and postal hubs and depots. There is a need for reliable parcel handling solutions with up to 100% automation and mechanisation levels, driven by a number of aspects such as efficiency, labour scarcity and health & safety and ergonomic requirements. The effectiveness of mechanisation and automation in parcel hubs could be increased significantly, with corresponding cost reductions, if parcels ranging from wrapped books and plastic bags containing, for instance, clothing right up to larger, odd-shaped items such as tyres could be classified into categories for specific handling. For example, separate routing of standard boxes and odd-shaped items would allow the most suitable equipment to be used, thereby reducing the need for manual handling or maintenance intervention to deal with jams and other problems.

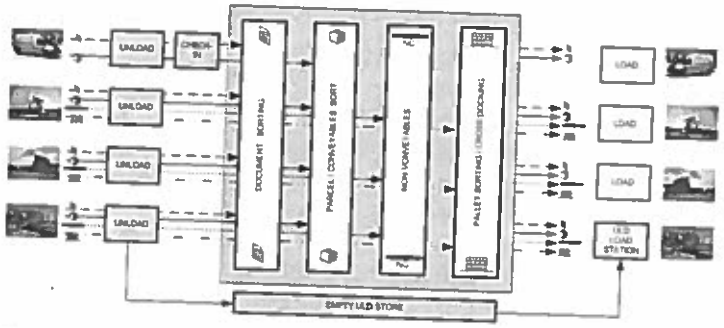

Figure 1

Optimisation and differentiation of the associated business processes also becomes an opportunity if automated classification is available. For example, damage recognition on entry to the hub or depot, or detection of boxes with open or badly fitting flaps.

A number of feasibility studies have been carried out to define and validate the potential business case for introducing more advanced classification functionality in depots and hubs. These studies have shown clear benefits in specific customer situations, and have resulted in the decision to start developing a product, the PARCELCHECK for pilot projects.

Classification by PARCELCHECK – How Does it Work?

The PARCELCHECK is based on the BAGCHECK, which was jointly developed by Vanderlande Industries and QuinTech for the baggage handling market[2].

The basic functionality is aimed at determining the "conveyability" of the parcel. The technology consists of the following three steps:

(1) A parcel is scanned by the 3D vision system and a roll/slide or shake test is performed;

(2) The scans are segmented and analysed by intelligent image processing routines and the test result is analysed;

2 See http://www.vanderlande.com/en/Baggage-Handling/Products-and-Solutions/CheckIn/Conveyability-check-BAGCHECK.htm or http://www.quintech.nl/website/bagcheck/bagcheck.html

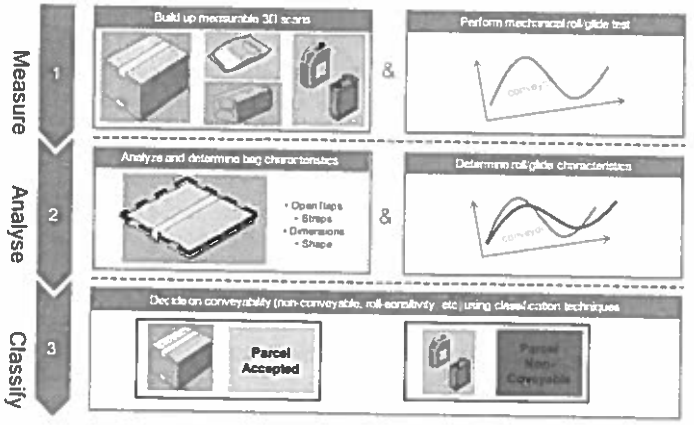

Figure 2 "Conveyability" analysis

(3) Based on the analysis results and the classification rules the parcel is classified as conveyable or non-conveyable.

PARCELCHECK uses the pattern recognition principle to assign the parcel to one of a set of predefined classes, through a set of measurements performed on a 3D scan of the item. The measurements are searched for patterns which the system has been taught to look for (dimensions, shape, straps or flaps). The system has integrated learning capabilities, and can adapt its decision-making based on new data gained during operation. In fact, PARCELCHECK learns because it can be re-taught using the data gained from the items processed. Its decisions can therefore be fine-tuned if the types of parcels handled change over time. A parcel is only truly non-conveyable if it has a high potential to cause a jam downstream in the system. Although the PARCELCHECK software has initially been trained with data gained during assessments of current operations, combined into a base set from several hubs, it is highly recommended that the software is frequently re-trained for optimum performance. The system can be trained for improved performance by providing it with data from actual jams, which is then linked to the parcel measurement data. If the system and/or parcel properties change, then so should PARCELCHECK's decision-making.

PARCELCHECK has several advantages over a human conveyability check. First and foremost, the system is consistent and never gets tired. When taught how to make a decision, PARCELCHECK will always make that decision in the same way. Different opinions play no role. Furthermore, the rules on which the system makes a decision can easily be changed as described above, thanks to its learning capabilities. Another advantage is that the system provides insight into the way it makes decisions. In contrast to "fuzzy" human decision-making, PARCELCHECK follows a pipeline of decision steps that can all be fine-tuned for optimum results.

Feasibility studies have been carried out focused on introducing more advanced classification in parcel hubs and depots. Although the exact details of these studies are confidential, some of the outcomes that show potential benefits can be shared. Three potential applications will be described briefly below. A pilot is currently being set up in the Innovation Centre to demonstrate PARCELCHECK and its potential in these cases. Pilot projects are also being actively sought in operational depots and hubs.

Conveyability Check to Reduce System Stoppages Due to Jams

Vanderlande Industries has extensive experience with BAGCHECK systems at several larger airports. As a result, one of the first feasibility studies focused on reducing jams in an automated parcel sorting system in which operators decide on parcel characteristics and where to enter them into the system during truck unloading. This study produced two interesting results:

(1) A 90% reduction of system stoppages due to jams is considered achievable by carrying out a conveyability check close to an existing operator position, so that a suspect parcel (e.g. with a high potential to cause a jam due to its shape) can be stopped and checked by that operator.

(2) Discussion of the set of examples used to train the system increased the awareness of operators and management of the impact of less conveyable parcels on system availability. It also resulted in updated working procedures and methods leading directly to better performance and results.

These findings have not yet led to a pilot implementation, because of the difficulty of integrating PARCELCHECK in this system due to physical constraints.

Monitoring Quality of Handling in the Network

Damaged parcels were an important aspect in a recent performance assessment of a set of depots and hub forming a network. The load through the network depended strongly on the time of year, and most operators and other staff were temporary. Further analysis indicated that damaged parcels had specific visual characteristics such as dents, based on the cause and type of damage. Here again there were two interesting results:

(1) Using a basic PARCELCHECK office test setup gave confidence that damaged parcels could be detected and also classified into a defined set of categories by the cause of the damage;

(2) By implementing PARCELCHECK at specific locations in the integrated network of depots and hub, it is even possible to set up monitoring in near-real time. This leads to the ability to show where and when parcels are being damaged, with the possibility of preventive action and intervention.

The financial aspects of the underlying business case need further exploration to prepare for an actual pilot implementation.

Improved Utilisation Based on Product Information

The information era has its impact on the parcel & postal industry as discussed earlier. Increasingly, better usage of existing infrastructure is the only option to deal with the rapidly increasing volumes. This has resulted in a number of feasibility studies being carried out by different stakeholders. One of the potential scenarios under discussion aims at better utilisation of outputs of the sorting processes. Parcel characteristics such as shape and size are differentiators or classifiers, but have a strong requirement to be adaptable over time. The ability to re-use collected (historical) data to redefine not only the different sets of parcels for classification, but also to directly validate and quantify performance, is a very powerful tuning method in an operational situation. Further analysis of this possibility is continuing.

Conclusion

It has been shown in a test environment that additional attributes of parcels, as well as size and weight, can be determined by using vision technology and software for processing, analysis and classification. As demonstrated by successful applications in other domains, this enables the development of new applications with specific benefits, either in quality of handling or in a higher level or automation. This results

in reduced operational costs and potential labour and Health & Safety issues. There is thus a significant opportunity for everyone involved in parcel and postal logistics networks to collaborate in open innovation and create a future that makes effective use of product characteristics.

Questions for thought and discussion

1. The PARCELCHECK case can be considered an example of process innovation. What does the case teach us about common motivators for such innovation?
2. How can an innovation centre work as a platform for open innovation? Does it have to be a physical location or can it be virtual? If so, how could that work?
3. What can be learnt from the case study of PARCELCHECK about the process for developing an innovative product?

CHAPTER EIGHT
Optimisation Software: a Platform for Innovation

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This case describes the experience of a software company that has worked with the postal industry for several decades. The chapter describes how posts have deployed mathematical approaches and software to optimise operational processes, in particular in delivery. Companies such as GIRO have had to innovate and constantly improve the flexibility of their own solutions in order to meet the new challenges faced by their postal clients. Optimisation as a mathematical or operations research concept clearly has powerful applications in different sectors, but the real innovation comes with adapting the use of available techniques and software technology (including algorithms, experience from other sectors, geographical information and visual interfaces) to meet the particular needs and constantly changing requirements of specific postal operators, the mail carriers themselves and the particular service needs of customers. The authors share the lessons they have learned from this constant need to adapt and innovate.

Introduction

Optimisation software has been used in all major industries, including manufacturing, intelligence, military, marketing and transportation of people and goods. As software developers who specialise in bringing flexible solutions to the postal sector, at GIRO we have shared and experienced different facets of the "postal revolution" with several organisations worldwide. We have helped postal organisations undergo major changes by providing them with efficient and accurate planning tools to test their innovative ideas.

With the help of computational mathematics as a basis for finding the cheapest way of servicing mail requirements and visiting all addresses in a given territory, we have learned several lessons. Over the course of this chapter, we aim to demonstrate how operations research and software engineering can provide answers to organisational problems and challenges, and become a key building block to present and future postal transformations and innovation.

Operations Research: a Historical Perspective

One of the first appearances of tours and circuits in the mathematical literature is in a 1757 paper by Leonhard Euler and describes chess knight moves. In 1832, a German publication on the *Commis-Voyageur* described the need to build good tours for visiting cities in Germany and Switzerland taking account of the overall distances as well as travelling back and forth more economically. This later became known as the "The Travelling Salesman Problem", or in short TSP. The first mathematical representation of the TSP was in the 1930s. This marked the beginning of a strong cooperation between academics and industrialists.

Even though the TSP was originally defined as a geographic problem on a routing network, it has since been generalised to the finding of the shortest tour to visit a set of entities with predefined costs for travelling between different entities. These can represent geographical locations (cities, mailing addresses, etc.), drilling or welding points on a computer board (thus minimising the tool's movements), or even abstract notions like topics in a speech or document (thus maximising its fluidity).

In current mathematics, routing problems for postal letter carriers refer to a TSP variation where the target objective is to visit a set of street addresses rather than the cities themselves. A feasible solution to this problem is a tour that is "mathematically" connected in such a way that the corresponding physical tour can be travelled by a postman without ever leaving the road network. In the "last

mile delivery", various constraints can be added concerning time windows, pickup-delivery, lunch breaks, replenishing points, and so on.

Early Innovative Solutions

In its early years, GIRO worked on defining new methods and innovative products that incorporated some of these mathematical models in order to tackle real life problems. Our approach was to build products that made use of Operations Research. We had to develop proprietary algorithms that could process large data sets, to include a graphical user interface to visualise planned routes and modify these interactively, and to implement what we refer as the "rule engine". The latter was a flexible and innovative tool to model real life constraints and translate these into simple mathematical expressions. Hence, Operations Research has always been at the core of our solution strategy.

Clustering algorithms were developed by GIRO in order to build compact territories that made best use of the underlying road network. Most academic models could not handle large sets of data adequately, which motivated us to develop these capabilities in-house. It is not uncommon to have to process several hundred thousand delivery points in order to build routes for a given territory or delivery office.

Representing routes graphically on a map helped postal organisations visualise terrain-specific information. Visualisation and modification possibilities helped to increase the quality of the planning solutions produced by postal operators. Street networks could be imported, corrected and updated directly into the software. Detailed client information, both their geographic localisation and servicing information, could be shown on the map and modified in a simple and straightforward manner. Needless to say, street networks were at their infancy and it was not then possible to find street networks (in vectors not just satellite or raster images) that were accurate in all contexts. Rural regions were often uncharted, limiting our solutions to urban and high-density areas.

As we learned, one of the main challenges in planning a viable solution was lack of precision in geographical and servicing data. By providing the functionality to visualise and to correct the network and address information to postal operators, it empowered their planners, enabling them to produce better solutions, and implement their innovative ideas in store. Some of these innovations include AM – PM routes; periodical and value-added service routes, shared vehicles and multiple locomotion modes in the same route; servicing requirement priorities and time

windows, and several other brilliant new practices. Quick wins could be obtained with the vector street networks and postal data at hand, which appealed to our customers.

Thirty years ago, as is often still the case, most national postal organisations were public corporations where unions were active and where employee tasks, authority and responsibility were coded in agreements and conventions. To build solutions that were deemed acceptable to all parties was critical to the success of their implementation. Using its powerful rule engine, GIRO innovated in its product development approach by successfully modelling employee types, work assignments, workday durations, pauses and lunch breaks as rules for which penalties can be applied as soon as these rules are broken.

For example, a work agreement that defined the delivery route or workday of the letter carrier could be expressed as a set of 50 or less rules. The rules themselves would be similar to 1 line formulas, such as: "Total_Route_Duration must not exceed eight hours;" "insert in route a 30-minute lunch break activity between 11h30 and 12h30;" "insert replenishment point activity in Route when mail bag weight becomes over X kg;" "insert U-Turn in Route if Deadhead distance is above 10 minutes," and so on.

These rules were taken into account in the mathematical model and helped to build precise route evaluations, based on an objective scientific approach and thus producing an efficient or, in some specific cases an optimised, solution acceptable to all parties. Our commitment to results that could be proven objectively and scientifically attracted attention and the best minds focusing on innovative new practices from the postal organisations continued to fuel our development efforts.

Post-2000 Changes

From the year 2000 onwards, postal business requirements in Europe started to change. Digital mail substitution and decrease in mail volumes, new products, the Internet, and an increase in parcel volumes, all changed the postal landscape.

Preparation for the liberalisation of the postal market in Europe triggered postal organisations to consider and introduce new delivery concepts and methods in order to face these changing times, by improving efficiency and bringing added value to their operations. Major transformation programs were initiated. Sequencing machines; different vehicle types such as high capacity trolleys; combined delivery methods; separation of inside tasks and outside tasks, and other

innovative approaches, products and technologies were all introduced. The pace of innovative functionalities in our products was increased to support these large-scale transformation programs.

Concepts and code developed in our HASTUS solution for public transit companies were integrated into our GeoRoute postal product. New algorithms were created to establish the least cost and best location of depots in relation to an existing set of routes. Additional algorithms were added to support the creation of duties made up of several routes or tasks, thus combining route creation with the process of building a complete work day, potentially made up of several different routes.

Our approach focused on providing flexibility in our product wherever possible, so that postal organisations with innovative ideas and an urgency to change practices and systems could customise the use and output of our software to their needs.

New practices and delivery methods brought the need for new revised organisations and new working agreements. "What if?" scenarios could be built in a quick and efficient manner using the GIRO rule engine. By providing a platform that enabled organisations to innovate, our software proved to be central to transformation initiatives.

Lessons Learned

As our clients became more comfortable using our software, they helped us focus on different aspects in which accuracy could be improved. For example, in the case of Park and Loop Routes, namely a route that makes use of two distinct locomotion modes such as delivery by car and delivery on foot, further improvements could be made. We noticed that addresses (particularly the ones in dense commercial areas) could be accessed from different entry points, while vehicles could be parked at different locations. Choosing the best combination of these parking locations and access points for a specific sequence of addresses could make a significant difference in the resulting route evaluation (the total route duration).

A new sequencing algorithm improved the order in which postal items were serviced in Park and Loop routes. A loop builder algorithm was implemented to create a variety of loops. Standard deviation of loop duration, bag weight, and other related criteria were used by the algorithm in conjunction with the total number of loops and total duration to produce balanced solutions. We learned that sometimes producing a balanced solution is a measure of quality by itself even if solution cost is not optimal and that additional deadhead (unproductive travel) could occur.

In another situation, determining route evaluation based on hit rates appeared to be a daunting task. In one specific project, route evaluations lacked accuracy. As we found out, it was possible to express the problem in terms of exact mathematical formulas instead of the initial rough estimates, leading to the benefit of a more accurate evaluation of the work day.

We introduced into our software and algorithms the notion of retrieval counter activities, which are locations to visit whenever a parcel could not be delivered (and needs to be picked up at a later date by the customer). This allowed the perfecting of our model to bring it closer to the reality out in the field, an important factor in determining more precisely the workload evaluation of a route. As for any element modelled in our application, we ensured that modifications did not bring negative side-effects that could impact the integrity of the model.

In the specific case of retrieval counters, since it is not required to visit these every day, the visiting hit rates of their location must be accounted for, otherwise not only can the workload calculation prove to be wrong, but also the resulting sequence of the route itself can be influenced too much by the retrieval counter component. As we learned from experience, emphasis on specific business requirements sometimes depends on the interpretation of the individuals.

In other situations, feedback from our customers in logistics businesses helped us to identify improvements in handling pairs of associated pickup and delivery actions with their time windows and making best use of the available vehicle capacity.

After two decades of improvements, we continue to find ways to improve the accuracy of our evaluations. Functionalities that offer support for workloads, sample routes and hit rates, combined together with the existing flexibility of our software have made our solution evermore adapted to the changing environment with which postal organisations are confronted. As the amount of work differs from one day to the next, planned routes should also differ every day according to the workload, but not so much as to become a nuisance to the employees. Our software now allows clients to create dynamic routes, in essence routes that change daily based on workload variations.

Conclusion

Over the years, our product has become flexible and powerful enough to cater to the many changes and innovations in the postal sector. The new functionalities which support challenges in our product were introduced from our continuous

research and development activities and internal review processes. Our customers' quest for new ways to conduct their businesses also contributes to innovations in the industry and in our product. Although our software has not followed the postal organisations in all of their transformation cycles nor in their activities, it is safe to say that in their traditional core business we have succeeded in providing part of the solution for the challenges faced and some of the ones that lie ahead.

Questions for thought and discussion

1. It is sometimes said that innovation has to be about "breaking rules" and doing things in different and unconventional ways, yet part of the innovation described here is about "making rules" and creating systematic and methodical approaches to operational problems – can these both be right and, if so, what does that tell us about innovation as a concept? How can two seemingly opposite concepts be valid concurrent facets of innovation?
2. What does this case tell us about the importance of customer-driven innovation?
3. Reference is made here to collaboration between academics and industry in the area of mathematical algorithms and operations research. The author tells us that GIRO in the end decided to develop the necessary competences in-house. What are the limits to collaborative innovation? In other words, when does it make business sense to develop in-house competences, and when are such competences best outsourced?

CHAPTER NINE
Delivery Innovation

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The author of this chapter argues that the definition of the core business of the post should change from a focus on letters to a broader focus on messages. He argues that the decline in letter volumes should be seen as a signal for posts to move beyond the letter, and to embrace fully the possibility of playing a role in the world of digital messaging, and in the hybrid space between the physical and digital.

Introduction

Minds are darkened by the free fall of letter volumes. Management is looking for any solution that can bring increase in letters, their boards are demanding it. But this battle is over. Letters will never play the same role again; neither will the post, you may think. But what is a post, its role, its *raison d'être*?

After having served the public with letter delivery for centuries, some posts are now increasingly turning to delivering communication using electronic media. This takes place in many ways, using e-mails, SMS, web sites, social media and other places, to which the public is turning for their communication needs. Is this simply a diversification of the business, or is this an innovative evolution of the postal role?

Where Did the Letter Go?

The disappearance, or at least severe reduction, of letter volumes is often seen as the effect that electronic substitution has had on the printed letter. When looking for the source of this, what has replaced the physical letter, many blame it on the Internet or on e-mails. This is not necessarily so. E-mail appeared before this process. The changes really took off with easy and secure online document access. This was fuelled by iPads[1], Amazon Kindle and similar devices. However, currently, the majority of documents are still being presented on ordinary computer screens, at least for now. Who knows what devices we will be using in the future?

The letter mail as we know it is disappearing – and with it, much of what for centuries the post has identified itself with. From collection in street mailboxes to sorting, transportation, resorting and delivery by the mailman – all this is much of the postal identity, the bloodline of the post. Since the beginning of postal services[2], the letter has been the yardstick upon which any posts and their masters have measured their success. This is also why the stagnation (and now the reduction) in letter volumes has caused so much distress: success is traditionally measured by the increase of the number of envelopes!

1 Apple sold 300.000 iPads on 5 April 2010 (launch date) and 25 million during the first year. (Source: iOS stats).

2 First postal courier service was in Ancient Persia, installed by King Cyrus the Great, 550 BC. In 1653 De Valayer established the first mail box system in France, where letters placed in envelopes, that only he sold, would be distributed freely within Paris. The first stamp came in 1840 in the UK together with a major restructuring – and trustworthiness – of the service.

The reduction of letters volume is important for the post. With a very high capital investment in infrastructure, and with a very limited possibility of reducing costs, any downturn in revenues is pushing results deep into the red zone. The posts are stuck between a rock and a hard place.

What Role to Play?

To counter this development, posts are turning their focus towards alternative revenue sources, and many are seeing the increased Internet trade as the salvation. "Let's focus on parcel delivery!" From a revenue perspective, this is a logical step to take, and should be taken. But what about the letters, the service behind the letters, the knowledge, identity security and the trust in letter mail?

For a long time the postal service has been recognised as the *de facto* service for bringing a message safely between people. For two centuries the post has been seen as the warrant for cheap, safe and secure transportation of messages, with a credibility regarding sender and recipient. So much so that, in many countries you can prove your address if you have a letter delivered by the postman. In some countries, you can trust the postman more that you can trust any other official (including the police).

When moving focus from letters to parcels, posts are missing out on a heritage which has been earned over many centuries. Furthermore, they are losing out on some unique opportunities. It is all a question about what your role is, your identity, so to speak. As an example, let us look at Western Union.

The Story of Western Union

Undoubtedly, for money transfer for the general public, one of the major companies is Western Union. In 2006 they handled more than 400 million transfers. However, it was not always like that. Western Union was founded in 1851 as the New York and Mississippi Printing Telegraph Company. In 1856 the name Western Union was created after the merger of numerous telegraph companies, and in 1871 the telegraph was used for money transfer. While still offering telegraph services for a century (including the invention of the singing telegram in 1933), money transfer was an increasingly important part of the business.

With advances in technology, Western Union created the microwave link, satellite connections and more. Their international cable network was sold off[3] and during 1987–93, Robert J. Amman lead a refocusing of the company. Even though it had been their historic roots and their origin, Western Union did not see itself as a telegraph company, but more one responsible for the safe and secure transfer of short and precise messages. This includes the messaging required for the transfer of money, and the slogan "The fastest way to send money worldwide" became widely known. Had Western Union stayed with only the telegraph service, the firm would have been dead and gone by now[4]. Instead, it now has half a million agents in 200 countries, and identifies itself as a company that is "connecting people around the corner and around the globe with financial services that are fast, reliable and convenient[5]".

This raises a simple question: Are posts in the postal network around the globe "distributors of physical letters", or are they similarly "connecting people around the corner and around the globe with secure messaging that is fast, reliable and convenient"?

What about Delivery Innovation?

With reduced letter volumes and high infrastructure costs, letter delivery becomes a less compelling business. There is a need for innovation within the delivery of messages, as the present business model is gradually becoming obsolete. And innovation is popping up. In industrialised countries the Y-generation[6] is becoming today's largest demographic group and most telling in terms of what the future may hold. They have a need for immediacy and use media in a very fragmented way. Being also environmentally focused, they prefer electronic delivery over the physical letter, and they are large users of SMS and MMS.

Even though the picture is different in developing countries, the bottom line is the same. With limited distribution ability on the one hand and a very high usage of mobile phones on the other, electronic delivery is becoming an increasingly attractive alternative to the physical letter – so much so that some developing

3 This was called Western Union International, which also leased US Department of Defense's international network to prove the technology of packet switching network, the foundation for the Internet. When sold to MCI, this created in fact MCI International in 1983.

4 The telegram services stopped in January 2006.

5 http://corporate.westernunion.com/history.html

6 Also called the millennial generation: Strauss, William & Howe, Neil (1992) *Generations: The History of America's Future, 1584 to 2069*. Perennial (Reprint). pp. 31, 327

posts are considering adding a scanning service, thus avoiding the physical delivery altogether (almost). This development is fully in line with similar market development seen around hybrid mail in developing countries, where hybrid mail is helping improving the postal service, by making it simpler, faster and cheaper to produce physical letters.

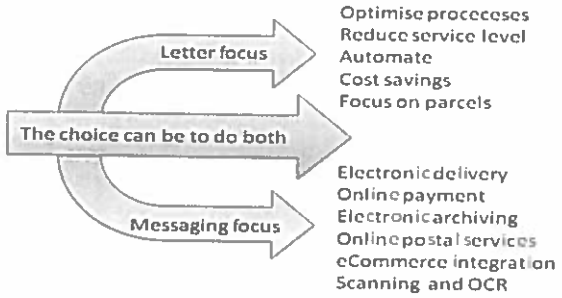

Figure 1: Letter versus message focus

Technology, Internet and Customer Power

According to a survey by UPU[7] in October 2011:

> *"In the four years between 2007 and 2010, the number of postal e-services introduced globally almost tripled from 33 to 85 per year – showing that Posts around the world are stepping up their efforts to bring new services to the market".*

Even though the number of new services has increased, the strategies for introducing them differ a lot: some countries are making advances in all areas of postal electronic services, while others have made a strategic choice to enhance only one or two of the main fields (e-post, e-finance, e-government or e-commerce). And yet others do very little or nothing at all. The industrialised countries are leading the way, but not always. Belarus and Tunisia are way ahead of many European countries, while the UK and Cyprus have done very little. This is no coincidence.

7 UPU: "Measuring postal e-services development: an industry perspective", October 2011

For a long time Tunisia Post has been at the forefront of the exploitation of new technological possibilities within their domain, and today it has one of the region's most advanced postal delivery systems[8]. There is a genuine integration between physical and electronic documents – hybrid mail. Other posts in the region are following suit, and in mid-2012 Morocco Post launched its secure electronic mailbox. Once again this solution is closely linked to hybrid mail, thus providing the ability to deliver electronic or physical documents.

Others are not so lucky. Few posts are suffering as much under the lack of changes as USPS. The largest post in the World is on the edge of bankruptcy on the one hand and limited by Congress in its choice of alternative services on the other. Private companies in the US are trying to offer digital alternatives to the US postal services, while the dedicated operator is banned from such services – for now, at least.

Conclusion

"When the going gets tough, the tough get going" and this could and should apply to an increasing number of postal organisations. The going *is* tough, and will be more so in the coming years. To do more of the same (optimising processes, reducing costs, using more automation, reducing services) is good for the present revenue stream, but there is a limit to such efforts. Furthermore it will not stop or limit the reduction of physical letter volumes.

From the collection of mail to the delivery to recipients, postal operators need to think about what their role is now and what the role should be in the future. Why do people turn to the post for their communication needs? What is the strength of being part of a global network, of having the legal framework to protect your messaging, and the trust of honesty and reliability from society?

Most importantly: Is the post a logistic entity for the physical handling of mail items, or is it the post's role to connect people with messaging that is fast, reliable and convenient?

8 See http://www.poste.tn/ for more

Questions for thought and discussion

1. Do you agree with the assertion of the author that "letter mail as we know it is disappearing"? Will letters disappear altogether (like the telegraph service), and if so, how long would it take?
2. The author talks about the need to re-define the focus of posts. What assets (resources and capabilities) does the traditional postal organisation possess that it could find useful in the digital space?
3. Towards the end of this chapter the author highlights the problems faced by the United States Postal Service in particular. How does the analysis of this author contrast with the slightly longer analysis by Bruce Marsh and David Asher, elsewhere in this book?

CHAPTER TEN

Innovation in a Small Postal Operator: Developing New Services and Adopting Modern Technologies in a Small and Fast Changing Market

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National postal operators in small countries face particular challenges in terms of (lack of) scale, costs, a limited customer base and vulnerability to electronic substitution. The case of Eesti Post, the national Estonian operator, is interesting in this regard. In this chapter the author discusses how out of necessity Eesti Post has had to move into the digital space and in a short period of time has launched a number of innovative digital services.

Introduction

Some five years ago it became clear that our organisation needed dramatic changes. The local economy was still growing faster than the average European country and the minor loss on the company's financial report, compared to the previous period's profit, was not terrifying. However it was certain that the mail market was starting to decline faster than ever.

The first issue to be solved was that of the organisation. The process of management centralisation had already started, but there was no business line orientation in our organisation. Therefore, after renewing the overall strategy, the first stage was to launch business units based on profit centers. Three main business directions were adopted in our strategy – logistics, postal operations and information management (info-logistics).

The key external challenges included the fast changing market conditions and also the shrinking economy. The latter started in the beginning of 2008 as international markets generally were hit by the banking crisis. But also the Estonian society itself was a challenge. Under the name "e-Estonia" the country has become known as a very modern society. The main goal was therefore to become a business organisation with long-term profitability and to develop new generation postal services for the local market with the perspective of expanding business activities geographically or to the digital markets.

Digital Society

"e-Estonia" is one of the most advanced e-societies in the world – a success story which grew out of a partnership between a forward-thinking government, a proactive ICT sector and a switched-on, tech-savvy population[1].

e-Estonia means voting in elections from the comfort of your own living room, filling in your income tax return form in just five minutes, or signing a legally-binding contract over the Internet, from anywhere in the world, via your mobile phone. These are just a few of the services of which citizens take advantage on a regular basis. The latest example also created a new world record in a population and housing census, where more than 60% of the population enumerated themselves.

For their part, entrepreneurs can register businesses in as little 20 minutes, check vital company, property and legal records online, and even integrate their

1 http://e-estonia.com/

own secure services with the ones offered by the state. The interaction among government agencies, and between the government and citizens, has been completely transformed in e-Estonia, quickly making bureaucracy a thing of the past and making the running of all levels of government more efficient than ever before.

The e-Estonia digital society is made possible largely due to its infrastructure. Instead of developing a single, all-encompassing central system, Estonia created an open, decentralised system which links together various services and databases. The flexibility provided by this open arrangement has allowed new components of the digital society to be developed and added through the years.

In this case, what could the opportunities be for the national postal operator to maintain its role and develop new innovative solutions which could fit into the digital society agenda for the customers and citizens of such an e-country?

Challenges for the Innovation

Recent developments in the postal sector (e.g. the opening of the postal market, e-substitution, the success of e-commerce and new e-services) need to be accompanied by smart innovation in service and process development. Here are some examples of the way Eesti Post is defining its innovation process together with success stories from recent years which are to be continued in the future.

Innovation Process Overview

The procedure for conducting projects is designed according to the achievement of following two key objectives: (1) to ensure the effectiveness of all development projects carried out in the organisation, and (2) to control and manage the development of appropriate business investment, and labor costs.

Related performance objectives are:

- To ensure the developed products or solutions' profitability (to develop projects that are financially successful);
- Financial planning and cost effectiveness (standard measurements: TCO, NPV, WACC, IRR etc);
- A big picture for the feasibility of projects (resources, time schedule etc.);
- Clear and agreed roles among the different stakeholders in projects.

The innovation and development process is extended to all available research, development, and internal projects that require investment decisions, additional

employee resources to be involved or which affect the implementation of other activities.

Case Study – e-Invoicing Operator

Eesti Post's e-invoicing operator eArvekeskus (www.arvekeskus.ee) has developed an e-invoicing platform which makes it possible to enter the paperless book-keeping era. The eArvekeskus e-invoicing operator platform supports B2C and B2B/B2G electronic invoicing and has the ability to integrate with various ERP solutions, including Microsoft Dynamics portfolio, SAP and many others. Our solution covers the full lifecycle of an invoice, starting from its creation to electronic approval and automatic transfer to ERP and ending with electronic archiving. The e-invoicing operator platform is sold as an "out of the box" solution packed with the related Business Knowledge and Business Model. For smooth set-up and reliable operation we offer various cooperation models (joint venture, etc.).

E-invoicing will increase operational efficiency both for the invoice sender and receiver by literally connecting the sender's Sales Ledger to the receiver's Purchase Ledger. The e-invoicing operator platform also provides solutions for organisations to manage all their incoming invoices (paper, PDF and e-invoices) electronically and send them, after electronic approval, to an accounting system and electronic archive.

Case Study – Electronic Mail Centre

It is very easy to send an e-registered letter. The sender no longer has to take the time and effort to print registered letters, place these into envelopes, provide the envelopes with the required information and then take them to a post office. By sending important letters by e-registered letter instead of regular e-mail, the sender can rest assured that letters will be delivered to the right person and read only by the authorised representative. E-registered letters are sent – according to the client's choice – either digitally or on paper. In both cases, information must be supplied to the Electronic Mail Centre (EMC) electronically. For business organisations the development plan of EMC will also cover integration with document management software and also digital archiving services. This makes the document/letter circulation process more effective and controlled.

In the case of electronically-delivered e-registered letters the addressee will receive a notice from the Electronic Mail Centre to the e-mail address, containing a link about the e-registered letter received. The addressee will be required to sign the link digitally using a public PKI-related ID card or Mobile ID, in order to see the letter.

In the case of e-registered letters delivered on paper, the sender of the mail will upload the content file into the Electronic Mail Centre, adding the addressee's information. The post will take care of processing and printing and will send the letter to the addressee on paper.

Experience and Lessons Learned

Most important for innovation projects is the need for a strong compliance with the over-all business strategy. If your business development is not linked to a strategy it is very difficult to measure the results or be successful in your long-term objectives. Another important remark is that you must never underestimate your market and its potential. If you know your clients' needs, act quickly and show some flexibility, even intermediate outcomes could be quite satisfactory. In addition to these experiences, it is important to show trust and support towards your colleagues and partners. Human resources play the leading role in every innovation project.

Future Trends for the New Generation Postal Operators

Trend 1: Customer Life-cycle Services – Identify Your Customer

Not every financial institution, telecommunication company or intermediary will formulate and implement a client identification program to determine the appropriate identity of its clients and their needs. There are four to six generations of customers currently being served. Each of them has different needs and approaches to the consumption of postal services. How can one grow new market segments in this case, and who is our best consumer segment for our new services? This trend makes our CRM look more complicated than ever, but gives an opportunity to "follow" and "like" customers easier.

Trend 2: Cloud Services, Mobile Services, Web 3.0 Services

Mobile and e-services are one of the fastest developing markets globally. Applications or "apps", different widgets and gadgets are all united in cloud computing. More and more smartphones are connected to the Internet every day, and many start-up companies are rocking the world with even more intelligent and sophisticated, but easy to use, solutions than we could imagine. What will the future Web 3.0 look like or is there any difference for usage of different devices? This is what we will recognise in the very near future. New solutions and market trends will create a lot of changes in our everyday life (e.g. self-driving cars, sensor based products, smart homes). All we need to do is to follow the mainstream or become one.

Trend 3: Digital Market – Small Operators to Step onto the International Market with Smart Solutions

As we know in countries like Estonia, being small is beautiful, but it might also be smart. New initiatives, such as Digital Europe 2020 or cross-border free trade developments, show that the need for a single digital market is marked already. In this case the market is global and there may be more players on the market than we used to think of in today's terms. Small garage companies may become important players in the digital world, just as they did in the 70s and 80s as computer software was developed. This is where the postal organisations could find many new risks, but as they collaborate and share their knowledge and experience there will be a common opportunity to set up new global services integrated with mobility and e-commerce. Trust will always be on our side.

Conclusion

Today, we are still not sure what the benefits of becoming an international player in the logistics or information management market could be for a small postal operator. However, we know that a customer-driven organisation and values can push forward lots of things. Open-minded and business-oriented colleagues could be the best asset in any postal or logistics company. To become very successful in virtual services like e-services, we still need a strong and trusted backbone in everyday parcel or mail delivery, but also a touch of crazy ideas and idealistic employees to carry us forward.

Questions for thought and discussion

1. Like many posts around the world Eesti Post sees a future in the area of e-services. To what extent are the various areas discussed (such as electronic invoicing, hybrid solutions) already covered by existing suppliers of service, and what could be the differentiator for a postal operator (aside from "trust")?
2. What are the advantages and disadvantages of being a small operator when it comes to making innovation a reality?

CHAPTER ELEVEN
The Future of Tracking Technologies

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Managing Director
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Can you read this QR code?

The fierce pace of developments in tracking technology and the crucial role that tracking must now play throughout the postal, parcel and express sectors, and beyond, mean that there is a real risk that this technology becomes a commodity rather than a differentiator. In this chapter, the author suggests different ways by which senior postal leaders can ensure that they stay ahead and keep innovating, including the use of an open innovation model and being prepared to use unorthodox sourcing of new expertise and innovative thinking. He also outlines key elements of unique identification and some of the tagging and tracking technologies that are being used. The challenge he poses is that of the lack of skills and expertise in this area, particularly in traditional postal organisations.

Introduction

Most customers now expect all their letters and parcels to be tracked. Tracking information has become a recognised part of the basic product – it is no longer a priced add-on. In some cases data can now be more important than the physical product itself. So for postal operators life has become a whole lot more complicated and the old tracking system infrastructure was not designed for sophisticated users who require new postal services and want to access these services through Apps and social media.

However, tracking technology does not exist in isolation. There is a critical dependency on validated addressing data. The work of the Global Addressing Data Association (GADA) is vital in this regard. An incorrectly addressed item will be misrouted and will fail – resulting in an operational service failure. Most existing international tracking systems disregard address validation. It is missing from most cross-border parcel and mail services. This causes considerable rectification costs, service failures and customer dissatisfaction. In many cases the national address validation databases either do not exist or are not shared.

Also mass serialisation is a major theme today as many other sectors move towards individual item identification. In the 1990s a postal system was designed that barcode-labelled over one million uniquely identified parcels every day. Postal expertise in mass serialisation was significant but the sector is struggling to keep up with the latest thinking in this field.

Consequently, there are some big questions that need to be faced by postal or express operators. What is the optimum tracking point logic and how to get tracking to drive effective itemised billing, customer service and operational performance? "Pay for Performance" is now expected by large customers and this requires dynamic, well-designed and fully integrated tracking systems.

Completely New Business Models Are Appearing

A new Harry Potter book was launched in Germany last year. It was available for online purchase at midnight in Germany – a copy of the book had been prepositioned in every Pakstation automated box system. These pieces of street furniture are located within a couple of miles of every potential recipient in the country. So each book was available for immediate collection at the time of ordering. The cost of providing this kind of service is also very low, it just requires different thinking.

In the UK "multi-carrier" systems like Metapack are being used by all the leading e-commerce vendors. An e-commerce customer can choose a delivery service and a price when they order on line. The parcel will then be despatched from the warehouse with the correct carrier documentation. Delivery performance of different carriers is being compared directly. The strategic danger of this positioning is that postal, parcel or express carriers are being reduced to a commodity service and are finding it very difficult to add value.

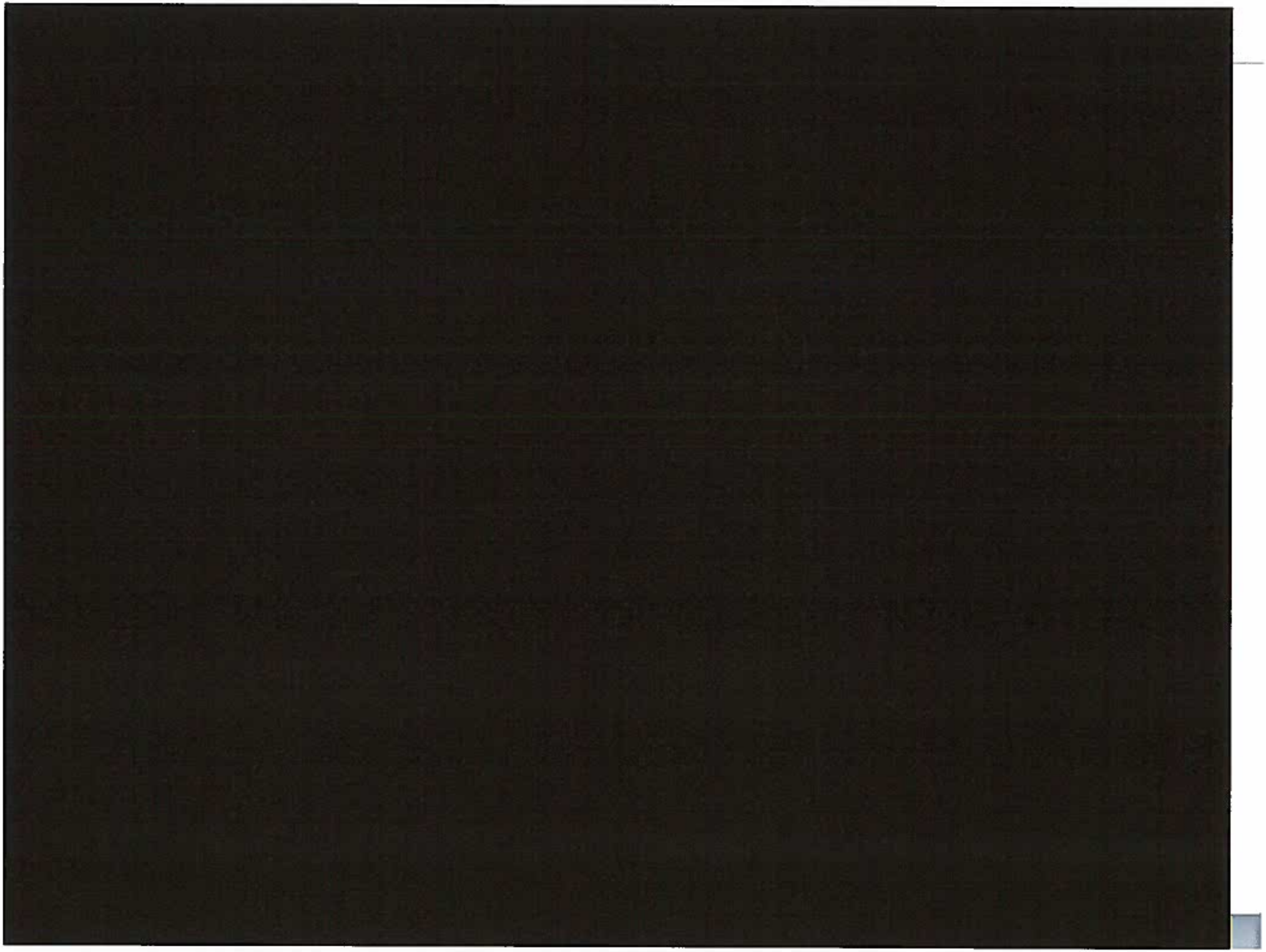
Hybrid mail, reverse logistics, downstream access and ad hoc services are increasingly being handled outside the main distribution networks since core tracking systems and traditional physical networks are poorly designed to cope with these types of products.

Organising for Change

Deploying radically new products and tracking technologies will require considerable business change. Many organisations are struggling with dramatically "out of date" technologies and standards. For example, the system standard for exchanging tracking information between international posts is now over 20 years old. Global identifier standards exist but are not being complied with. Most international express operators are still using bespoke "non-standard" item identifiers.

Most senior postal executives think that they are stuck in a "grid-lock" and cannot move, but this is not the case. New solutions can be added on a "plug and play" basis and the resulting solutions definitely will be cheaper and more flexible. In addition, the added management benefit could be extreme "real-time" visibility of the entire operation. The Italian Post have a very good high visibility model and companies like Traak IT can provide Complex Event Processing models (CEP) with "real-time" pictorial representations. The key is to turn large volumes of tracking data into meaningful and highly valuable business information.

Tracking should no longer be the domain of just one internal department. **Marketing** must promote a technology augmented product. **Sales** must recognise the technology as the touch point for both Senders and Recipients. In many cases the customer experience is delivered though high tech automated facilities. **Operations** depend on tracking information to drive sorting and realise operational efficiencies. The management of delivery fleets and the calculation of performance bonuses are also really important. Meanwhile, **Finance** increasingly depends on sophisticated "Pay for Performance" schemes for customer billing. Finally, tracking systems are now the single most important source of information for the **Customer Service** department.



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Codes for the creative business person" by Dr.

Questions for thought and discussion

1. Tracking technologies are changing rapidly, yet are integral to most product offerings and new value-added services. How can postal organisations face the daily challenge of continuing to innovate and introduce change?
2. The author suggests deploying an "Innovation Director". How would such a role work and what skills or experiences would they need in order to harness and integrate all the innovative activity into the daily working of the business?
3. What are the advantages and disadvantages of deploying open innovation and accessing new ideas and expertise from many different sources? How easy or difficult is this to manage when it may not conform to traditional project or procurement processes?

CHAPTER TWELVE
The Future of Mail with a Systematic Process for Web-based Postal Product Innovation

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Chief Scientist and Vice President, International Standards and Advanced Technology
Pitney Bowes Inc

After defining the characteristics of mail based on the value it can provide to senders and recipients, this author outlines how many different mail streams can be systematically analysed and evaluated according to the value they provide. He then goes on to outline EPPML, a programming model and language that can be used by postal operators to tailor new mail products to the specific needs of customers. This is one way of mapping and navigating the journey that many postal operators are now making from declining 'volume' to profitable 'value', with the tools of a web-based, technological and efficient process for innovation of new postal products.

1 This paper expresses personal views of the author that do not necessarily represent the views of his employer Pitney Bowes Inc.

Introduction

One can define "information mail" (IM) as a physical (printed or written) message, the sole purpose of which is to deliver *information* from the sender to the recipient. This is in contrast to the "object mail" when what gets delivered is an *object* which has a *value* independent of the information that it carries.

In many places, the volume of traditional IM (e.g. first and second-class mail) is in decline. Internet-based communications are much faster and cheaper. If the IM is to survive, it will require significant transformation. What is this transformation and how can it be facilitated? What business applications will mail serve? How and when will customers continue to use mail? What innovations will be critical and will they involve technological elements? Will technology bring desired transformative qualities or will it bring only incremental improvements? These fundamental questions remain largely unanswered.

This chapter outlines a methodology suitable for answering some of these questions and provides constructive recommendations on how to transform the IM into a sustainable communication medium. These recommendations are based on a technology recently developed by Pitney Bowes, known as Extensible Postal Product Model and Language (EPPML).

What is the Value of Information Mail?

Economic aspects of communication systems are concerned with *value or utility*. One distinguishing characteristic of the IM is its physicality. An IM item contains two elements, namely its *information content* (or "payload" that can be expressed in bits and bytes and delivered via electronic means) and its *substrate* (a physical information carrier) on which the payload information is presented. Does the substrate have a value and, if so, what is this value and for whom is it valuable?

The physicality of the substrate can have many values, for example legal, monetary, social and convenience values. Also, the value of the mail item physicality can be allocated either to the sender or to the recipient or both. When the content of the mail item is a message that requires some action from the recipient, messages can be classified into two categories, namely messages that could be acted upon by the recipient's computer and messages that require essential analysis and decision-making by human recipients. The former messages are in reality communications between the sender and recipient's computers (e.g. bills can belong to this category with the exclusion of bills requiring some sort of exception processing). The physical substrate for such messages has no value. Mail products designed for sending this

category of messages are, most likely, subject to extinction. The physical substrate for the second category of messages, however, may have a significant convenience value.

What Kind of Mail is Important?

The future of IM depends largely on the mail that is generated by business activities and to a certain degree on some mail generated by governments. Business mail is a communication component of a business application. These applications have specific requirements depending on the nature of the business (e.g. financial services or retail). Figure 1 represents typical business applications with communication components and their corresponding recipients.

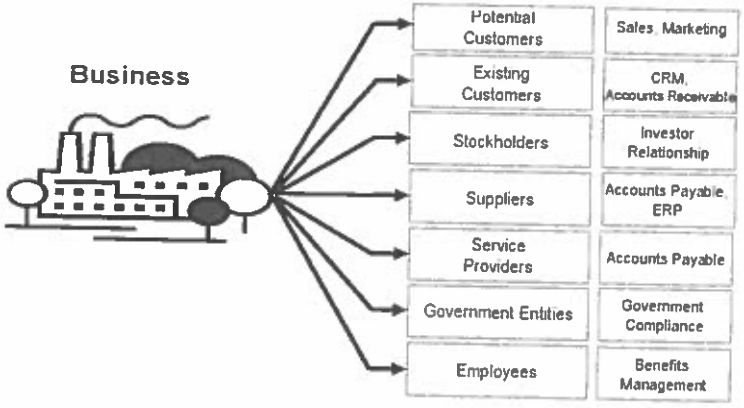


Figure 1. Business applications with a communication component

Today management has multiple choices for the communication component of their business applications (e.g. billing can be organised using electronic bill presentment or physical mail). Advertising can be done by using mass communication media (TV, radio, web) or targeted personalised media (e-mail, direct mail). The fundamental question for postal operators is when and why businesses should use mail as a communication component of their business applications? Here is a common sense checklist:

- Value of the message substrate's physicality to the sender and/or recipient;

- Purpose of the message (e.g. to inform recipient about changes of business conditions or to solicit action by the recipient such as payment or response);
- Message processability by the recipient's computer;
- Potential for a dispute/conflict between the sender and the recipient and the likelihood of exception processing;
- Impact of physicality of the message substrate on dispute resolution and the likelihood for exception processing.

If any of these considerations benefit from mail physicality, this provides incentives for using IM as a communication component. If mail physicality delivers no benefit to the sender, it is likely that the application concerned will be organised using electronic communication components. The analysis of mail in business communications can be summarised in the table in Figure 2.

This table contains only a fraction of business applications for illustrative purposes. The first four columns in the table provide a description of the application. The next five columns contain the evaluation criteria. The last column represents the impact on the future of mail for each application category. It indicates the relative proportion of mail volume in the overall mail stream that is generated by the application in question. The numbers in this column are contrived since there is little real data available about mail volumes broken down by the categories of applications. If such data were collected it would be possible to assess the volume of the IM that ultimately will be lost or, at least, to compute good upper and lower bounds for this volume loss. This estimate may serve as a basis for understanding of the worst-case scenario for the future of the IM.

Decline in demand for transactional mail can be slowed down if postal products for the IM are re-designed better to meet the communication needs of business customers. New postal products must have value-added features that take advantage of mail physicality, for example when there exists a potential for exception processing or disputes (mail with "assurances" and "guarantees", for instance "mutually trusted mail"[2].)

In the category of social mail there are several potential applications that can stimulate the use of IM. Many interactions between citizens and their governments

2 L. Pintsov and A. Obrea (2010), "Postal Product Innovation using EPPML", in *Heightening Competition in Postal and Delivery Sector*, M. Crew and P. Kleindorfer (eds.), Edward Elgar Publishers, Cheltenham, UK.

Recipients	Applications	Communication Content	Purpose of Communication	Response Actions (Expected by sender)	Time dependent (Response required)	Potential for Dispute (between sender and recipient)	Value of Physicality (to sender)	Value of Physicality (to recipient)	Impact of Physicality of Communication on Exception Processing	Message Acknowledgement Process Likely (Processed by Computer)	% of Total Messages in the Category
Existing customers	Statement	Summary of activities	Inform	None	Vertical dependent data, yes	No	No	Yes - Convenience	Neutral	Yes	5%
Existing customers	Bill - usage based (utilities)	Request for payment	Request action solicit payment	Payment	No	Yes	Yes - Legal	No	Neutral	Yes	7%
Existing customers	Bill - non-usage based (mortgage, monthly fees)	Request for payment	Request action solicit payment	Payment	No	No	No	No	Neutral	Yes	3%
Existing customers	Cancellation Notices	Significant changes	Inform	None	Yes	Yes	Yes - Legal	No	Neutral	No	
Existing customers	Modification of Agreement	Notification	Inform	None	Yes	Yes	Yes - Legal	No	Neutral	No	
Existing customers	Product or service offer	Description of - Offer - Product - Service	Request action solicit inquiry or purchase	Purchase Indication of interest	No	No	Yes - Faithfulness of info repres	Yes - Convenience / control, Faithfulness of info repres, Use in court cases for potential customers	Positive	No	
Existing customers	Product Notification (Recall)	Information about product defect	Inform	None	Yes	Yes	Yes - Legal	No	Neutral	No	
Existing customers	Refunds / payments	Financial instruments (money)	Transfer funds	None	No	Yes	Yes - Monetary	No	Neutral	Yes	
Existing customers	Product (insurance policy, ins.cards, financial products, credit cards, certificates)	Product	Enable access to product	None	Sometimes	Yes	Yes - Legal	Yes - Monetary convenience/control	Neutral (positive marketing image)	No	
Potential customers	Product or service offer	- Offer - Product - Service	Request action solicit inquiry or purchase	Purchase Request for interest	No	No	Yes - Faithfulness of info repres	Convenience / control, Faithfulness of	Positive	No	
Suppliers	Payments	Financial instrument	Transfer funds	Deposit check	No	Yes	Yes - Legal	Yes - Monetary Legal	Neutral	No	

Figure 2: Mail communication examples

consist entirely of exchanges of information between the parties. In some cases this is organised by face-to-face interactions between citizens and government agents (e.g. voting). Such interactions in many instances can be designed more effectively by using mail. This would stimulate use of the IM and produce desired "green" effects since face-to-face interactions require use of transportation, contribute to traffic jams and loss of productive time. For these social mail applications traditional postal products are not optimally constructed due to the lack of specific features required by such applications[3].

Technology of Postal Product Innovation

Postal product innovation is difficult. Below is a sketch of concepts and implementation technology that can be used for constructive and effective postal product innovation[4].

Designing and delivering new products involves the following processes:

1. Identifying useful features and attributes of a new product (design phase);
2. Evaluating new product operational feasibility (operational analysis phase);
3. Evaluating new product economic feasibility (economic analysis phase);
4. Marketing and selling new product (distribution phase).

The last phase is the most difficult in postal product innovation since many postal businesses do not have effective distribution channels for new products and normally have access only to a small number of their customers.

The four processes above are comprised of information gathering and processing activities. This suggests that they can and should be fully computerised (presently these activities are only partially computerised). This makes them costly, slow and hence often ineffective. The key is to enable computers to create, send, receive and process information which describes a broad variety of existing and potential postal products, in other words through the formalisation and digitisation of postal products description.

3 Ibid.

4 For a detailed description consult L. Pintsov and A. Obrea (2008), "Postal Reform and Product Innovation", in *Handbook of Worldwide Postal Reform*, M. Crew and P. Kleindorfer (eds.), Edward Elgar Publishers, Cheltenham, UK, or L. Pintsov and A. Obrea (2010), "Postal Product Innovation using EPPML", in *Heightening Competition in Postal and Delivery Sector*, M. Crew and P. Kleindorfer (eds.), Edward Elgar Publishers, Cheltenham, UK.

Examination of existing postal products reveals that they have a deep structure that is invariant to specific postal operators, countries, market conditions and other similar considerations. The structure of postal products reflects the universal notion of a postal network designed for the movement of physical objects between its nodes and its associated information. This suggests that it would be possible to create a universal computer language specifically designed for the description of postal products and associated requirements (such as product access requirements mentioned above).

Indeed, this language has been designed, lab-tested and standardised under the name Extensible Postal Product Model and Language (EPPML) as a specialised version of the XML language (UPU S54). EPPML is optimised for postal applications. A brief description of a EPPML-enabled product innovation and delivery system is as follows. In the EPPML environment (see Figure 3) a new product development process consists of multi-round exchanges of information between mailers and recipients on the one hand and the postal operator on the other.

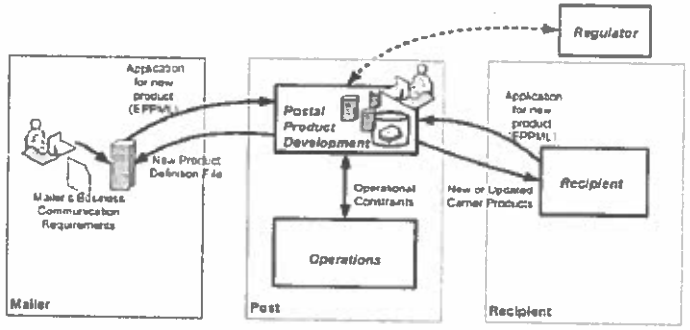
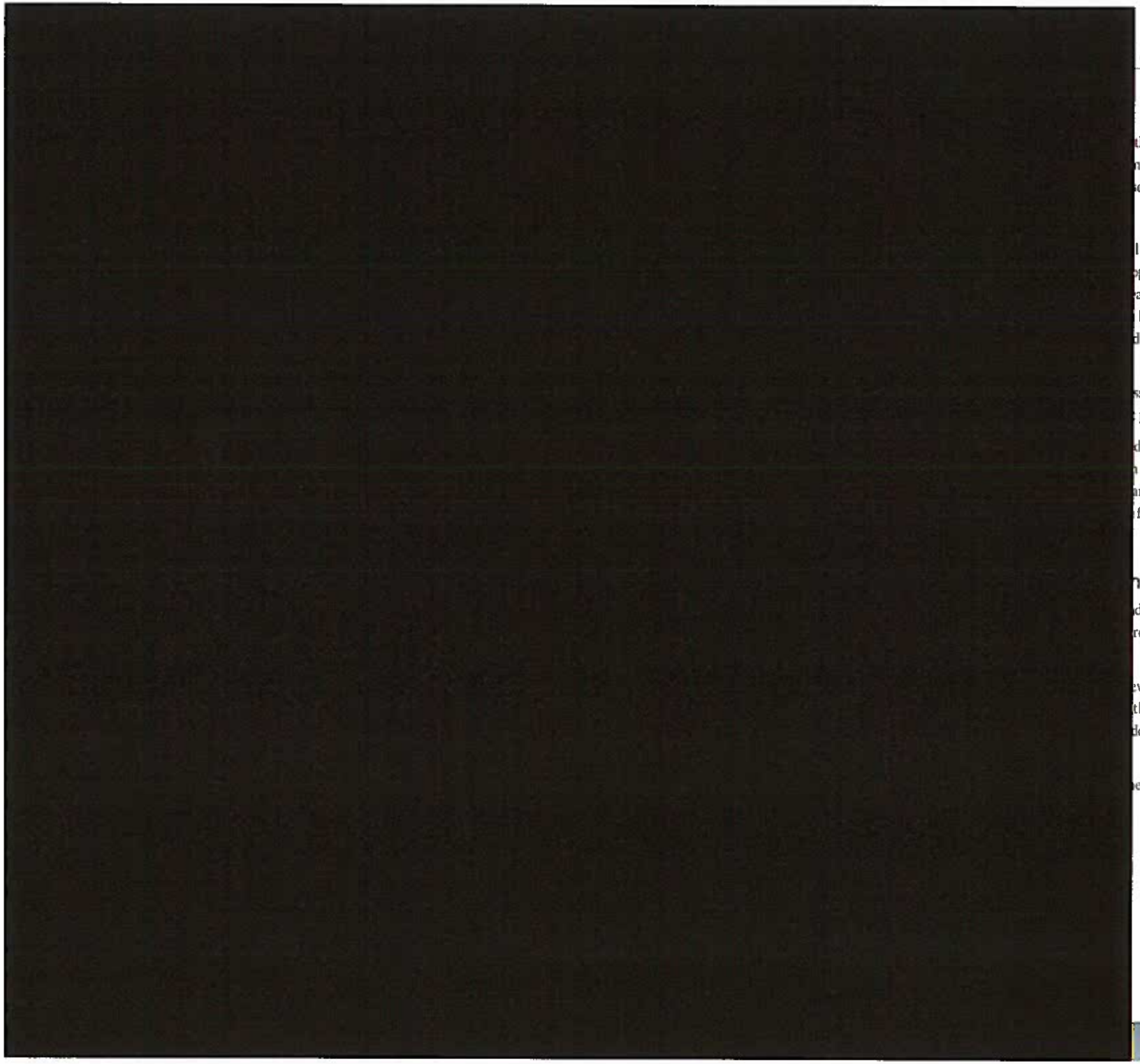


Figure 3 EPPML environment

Process of Postal Product Innovation

The process starts with the mailers' communication needs, desires and suggestions expressed in a non-technical way (e.g. by using familiar terms and requiring minimal or no technical knowledge of the postal products, network, processes

5 Taken from Pintsov L. & Obrea A. (2008), "Postal Reform and Product Innovation", in *Handbook of Worldwide Postal Reform*, M. Crew and P. Kleindorfer (eds.), Edward Elgar Publishers, Cheltenham, UK



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CHAPTER THIRTEEN

Understanding Postal Sector Dynamics in Order to Find an Appropriate Design for Universal Service and Regulation

Raymond Redding
Péma2R Consulting

Olivier Salesse
Partner, TERA Consultants

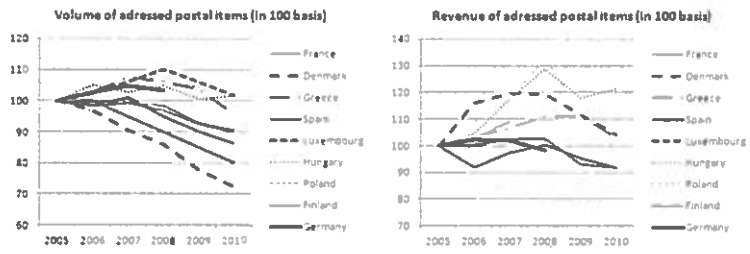
After providing an overview of some of the developments in the postal industry, the authors of this chapter suggest that there is a need to redefine universal postal service. They argue that the trust traditionally placed in the postal system can be used to extend the business model into the digital space. However, for this to happen, regulators must provide the freedom and encouragement for operators to innovate.

Introduction: a Brief Review of the Postal Sector and Regulation in Europe

The writing and exchange of documents have structured modern states. From 255 BC[1] until the mid 19th century, the exchange of paper was at the heart of power. From 1840, date of the invention by the English of the stamp with a universal price, the exchange of paper documents has become vital for economic exchanges as well. From that moment until the early 21st century, postal exchanges have not stopped growing, except in the context of major crises, in close relation to the growth of the general economy. More recently, in most industrialised countries, the volumes and the revenues of postal services have slowed down or have even begun to stagnate or decrease.

Based on this observation, the regulation of the postal sector may either be an opportunity or a risk. If postal regulation becomes a heavy administrative regulation applied to a fixed universal service, and/or tries simply to copy what has been applied in the telecommunication sector, there is a risk that it would simply precipitate the decline of the sector. On the contrary, regulation of the postal sector could be an opportunity if it is considered that the postal sector in Europe is at a crossroads and is looking for a new model.

In terms of the policy of regulation, a choice has to be made between facilitating a smooth decline or providing a boost to a paradigm shift.



Sources: Eurostat, GAO (US), PRC (US), ARCEP (France), Bundernetzagentur (Germany)

Figure 1. Evolutions of volume and revenue in the postal sector in some industrialised countries between 2005 and 2010

1 The oldest document describing a postal service, mainly for the pharaoh and his finance minister, is a papyrus dating from 255 BC.

What Happens to the Postal Sector?

On the demand side, the stagnation or the decline in volumes and revenues over recent years in the postal markets of industrialised countries is often associated with the development of IT services: e-mail and more generally electronic communications which, slowly but surely, would replace mail. As will be discussed further, the reality is more complex. If e-mails have indeed replaced a proportion of mail, especially C2C mails, IT services have also created new needs for postal services. For example, e-commerce has contributed to the development of parcel services, business and advertising mail related to e-commerce. With IT services, potential users of postal services, both senders and recipients, now have a choice between postal (physical) communication and digital or virtual means of communication. The challenge for postal service providers is to propose services that fit the evolving needs of the customers.

On the supply side, over the last thirty to forty years postal operators have implemented significant waves of modernisation in their industrial processes. This modernisation process is still continuing today. Postal operators try to make the postal processes (especially sorting and delivery) more flexible in accordance with the evolution of volumes. However, these successive waves of modernisation have focused on technologies and processes involved in the provision of traditional postal services. While this has led to some incremental innovations in services (item tracking, improved services around address identification), the core of the postal services offered to customers has changed little. Innovative services are provided upstream (communication services) or in parallel with the traditional postal value chain (service with a component of electronic communication). Those are the services for which there is genuine competition even though in Europe and the United States the level of competition in the processes of collection, sorting, transport and delivery of mail is very limited.

In Europe, the early 21st century has been marked also by the introduction to the sector of regulation decided by national independent authorities. At the same time, in many countries in the 1990s major national postal operators evolved from the status of government agencies to those of public companies, and are in phases of more or less advanced privatisation. With some similarity to the time when the Postal and Telecommunications services were closely related, regulatory bodies set up in the postal sector are often sub-entities of telecommunications regulatory authorities or multi-sector regulators. The temptation then is to apply what has been achieved in terms of regulation in the electronic communications sector to the postal sector.

Innovation, Trust and Evolution of the Postal Value Chain

Trends and Weak Signals: the Slow Emergence of New Services in the Postal Sector

Around the world, whether in industrialised countries or emerging countries, the supply of postal services changes relatively little. In industrialised countries, postal operators improve incrementally their traditional mail services (delivery in time slots, service quality, mechanisation, etc.) or combine electronic communications services with traditional mail services, just outside their catalogue of classical postal services (e.g. electronic registered mail). In emerging countries, the postal sector is much less structured. The main challenges there concern the emergence of a coherent postal organisation, regularisation of larger or smaller numbers of small clandestine operators, or the standardisation of addresses. At this stage, it seems that no evident breakthrough innovation would stop the slow erosion of the mail services and bring about a shift to a new life cycle.

Back to Basics in the Postal Sector: Trust

Since their inception, postal services have had specific strengths and values. Any forward thinking regarding the postal sector and written communication should be based on the most fundamental values of postal services: the trust, the confidence that end users (mail and parcel recipients) have in postal services. It is important to bear in mind that parcel and mail recipients, who are mainly households (flows of postal objects are predominantly B2C today), are the main prescribers of means of communication used by businesses and governments to consumers and citizens.

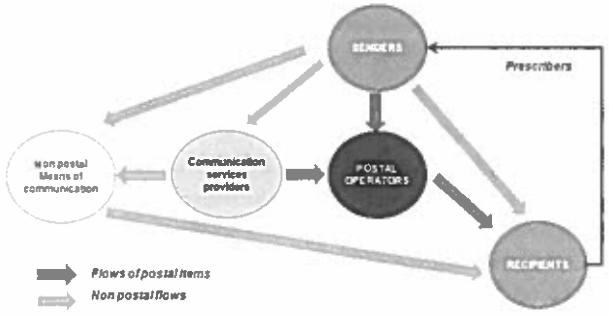


Figure 2: Postal communication as part of a larger market of communication

The Multi-Sided Aspects of the Postal Markets and the Necessary Evolution of the Postal Value Chain

Postal markets are more than a double-sided market with senders who pay for a service of routing and delivery of postal items, and recipients who choose the communication means and pay the sender for a global service. Postal markets are actually multi-sided markets where economic actors potentially can add value to the written communication between senders and receivers.

The issue of the necessary evolution of postal markets is mainly focused on written communication, i.e. mail services. Express mail and parcels are not affected by the progressive decline of the postal sector. The evolution of their volumes and revenues is closely linked to the general level of e-commerce, itself closely linked with the general level of the economy, whereas the mail services are doubly impacted by the changing needs of consumers and the financial crisis that has pushed companies to streamline their costs. Indeed, for many sectors of the economy, such as banks or insurance companies, mailings represent one of the first cost items. One possible vision of the future therefore would be a postal world which consists of only parcels and express mail.

To survive, the mail must change the value chain. To this end, it may rely first on the growth of the parcel and express segment and, second, on a better and more accomplished combination with electronic communications services. What is important for senders and recipients of communication services is the service rendered and not the means of delivery. Paper plays a prominent role in communication and especially in key information sharing. A recently published, but not very highly circulated, study sponsored by Microsoft found that £1 spent on printed publicity generated £5 of revenue. The equivalent revenue from TV publicity was £2.20 and from online publicity £3[2].

Printed publicity increasingly is considered by advertisers as a premium medium. Receipt of a physical object specifically addressed to a person captures more attention than an e-mail or Internet advertisement. To sustain this special place, however, the mail must enhance its content. A bank statement or an invoice is not enough necessarily to justify sending a mail. By contrast, the sending of value-added information and targeted advertising messages is valuable as part of an integrated multi-channel communication approach.

2 Agence France Presse, 5th August 2010

One of the main innovations that could prevent mail from inexorable decline therefore would be that postal operators and other stakeholders of the postal sector provide integrated multichannel services where mail is proposed as a high value-added means of communication. It would certainly help prevent the stagnation or decline in volume and it could help to increase the profitability of mail services.

Rethinking Universal Service: More Focused On the Communication Service Rendered

At the end of the 1990s, in the postal sector the concept of universal service replaced the concept of public service. In line with the Universal Postal Union (UPU) definition of universal postal service, different countries have implemented this concept in their legislation. Basically, the universal postal service is designed to provide postal service users with a range of basic postal services with guaranteed quality of service and accessibility to the service. In Europe, for example, universal service is comprised of a basket of ordinary postal products and services. As soon as a postal product or service includes a value-added service (such as tracking, pre-stamped envelope, etc.), it is generally outside the scope of the universal service. This is a shame!

Users of communications services now differentiate *de facto*, for reasons of use and price, between paper and electronic media: this is a radical and irreversible change. The mail market is no longer isolated. There is a concern that the decline in mail volumes of universal service would result in an explosion in its cost. However, numerous studies show that the return on investment of print advertising is better than any other type of advertising. Despite the best efforts of postal operators, the cost of postal processes presents a certain level of rigidity. Distribution costs in particular are mainly composed of fixed costs related to the time required for the postman to make his/her round. The decline in volumes causes, on average, only a very limited reduction in this time for the delivery round.

Therefore, reflection is needed regarding the scope of the universal postal service. The stake is to redefine an area that is coherent between the basic needs of the population and the provision of a service at a reasonable and optimised cost over the entire territory, that fits the technical reality of markets and the users' needs. This raises the logical question of the integration of hybrid products – partially dematerialised ones such as the electronic standard or registered mail (sending/receiving dematerialised mail in the conventional form) or totally electronic (bills, bank statements, etc.) – within a reconsidered universal service. Such a definition

of universal service would be focused on the service provided and not on the means of shipping and delivery mobilised to complete the service, or on the physical characteristics of objects.

Conclusion: What Could Be the Design of an Efficient and Modern Regulation to the Benefit of Postal Service Users?

At first glance, there is a paradox. The fundamental function of an independent regulatory authority is to protect or optimise consumer welfare where pure market mechanisms are not sufficient. In fact, in the postal sector, the regulatory authority's role could be confined to highly-specialised economic and technical issues that seem to be far removed from consumers or end-users. The level of visibility and interaction of postal regulators with consumers and end-users thus remains very limited.

Contrary to other sectors, such as IT or energy, where the dynamic of competition is stronger, a regulator focused on the provision of declining traditional postal services may represent a barrier to innovation and ultimately to the survival of the sector. Following this approach, one could argue that the postal sector does not need regulation that takes the operators down, and that market mechanisms alone may be sufficient to release the innovative potential of actors the postal sector. Coming back to the fundamental function of an independent regulator and to the significant weight of the postal sector in the economy, it seems important to make the regulator play the role of a supporting force for the market in difficult times. Otherwise, it seems likely that only incumbents can survive for some time in a flat market, without competitive dynamics.

The regulator should be a trusted third party for the promotion of innovation and new ranges of services. There is a possibility of creating new business models that strongly contribute to innovation. This positive approach could represent an opportunity for (or the rebirth of) traditional operators and open up new windows of opportunities for new actors.

Questions for thought and discussion

1. Like many other thought leaders, the authors of this chapter argue that "trust" is an essential resource that postal operators can leverage when diversifying. Do you agree with this assessment? Is it true for all countries or only some (for example those who have been the most customer-oriented in the past)? Are there no trusted brands already present in the digital spaces into which many posts are trying to move?
2. Regulations, such as Universal Service Obligations, exist to protect consumers rather than producers. Is a universal postal service worth preserving at all, in a world where C2C mail is no longer demanded by consumers (or if it is, then only by a minority)?
3. In 2011 the UK postal regulator was closed down and postal regulation was taken over by Ofcom, the general regulator of broadcasting and telecommunications. Is this the right model? Is a separate postal operator still needed, or should the role be merged with the regulation of telecommunication and/or other media?

CHAPTER FOURTEEN
Digital Innovation for the US Postal Service

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Posts around the world have to make strategic decisions about where to innovate. In this chapter the authors provide, in the context of the United States Postal Service, a possible framework for postal operators to consider when thinking about what new products and services to offer. It is argued that posts should bear in mind their existing assets and capabilities, in addition to the potential market opportunity. There are a range of problems for which posts could potentially provide innovative solutions. However, the authors also caution that regulatory constraints must be taken into account and posts may need to consider petitioning for changes to the definition of the Universal Service Obligation. Finally, this chapter offers some ideas for innovative services that could be offered by traditional postal operators.

1 The views presented in this paper reflect solely the views of the authors and do not necessarily reflect those of the United States Office of Inspector General or any other organisation.

Introduction

The Internet and the digital economy are changing fundamentally the worlds of communication, transportation and commerce. Since the dot-com boom-and-bust of the early 2000s, the digital economy has continued to grow at a staggering rate, as both consumers and businesses adopt electronic processes across multiple domains. New digital technologies have been "disruptive innovations"[2] for traditional businesses and their business models. These disruptions, in combination with the great recession of 2008/2009, have had a significant impact on postal organisations all over the world, resulting in a continuing decline in the volumes of personal, business, and advertising mail. The diversion to digital channels is real and accelerating. As one leading new media expert proclaimed,

"If it can go digital, it will."[3]

By 2020, 40% of the US population will be digital natives[4], born into new technologies. Digital natives' behaviours are centred on electronic alternatives with little or no desire to deal with hard copies. Examples include online banking over cheques and printed statements, and e-books over physical books. As younger digital natives begin to enter the workforce, their behaviours will have an even more fundamental impact on how businesses leverage technology.

Here we study the impact of the digital revolution on the future of the American postal ecosystem. While there is no indicator of how much of our communications and commerce will go digital, the migration is nonetheless creating a lengthening tail of digital refugees, which will only increase with rapid innovations in technology.

Key Postal Impacts

The Postal Service has maintained its position in physical communications due to its reach and monopoly access. However, new competitors are bypassing this advantage, changing the "postal ecosystem"[5]. No longer do hard copy providers solely drive this ecosystem. Disruptive digital companies like Google are suddenly everywhere, changing business models for advertising, communications, and

2 Christensen, C. (1997) *The Innovator's Dilemma*. Harvard Business Press.

3 Jarvis, J. (2009) *What Would Google Do?* Collins Business: NY.

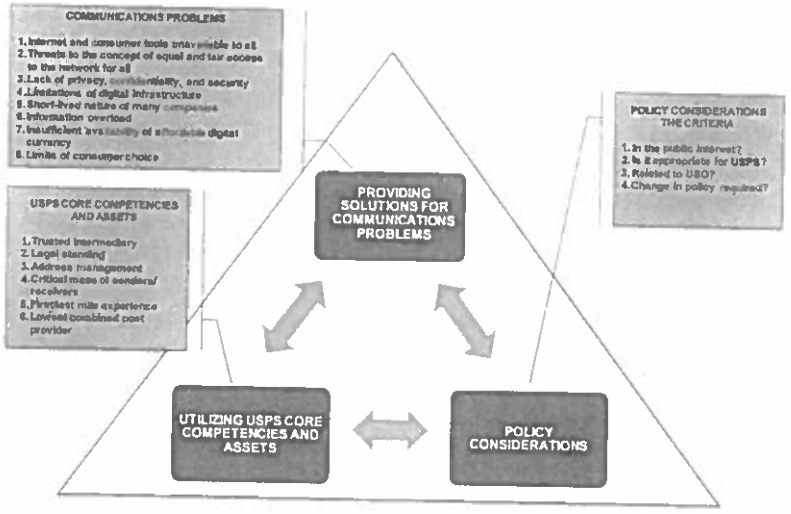
4 Booz and Company, "The Rise of Generation C – Implications for the World of 2020." January 2010.

5 Postal Ecosystem is the term used for the markets, applications, and processes as well as sending and receiving customers, partners, and vendors that have traditionally involved the Postal Service in some way.

publishing. With the enhanced targeting capabilities of digital technologies, marketers are shifting towards behavioural and location-based advertising that enables a more direct linkage between awareness and response. Some of the main types of service providers in the digital economy today – platforms, Internet intermediaries, search networks, digital data providers, application providers such as social media, and mobile technology providers – look to maintain or grow their position as the digital economy evolves.

The Postal Service can continue to play a significant role. Over the past two centuries, the Postal Service has provided a secure, universally accessible platform for physical commerce and communications. The Postal Service can extend its trusted role as an intermediary to the digital realm. It could establish an enabling platform to bridge the digital divide and allow citizens to traverse from the physical to the digital, if they choose or are required to, in this new digital economy.

The transition to a new digital landscape is already under way, but the path forward is undefined. The Postal Service should consider new products and services that reflect the evolving mandate to "bind the nation together" in a new world where people are increasingly communicating digitally.



Source: USPS OIG Analysis

Figure 1: The Three Guiding Principles

The Guiding Principles

The three guiding principles depicted in Figure 1 act as the primary filter for the US Postal Service to use in evaluating innovative products and services to offer in a strategic framework. The first principle encourages an exploration of applications that provide solutions to communication problems of the digital age. Today's Internet-focused world and all of its functionality are not readily available to all citizens, some of whom lack skills or broadband access to reap its full benefits. Additionally, many of these same citizens lack sufficient availability to affordable digital currency exchange services. The US global digital infrastructure also remains fragile, susceptible to viruses and interruptions in service, and is provided by companies that could fail or quickly face obsolescence. And just as critical, there remain inadequate levels of privacy, confidentiality, dependability, and security in digital communications and financial transactions as desired by citizens, as well as a risk of involuntary profiling.

As the frequency and intensity of electronic communications and applications continues to increase, consumers are experiencing an information overload as well as a lack of tools to manage it. Companies and governments are limiting the choice of delivery as physical delivery is eliminated in favour of digital-only communications and transactions. Finally, there is a potential threat to equal and fair access to the Internet.

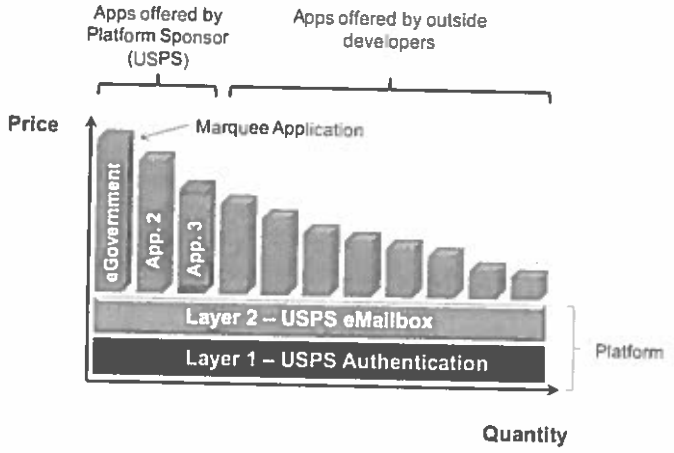
The second guiding principle promotes the utilisation of the Postal Service's core competencies and assets in the development of a greater digital role. These include a long history of acting as a trusted intermediary as well as a position in the courts and government of legal standing for postal communications. The Postal Service's multichannel infrastructure of points of sale and services (retail, collection, and delivery) and its experience in developing and running a national address management and change of address databases would also prove valuable. Further, no other organisation has the combination of a critical mass of business and consumer customers together with the skill of facilitating communications in the first mile (collection) and last mile (delivery). Lastly, the Postal Service has an effective tradition of serving as a neutral arbiter providing an array of products and services, including currency transactions, at the lowest combined cost.

The final guiding principle requires the Postal Service to evaluate applications that are considered proper for the Postal Service. Any development of a digital services strategy must first ask: Is the opportunity in the public interest, linking a wide array of business sectors to the American public? Is the opportunity appropriate

for the Postal Service? Is the opportunity needed to assure the Universal Service Obligation (USO)? And finally, would a change in policy be required?

The Digital Postal Platform

Rather than offering a portfolio of digital products, the Postal Service will have to move farther and sponsor an organising and enabling communication platform that many participants would be able to contribute to and benefit from. A platform is a set of components that are utilised beyond just a single owner, namely users, content developers, a provider (the front end of the platform) and the sponsor (the controller of the underlying technology). Although there are various types of platform models, the most effective given the Postal Service's current assets would be a model that allows the Postal Service to sponsor or own the platform ecosystem. Figure 2 illustrates a layer approach with the Postal Service controlling and owning the sponsor layers, with a layer above composed of providers of which USPS could be one of several. The Postal Service would then set the rules and determine the access points to the platform, with which consumers and content developers would interact.



Source: Eisenmann, Parker and Van Alstyne, MIT Center for Digital Business – modified by OIG RARC

Figure 2: The Postal digital platform and applications

The Postal Service could develop two foundational layers or services based on current competencies. These two layers would utilise its national Address Management System and retail-carrier network to provide authentication services that could be used to issue an on-line ID and the linking of an individual or businesses physical address with an electronic address or eMailbox service. By absorbing and controlling these two applications as part of its portfolio, the Postal Service ensures retention of services currently lacking or deficient in the marketplace, adding value to the postal system. These core layers help to retain the Postal Service's traditional role as an intermediary, enabling the flow of communication and commerce and consummating a match between senders and receivers.

The suggested postal digital platform would be built on two foundational application layers:

- **Authentication:** Providing authentication and certification services, the Postal Service would be in the position to fill a critical void in the current digital world by identifying, authenticating, and certifying users through the verification of real-world attributes with a particular focus on the physical address. Such a service would require an on-line registration process in combination with a physical verification of identification documents either at a postal facility or remotely at one's office or home. The service would allow the Postal Service to act as a trusted third party issuing digital authentication for its own platform as well as for other entities and programs.
- **The eMailbox:** The Postal Service would offer the eMailbox as the other cornerstone of a secure, private, and confidential communications network designed with the needs of consumers in mind. People can access their email and/or scanned version of their physical mail from a laptop, tablet computer or smartphone. A user could choose to redirect email and/or convert to physical mail as they see fit. In essence, this consumer empowerment would be the basis for a new universal service obligation or USO 2.0. While the government would have to ensure that consumers have access to postal and or broadband service, consumers would have the ability to choose their preferred method of service – physical or digital.[6]

6 US Postal Service Office of Inspector General, Risk Analysis Research Center, 2011, http://www.uspsoig.gov/foia_files/RARC-WP-12-003.pdf.

- The Postal Service would develop and also promote applications from leading technological developers. All applications would adhere to the guiding principles mentioned previously. In addition to the eMailbox with the physical-digital address linkage, services could include:
- An eGovernment application that promotes the further expansion of government services through the postal platform and utilises the eMailbox to send and receive secure and official communication with federal agencies. This could be paired where needed with physical kiosks at Post Offices (connected to government department call centres).
- Hybrid and reverse hybrid mail that allow senders and receivers to convert digital documents to physical and physical documents to digital. This hybrid solution could foster a healthy symbiotic relationship between printed and digital communications and help elevate the value of both media.
- Enhancing services for the shipping and delivery of secure online purchases through flexible pick-up and delivery options, expanded payment choices, and a cost calculation that includes all charges and fees for purchases (even international) at the time of sale.
- An eLockbox and archiving service that could utilise the eMailbox to integrate an individual's physical and digital communications in a single place to manage the "information overflow," as well serving as a curator offering a type of secure vault-like area for storage of important communications and other personal documents (such as medical records and wills) that can be accessed quickly when needed.
- Development of a network to buy and redeem cash and digital currency both at Post Office™ locations and online. A good example is the leveraging of the vast geographic coverage of the Postal Service to allow unbanked citizens the ability to redeem cash for digital currency in the form of prepaid cards. Such a network could also facilitate payments between government agencies and citizens, such as Social Security payments and tax refunds.

Implementation

A key element of a digital strategy lies in the creation or designation of a Postal Service functional area to own and coordinate the resources for the effort. There are undoubtedly a myriad of issues (technical, political, financial, statutory, and

institutional) pertinent to the implementation of a digital strategy. The adoption of such a strategy would not only provide a range of new and needed products and services to all Americans, but would help to reinforce the nation's technology and digital infrastructure. It should be noted that this platform is not a financial panacea for the Postal Service; it should have a utilitarian focus to help all citizens and businesses.

Questions for Thought and discussion

1. Authentication and other digital services are pointed out by many as a potentially important area for posts to explore, and some posts around the world (such as Swiss Post, through their daughter company Swiss Sign[7]) have recently launched such services. However, the markets for secure digital identification and authentication have existed for many years, with a number of big private sector players already providing such trusted solutions (for example Symantec with its VeriSign and Norton brands). Could the post be too late in this game? Are the post's capabilities and the potential synergies with traditional physical services sufficient to give posts a competitive advantage over existing players in these markets?

2. It is argued in this chapter that, when determining what new products or services to develop, the US Postal Service and others should consider not just their existing resources and competences, or the potential market opportunity, but also the public policy implications of their decisions. To what extent can the USPS and other posts reasonably be expected to regulate themselves? Looking ten years to the future, will there still be a need for much regulation in this sector, given declining mail volumes?

3. With the idea of the eMailbox the authors argue for a universal adoption (and inclusion in the USO) of the type of mail management services that have been offered for a number of years now by various private companies such as Earth Class Mail. Should and could such a service truly be included in the USO? What would be the effects of this on the cost of the USO? What would be the effects on competition and pricing of such services?

7 For more information about Swiss Sign and their identification and authentication services, see book two of *The Future is in the Post*

CHAPTER FIFTEEN
Navigating the Roadmap of Innovation and Transformation – CorreosChile

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Operators in transition countries often face particular challenges in terms of geography, demography, customer needs, and the penetration of technology and complementary services. In this chapter the case of Chile is discussed, where CorreosChile has developed a new vision and strategy embracing change and the need to innovate. In addition to modernising the traditional business of mail and parcels, new products and services are being developed at a rapid speed. The authors in this chapter provide a candid insight into this process that can serve as an example to operators in other countries.

Introduction

In recent years the scenario for postal and parcel companies has changed due to the penetration of new technologies and the mobility of markets; Chile is no exception to this trend. Chileans (of whom there are around 17 million) send less than 30 letters per year, compared to over 200 items of mail per year in some more developed countries. The bulk of this volume comprises one-way correspondence from companies to consumers.

The competitive environment in Chile is open, with many players operating in a liberalised market. Differentiation among the private postal operators has developed along two lines: added value, due to the incorporation of information technologies in operational processes, and vertical integration in the value chain of the operator.

Internet penetration in Chile has surpassed 50% of the population[1], and the use of electronic banking and online financial services by citizens with bank accounts is only slightly under this figure[2]. On both counts, Chile ranks #1 in Latin America. These favorable conditions for electronic commerce have raised the number of online purchasers to over 13% of the population[3], but has accelerated the process of electronic substitution driven by deliberate efforts by the private sector to mobilise client correspondence towards e-mail (40% of the bills issued in Chile are now electronic[4]).

Chile's geography, over 4,000 km long and less than 180 km average width, added to a concentration of the population in the Metropolitan Region of over 38%, generates high distribution and operating costs in the areas furthest away, promoting the concentration of competition in the central region, and eroding the market in the zones with higher efficiency at the expense of services in the less profitable areas. The current regulatory and legislative framework imposes restrictions on CorreosChile's ability to integrate vertically its clients' postal processes. On one hand, mailmen legally can charge a small sum to end-customers for each letter delivered (equivalent to 6 US cents); on the other, the company faces statutory barriers to performing electronic distribution or financial inclusion activities. Furthermore, by statute it must deliver the Universal Postal Service through which it provides traditional postal services by traditional means, despite the logistical inefficiencies of Chile's geography[5].

1 Subsecretariat of Telecommunications
2 TGI Latina wave I 2010 wave II 2009
3 Santiago Chamber of Commerce
4 Havas Digital Insight, May 2011
5 More details about Chile and CorreosChile are found at the end of this chapter

On the subject of bank penetration and financial inclusion, according to the Latin American Federation of Banks (FELABAN), during 2008 60% of the adult population of Chile had access to banking services. On the other hand, almost 100% of the counties provided at least one medium of payment (ATM, POS or "Caja Vecina" of the Banco Estado)[6], which has mobilised some banks to offer money transfer services through their ATM networks. Although the environment has favoured the substitution and erosion of the market in the use of services for sending money nationally, it has generated a sustained growth in the sending of remittances abroad from Chile, driven by the migration of the population from other Latin American countries.

The points above summarise the scenario in which CorreosChile is developing a roadmap of innovation and transformation, with the goal of consolidating leadership in the traditional services and also taking a position for the development of future services.

Innovation and Development to Date

During the past years, CorreosChile has undergone a process of modernisation, most visibly in the upgrading of infrastructure and IT platforms. In 2009, the CEP parcel processing plant came on stream, the most modern in Latin America, providing support infrastructure to the business of distribution of parcels, and capacity to respond to the growth of the market and the increased market share expected in the forthcoming years. Similarly, during 2011, CEP and Postal shipment visibility projects were implemented, enabling the improvement of service features in response to competition.

Certainly, these efforts have allowed CorreosChile to maintain an important position in the postal market and have driven growth in the CEP business. However they are very far from actual innovation centred on clients and end users, and their impact is biased towards the operational improvements necessary to match the competition, rather than responding to a strategic view of reinvention to satisfy the needs of the new consumer.

Now CorreosChile is going through a profound process of transformation, driven by a strategic-commercial vision which is embodied in an innovation roadmap, based on a year's work spent on the analysis of practices in developed countries, and supported by a multidisciplinary team of people, and which has the objective of

6 *Diario Financiero* newspaper, December 2011

evolving and revolutionising the organisation to further the transformation process from Correos 1.0 to Correos 3.0.

Innovation for the Upcoming Years

Given the postal context, where (hand)-written correspondence between people is already an almost obsolete habit, it appears reasonable to understand that the focus and the view is centred on companies that concentrate unidirectional communication towards people. This hyper-empowerment of companies has had two profound effects. The first of these has been to pay relatively less attention to changes in the needs of people, and as a consequence there has been a commoditisation of services. In short, in contrast to the experience in most developed countries, people in Chile do not have the option of choosing who delivers a product to them, since it is the selling companies who make the carrier decision.

On the other hand, the new "hyper-connected" client has new needs and behaviours, uses the web to search for information, and to quote, purchase, communicate and manage his finances online. Access to technology has returned empowerment to the consumer, who has recovered control, and who now chooses when, how and where to relate to companies, acquiring more confidence.

These trends suggest two aspects that are deeply incorporated in our innovation roadmap, which focuses on the end users, people, since through differentiation we will achieve the decommoditisation of services, and secondly incorporate the digital dimension in products, services and channels, to respond to the habits of the new consumer. In this way, we will consolidate the preference of companies through the preference of people.

Vision and Objectives

The next step in the construction of Correos 3.0 involves widening the portfolio of products and channels, incorporating added value through innovation and technology, allowing an increase in market share and ensuring competitive advantages. In this way, we set out to develop solutions, services and channels which respond to the needs of people and companies, incorporating the digital dimension to adapt to the needs of the new client, positioning CorreosChile as a competitive company, a leader at a national level and a benchmark for the region.

In particular, this vision of the future of postal services means a change in the current paradigm, where the services are centred on physical origin-destination addresses

(for the distribution of letters, parcels and even money), to one that centres on the identity of the consumers. This means that it is the final consumer who will indicate how, where and when he wishes us to communicate or to deliver what he needs. We call this progressing towards the integrated postal experience (see Figure 1).

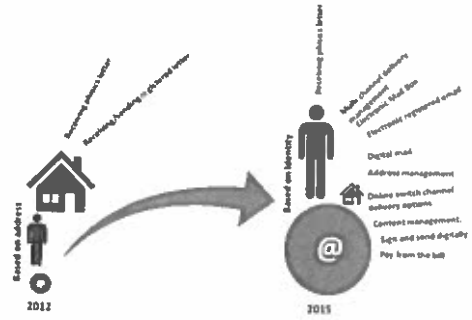

Figure 1: The Integrated Postal Experience

At the same time, the vision of Correos about the distribution of products in general, and of e-commerce in particular, points to the development of a multi-channel strategy, incorporating 24/7 delivery options, super-express services and the online management of consignments. What this seeks is the provision of more and improved options to consumers. In this sense, our challenge begins by putting the brakes on the slide towards the commoditisation of services.

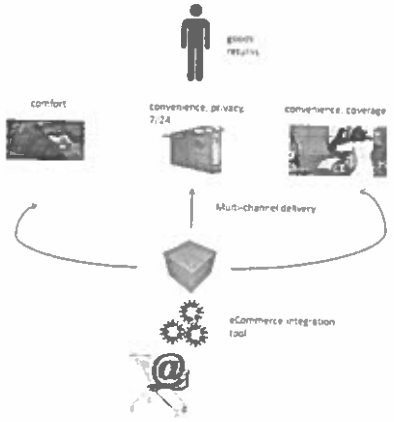

Figure 2: The Multi-channel distribution strategy

Regarding e-commerce, we consider not only that its contribution is associated with an increase in the flow of B2C consignments, but also that it is a business which requires the sale of postal as well as non-postal products, in national as well as cross-border e-commerce. Our vision for the development of e-commerce goes in two directions: (1) tools for the purchase of international products (USA, China, etc.) and support platforms for national electronic commerce, and (2) integrated marketplaces with options of payments, pickup and delivery (e-fulfillment).

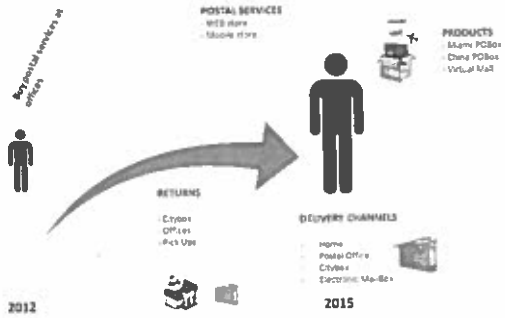

Figure 3: Integrated purchase experience

The first step has already been taken, by implementing a web platform capable of modelling processes, delivering services and developing businesses. In 2011 CorreosChile launched its new website, on the Microsoft SharePoint platform, which was initially just informative but which is now progressing towards becoming the new channel for sales and customer service. Then, in March 2012, CorreosChile launched the first mobile application capable of storing tracking data, saving post codes, locating branches and quoting online, all from a smartphone.

Structure, Processes and Visibility

Innovation must be incorporated as part of the company's strategy and DNA, generating medium and long-term structure, processes and resources. At the same time it needs to provide visibility and tracking for planning and execution, with visibility from general management. On the resource side, the challenge is to articulate a portfolio of projects that are balanced in costs, benefits and impact,

taking into account that the company's priorities are often concentrated on concrete actions to mitigate drops in income and recapturing clients.

The CorreosChile strategy for addressing this challenge has been to incorporate light structure and processes, with a small team of professionals and matrix dependencies, providing visibility and independence in development, and seeking to permeate the company organically. Beginning in 2011, the company created an Innovation team within its Commercial Division, whose responsibility is to lead the development of solutions and services, to drive the development of channels and to incorporate added value. The aim is to provide:

- ***Added Value in Products and Channels***:
  - Create exit barriers
  - Promote and reinforce customer loyalty of current clients
  - Add differentiation to commoditised services.
- ***New Products and Channels***:
  - Create additional revenue streams
  - Substitution of obsolescent products
  - Improve the experience of the end client/user.

The fundamental work premise has been "Think big, work lean and move fast".

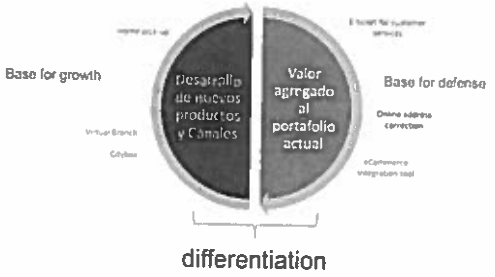

Figure 4: Development and added value strategy

Lines of Innovation

The plan of innovation and development of solutions and services is limited to three macro lines, which are aligned with the worldwide development trends of postal operators.

1. ***Innovation in physical services***: developing and improving physical distribution services, integrating technology with a focus on the experience of the end user; making profitable use of the plant infrastructure, and the distribution and branch network, with a focus on following the growth of electronic commerce and responding with efficacy to the last mile challenges.
2. ***Innovation in digital services***: developing a cloud of digital services that allow digital substitution and ensure the connectivity of Chile with the world through a (digital) information platform. Within this line of innovation we include the development of postal information services, geo-referencing, geo-marketing, databases and identity.
3. ***Innovation in financial services***: with a technological platform for online services, providing access to basic financial services and support tools for e-commerce payment services.

Innovation Roadmap

The innovation and development work begins with the preparation of a services roadmap that defines a set of initiatives for the development of products, services, channels and added value, organised through projects whose execution in time generates congruence in such a way that the entire portfolio of products is linked organically to attain the defined objectives. The first task has thus been to define the roadmap for the next three years for each one of the lines of development, and from this, we will go into depth for a plan for 2012.

Projects 2012

During the current year, CorreosChile is undertaking a major programme of activity in launching products, services and channels.

New Products

The most influential launch has been the implementation of **CityBox**, a pilot of eight automatic parcel terminals, developed in partnership with InPost, located in

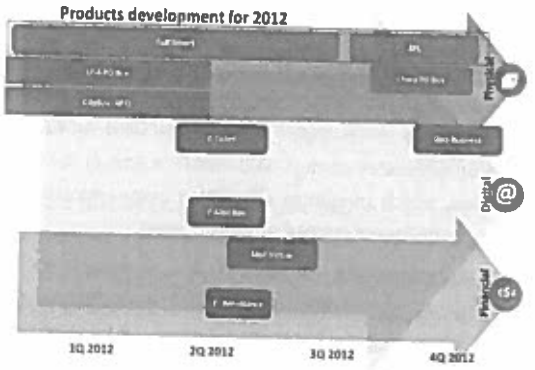

Figure 5: Services roadmap 2012

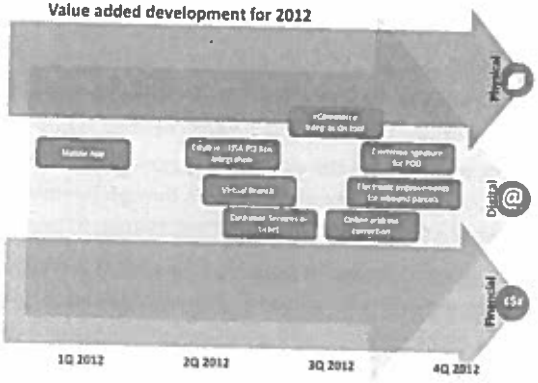

Figure 6: Value added development for 2012 roadmap

supermarkets and gas stations, for self-service in the reception of parcels, mainly for B2C electronic commerce.

CorreosChile has also launched a new **International P.O. Boxes** service, a product through which people can make purchases in other countries using a CorreosChile P.O. Box as the destination in the country of purchase. We have already launched P.O. Boxes in Miami, which allow purchases made in the USA to be delivered

directly at homes, Correos branches or in CityBoxes; and we are underway with preparations for the initiatives of P.O. Boxes in China and in Europe.

Innovation in digital postal products is centred on the development of the **Digital P.O. Box (electronic mailbox)**, which initially provides remote and electronic access to physical correspondence, developing added value services, such as re-directing correspondence or document storage, and whose roadmap develops the concept of **Single P.O. Box**, which integrates all written communication centred on the identity of the recipient/issuer instead of on addresses.

New Services and Channels

During 2012 the innovation plan considers the development of the web and mobile channels, for sales as well as for the attention of clients and added value services. Some of the developments include:

- **Mobile CorreosChile application**, through which people track their consignments, store and name consignments, look for postcodes using GPS, look for the closest branch or quote products, using smartphones.
- **Digital Ticket (web and mobile)**, allows people to pre-pay or pre-check parcel consignments through the web or by telephone, along with a new drop-off service in branches and home pickups.
- **Electronic money order**, through which people can send money orders from bank current accounts or credit cards, through Internet and with the destination to a Correos branch.
- **Virtual branch,** which would allow people to administer their services by Internet, allowing them to pay for consignments, pre-check consignments, administer contacts, track, register incoming international consignments, re-send consignment tracking to recipients.
- **Web claim ticket**, through which people can input claims from a web platform, supplementary to the telephone and personal channels.

Furthermore, during this year we plan the development of postal information administration solutions, beginning with the development of a **predictive address corrector** application, for e-commerce sites, which will allow consistency in the information administered by our company clients.

Conclusions

In general terms, CorreosChile is undergoing a process of transformation along two main lines; the first has to do with digital development, and the development of services, channels and added value; and the second is related to recovering the focus on the end users, the clients – a focus which was gradually set aside in the measure in which the flow of correspondence was concentrated on bulk mailers.

We understand today that we face an important challenge of maintaining leadership in the current business and growing quickly in the business of express distribution – but above all the challenge is to become the preferred partner of people and companies, with a renewed portfolio of services that facilitate and improve people's quality of life. To respond to this challenge, it is necessary to promote and generate the decommoditisation of the logistics and distribution services, and the only way to do so is through innovation and added value.

We are certain that CorreosChile can support the development of SMEs in the country through the development of distribution solutions that incorporate technology and support electronic commerce. We expect the execution of the roadmap to be a continuous and dynamic process, which allows us to take leadership, not only nationally, but also regionally, as we hope to support the rest of the region's postal services through the successful conclusion of the projects underway.

Questions for thought and discussion

1. To what extent does the particular socio-economic context of Chile (such as a lower banking penetration) present opportunities that may not be present to the same extent in the most highly developed countries?
2. The authors mention the need to "think big, work lean and move fast". Despite the Internet being more than two decades old (or older, depending on how we define the Internet), posts have only in the last few years made systematic efforts to invest in the digital economy. To what extent is this the result of a failure to "think big, work lean and move fast"? Are posts actually doing too little, too late and too slow?
3. Despite the large size of the country, CorreosChile has a relatively modest size compared to the posts of many larger nations. Can size be a benefit for innovation, or are the real barriers to innovation elsewhere?

Chapter Appendix: Some Additional Information on Chile and Correos Today

Country Indicators:

Continental Territory	756,626 km²
Length	4,270 Km
Average Width	178 Km
Population (2011)	17,248,450
Inhabitants per square km.	22.81
GDP per capita in USD (2010)	15,000

CorreosChile Indicators:

CorreosChile is a legal entity in public law, created by Decree Law No. 10 of 24 December 1981. Its origins date back to the mid-eighteenth century. As a company, it is an autonomous entity of the Chilean State that is administrative in nature and has its own assets.

Capillarity and Mail Infrastructure:

- In Santiago, a major mail distribution centre (CTP).
- 212 post offices and 309 agencies that cover 87% of the country.
- 2,050 mailmen, with over 100 small mail distribution centres (CDP).

Capillarity and Parcels Infrastructure:

- In Santiago, the Sorting Center (opened in 2009) for processing and distribution of parcels, with over 8,000 m² and a sorter with capacity for 7,000 packages per hour.
- 20 parcels plants distributed throughout the country.
- 304 vehicles, trucks and vans.
- 187 motorcycles for same day services
- 1,609 bicycles especially designed for mailmen

Products and Channels:

CorreosChile presently has a portfolio of services in the lines of postal distribution, parcels and money transfer offered through the network of branches and specialised sales force.

Portfolio of Products

Postal Distribution	CEP Distribution	Cash Remittance
Normal letter	Parcels	Company money orders
Registered letter	EMS	Person money orders
	Valise	International money orders
Letter + (letter with POD)	Messenger	
P.O. boxes	Courier	
Special postal services	Express Distribution	
	Special Operations	

Brand and Positioning

CorreosChile not only collaborates by connecting and communicating with people, but also has – by law – the authority to certify the delivery of a piece of correspondence. It has a highly valued domestic brand image, ranking in 61st position among 1,272 Chilean brands.

The company, like most other mail services worldwide, is perceived as a reliable third party, and different studies have shown that the brand is associated with attributes such as safety, reliability, financial solvency, legacy and tradition; responsibility, commitment and familiarity. However, these positive attributes are associated with the past and present performance of the company, enriching the stature of the brand, but leaving gaps regarding perceptions of the brand's future. This is how we verified that attributes such as innovation, modernisation, and capacity of reinvention are not associated with the brand.

CHAPTER SIXTEEN
Innovation through Diversification[1]

Corrado Soda
Head of Strategy and Business Development
PosteMobile

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Secretary General of Euromed Postal and Head of International Business Strategy
Poste Italiane

Poste Italiane diversified into the area of mobile telecommunications in 2007 and has since then acquired over 2 million customers. In this chapter the authors discuss the context of this diversification and explain how the company has differentiated itself from competitors by developing unique services, linking the various areas of activity of Poste Italiane, such as banking, insurance and postal products.

1 Parts of this chapter were adapted from: Sund, Kristian J. (2010). "PosteMobile: delivering innovative mobile banking and commerce solutions" In: *ICTs, new services and transformation of the post*. International Telecommunications Union, Geneva, pp. 61-72.

Introduction

In November 2007 Poste Italiane Group entered into the mobile telecommunications market as a Mobile Virtual Network Operator (MVNO), PosteMobile. The strategy of Poste Italiane (PI) was twofold: to diversify the traditional business and to exploit synergies within the Group. PosteMobile achieved best in class results in the mobile market thanks to a unique positioning based on mobile payment services. In addition, PosteMobile has allowed the Poste Italiane Group to develop new capabilities with the effect of increasing the value of its own services such as mobile banking, mobile postal services, digital postmen and mobile security solutions for online payments. This chapter explains PosteMobile's business case: its mission, the main financial results and strategic guidelines for future development.

Context: Poste Italiane Modernisation and Diversification

Originally a part of the Ministry of Post and Telecommunication (Amministrazione Poste e Telecomunicazioni, or APT), Poste Italiane is 100% owned by the Ministry of the Economy and Finance. The transition from a state entity to a publicly-owned company was a turning point in the history of PI. Not only did PI become a customer-focused company but it also switched to using key performances indicators such as profitability and return on investment as day-to-day decision making tools. It also embarked on a long-term transformation journey, seeking productivity improvements, high quality of service and penetrating new business areas.

To illustrate the above in a very practical way, one should consider the changes in the company results in less than a decade. In 2002 PI posted profits for the first time in 50 years, though its activity remained mainly focused around postal services. With 156,000 employees, 14,000 post offices, 5,500 ATMs and 44,000 vehicles, PI is today a diversified company, active not only in the traditional mail market, but also in parcels, express, banking, insurance, and now mobile telecommunications. By 2009 the postal services unit's relative importance to the group had shrunk, and accounted for only about 25% of a company that had then grown to 20 billion EUR of total revenues, with financial services accounting for over 4.9 billion EUR in revenues, insurance over 9 billion EUR and PosteMobile on the rise following its launch in 2007.

In 2002, Mr Massimo Sarmi was appointed as the new CEO of Poste Italiane Group, continuing a PI Group tradition of top managers with an in-depth understanding of technology. Mr Sarmi was previously the managing director of Siemens Italy as

well as having a long experience with Telecom Italia, where he was also in the team that first launched mobile telephony in Italy. Under his leadership, Poste Italiane balanced its books for the first time, after 50 years of losses, and continued to go from strength to strength.

The inspiration for PI to launch mobile services came from Mr Massimo Sarmi himself, in early 2006. The original business plan was rapidly developed, mainly by Mr Sarmi together with a mobile communication expert, Mr Roberto Giacchi, who went on to become the CEO of PosteMobile. The project was approved by the Board of Poste Italiane in March 2007. From approval to start-up, implementing the project took less than a year, a record time considering the investment, recruitment and training needed to launch the operations.

In this context the Italian mobile telecommunications market fitted perfectly the Group's diversification objectives. PosteMobile was launched to enter one of the most profitable mobile markets in Europe. While traditional voice services are expected to shrink in future for both competitive and regulatory reasons, value-added services are forecasted to continue to grow rapidly.

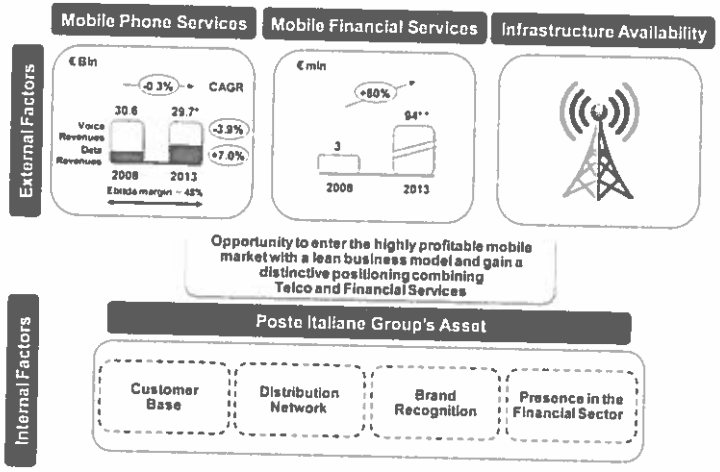


Figure 1: The market opportunity

PosteMobile has combined mobile and financial services to develop a unique positioning and differentiation in the market, thereby exploiting other key assets of the Poste Italiane Group:

- A very large customer base in Italy
- A very well established and recognised brand
- A unique distribution network coverage and customer reach
- An established presence in the financial sector

The PosteMobile Business Case

Mission and Competitive Positioning

PosteMobile's mission is "to make people's lives simpler and improve their relationships by delivering innovative, simple and convenient mobile services". In fact, the PosteMobile customers can not only use traditional telecommunication services but they can also:

- Send and receive money;
- Buy and pay for products and services;
- Access general information (e.g. bank account).

The PosteMobile competitive positioning is based on five pillars:

1. *Convenience*: the client spends less than they would with the competitors
2. *Innovation*: the portfolio includes differentiated services (e.g. mobile financial services)
3. *Quality*: the services work according to top quality mobile industry standards
4. *Customer focus*: the services aim to satisfy real customer needs and add value (from communication to information, entertainment and utility)
5. *Proximity*: close relationship with clients is the key for a successful marketing activity (e.g. market coverage through postal offices, effectiveness of customer care)

Starting with the retail market with a prepaid offer, PosteMobile has expanded its offer to business customers in both SOHO (Small Office Home Office) and SME (Small and Medium Enterprise) segments. In addition, a postpaid offer has been launched at the end of 2011.

Business Model

As a Mobile Virtual Network Provider (MVNO), PosteMobile does not use proprietary network infrastructure, but rather relies on the infrastructure of one of the mobile phone operators with a mobile network license, (the Host Operator) (Figure 2). However, PosteMobile decided to develop its own Business Support Systems in order to ensure maximum flexibility in terms of offering, customer relationship, client management and billing.

More generally the aim of PosteMobile's business model is to source externally the less differentiated elements of a typical mobile telecommunication value chain and develop internally the most critical factors. That model has a number of advantages including a significant reduction in the required capital investment, and a more flexible cost base with limited value at risk.

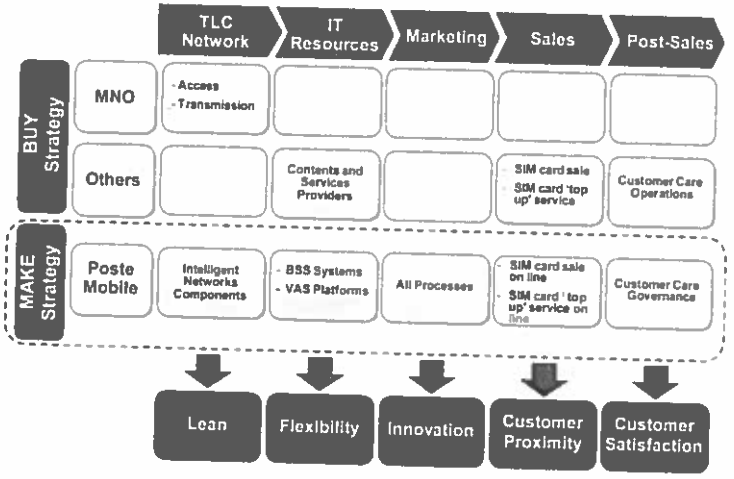


Figure 2: Business model

With regards to the marketing activity PosteMobile is able to develop its own independent commercial offers which are then distributed through multiple channels:

- Post offices: over 14,000 distributed throughout the national territory with a focus on residential customers as well as dedicated business branches;
- PT Business: around 500 offices devoted to the business customers;

- Direct Sellers: 500 sellers for enterprises;
- Digital Postmen: who deliver the SIM cards sold by the outbound channel;
- PosteMobile Website.

From the very beginning the effective distribution coverage translated in impressive results in terms of customer "net addition" (difference between gross acquisitions and the number of clients who may have left in the same period). In fact, PosteMobile is usually ranked second or third in term of net addition market share growth. In addition, the quality of the new acquisitions is still high: PosteMobile gains a high percentage of customers who decide to switch to PosteMobile whilst carrying over their own existing telephone number, indicating that these customers use PosteMobile as their main operator for mobile services.

Service Portfolio and Mobile Payment

PosteMobile has the same portfolio as other Mobile Operators in terms of voice, messaging, internet browsing, digital content and products. In addition it developed differentiated value added services based on mobile payments, the "Semplifica services" (Figure 3).

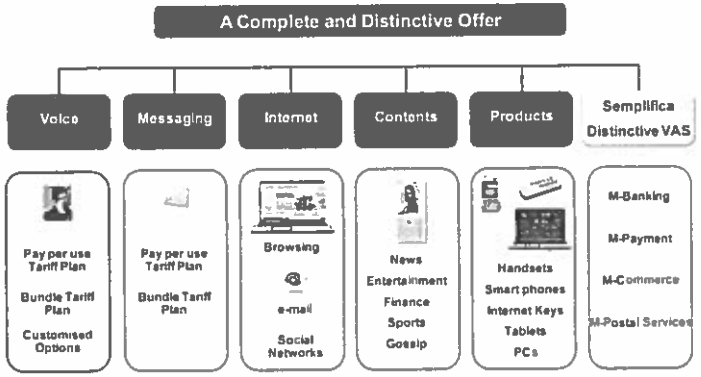


Figure 3: Semplifica services

By associating the SIM card to a payment instrument of the Poste Italiane Group (e.g. BancoPosta bank account, postepay debit card) the Semplifica Service allows the customer to use different services such as (Figure 4):

- Mobile Banking services: Bank account balance and movements;
- M-Payment services: utility Bill payments, SIM card top-up;
- Mobile commerce: purchasing directly through the mobile phone products or services offered by merchants (e.g. Public transport ticketing) or use of the SIM card to make online payments on merchant websites (e.g. Books, Electronics Goods);
- Mobile postal service: telegrams, Postal Tracking.

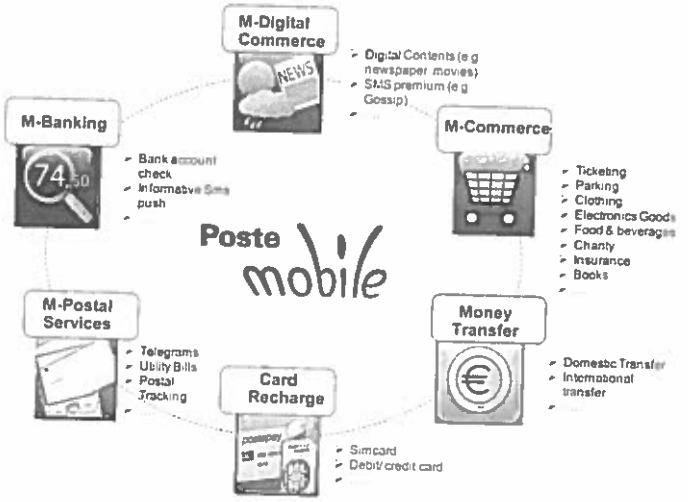


Figure 4: Distinctive services

Service Development

The Value Added Services of PosteMobile are based on the SIM card features. In particular, the SIM card is amongst the most advanced in the market in terms of performance and technical capabilities. It supports the 3GPP and Global Platform standards (encryption algorithms, OBKG, security domains), enabling secure transactions and the transmission of encrypted data compliant with the TS 23.048 standard.

Security is a major concern when dealing with online and mobile financial services. To ensure the security of financial transactions and mobile payments, PosteMobile

has developed what it considers to be one of the most advanced systems in the market in terms of security and technical capabilities. The innovative technology is based on encryption and the digital signature of data authorising transactions. All SIM cards have a unique digital certificate and a cipher key to protect and sign the requests of the user who links a payment instrument to that SIM card, enabling security and identification of all transactions. Moreover, to avoid any unauthorised use of the phone, a confirmation is required using a PIN code known only by the end user.

In addition to being secure, the system is simple and easy to use, with direct access from the SIM card menu. There is no need for a WAP or Web data connection, and the SIM is compatible with most mobile phones available on the market. The Dynamic SIM Toolkit technology allows continuous updates, while reducing time-to-market.

As far as the smartphone and data offers are concerned, penetration of the PosteMobile customers is increasing. PosteMobile decided to develop its own application, the PosteMobile Application Store, that allows the improvement of the user experience of the m-payment services and to tap into the affluent and techno-fan customers.

Results and Lesson Learned

After around four years of operation PosteMobile counts over 2 million clients in an over-saturated market (the mobile penetration in Italy is now over 150%). The unique service portfolio allows PosteMobile to differentiate its positioning from that of other mobile operators: more than 50% of PosteMobile subscribers associated their SIM card to a payment instruments underlining the willingness to use and access financial services through the mobile channel. The value of the financial transactions from the launch of PosteMobile is already over 400 million Euros, corresponding to around 40 million transactions, and keeps growing.

With reference to PosteMobile financials, the company reached break-even in less than 30 months from its launch. In 2011, total revenues reached ca. 290 million EUR with an EBIT margin of 9%.

PosteMobile believes that the key success factors that led to such results were:

- *Differentiated positioning*: Value Added Services on top of convenient services;
- *Engagement of the Distribution channel*: the SIM card provides recurring revenues for the Group and innovative services to be proud of;
- *Business Model*: minimal investments at risk with strong focus on ROI;

- *Human Resources*: consolidating talents from the market for a long-term industrial project.

Conclusion: Future Developments

PosteMobile results demonstrate that the Poste Italiane project was more than an intuition. In addition, the latest trends in terms of customer acquisitions and services usage provide very positive indicators for further developments. The main objectives include:

- Evolving towards Full MVNO architecture;
- Pushing the new post-paid commercial offer;
- Strengthening the m-payment proposition;
- Optimising the existing technical infrastructure.

More in detail, thanks to the in-sourcing of specific network elements (e.g. HLR, MSC) PosteMobile efforts will be focused on evolving the current technical architecture towards a full MVNO architecture. The expected benefits would be:

- Gaining business continuity independently from the host operators (e.g. possibility to change host operator without changing the SIM card after the contract expiration);
- Increased flexibility for service development (e.g. time to market);
- Increased control on the Quality of Service (e.g. assurance process);
- Greater cost control (e.g. independence of the interconnection contract).

Secondly, the focus on the post-paid offer will allow PosteMobile to increase the penetration of the business segment and improve the customer mix both in term of volumes and value.

As regards the further development of the m-payment portfolio, PosteMobile wants to increase its presence in the segments of both remote services and proximity services. In order to support the remote payment services growth will be critical to enlarge the services in the portfolio (e.g. m-insurance, m-deals, pay-tv recharge), and increase the payment instruments associable with the SIM card (e.g. credit card, online wallet, online gaming account).

Moreover, PosteMobile has already developed several trials in the proximity services arena based on the Near Field Communication (NFC) technology (for

public transportation as well as in the enterprise access solution). In addition, PosteMobile is working to launch the service on the market with the aim of developing a multi-services SIM card (e.g. micro-financial transaction, identity card, government services).

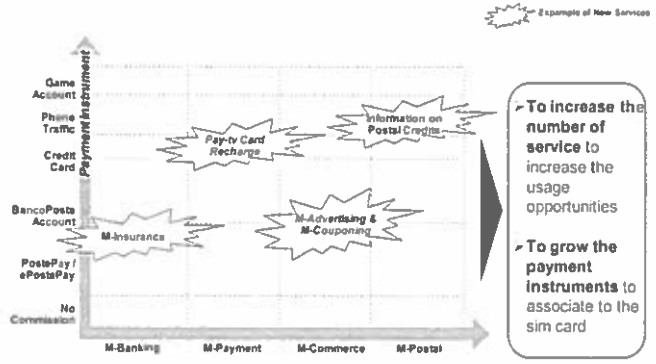


Figure 5: Examples of future services

Questions for thought and discussion

1. How does PosteMobile fit into the overall corporate strategy of Poste Italiane?
2. How important were the existing resources and competences of the Poste Italiane Group in allowing the company to successfully diversify with the creation of PosteMobile?
3. The original boom in mobile telecommunications took place over a decade ago, and as the authors point out the mobile penetration in Italy is over 150%. What are the challenges in terms of being a late entrant? How can innovation be used to carve a place in a mature market?

CHAPTER SEVENTEEN
Thought Innovation – the Palestinian Postcode

Graeme Lee
Senior Partner, Sunflower Associates

In this chapter the author discusses the recent introduction of a new postcode system in Palestine. Whilst on the surface this may not seem like a big innovation, taken in context this new system could have a big social and economic impact. This case illustrates the great diversity and inequality that still exists between nations and postal operators around the world, but also shows the potential value of transferring best practice between countries.

Introduction

In late 2009 the Palestinian Authority requested assistance to develop a postcode system that would encompass the West Bank and Gaza Strip. Geographically separated by Israel, the West Bank is sandwiched between Israel and Jordan, and the Gaza Strip is a narrow territory located on the Mediterranean coast bordering Egypt and Israel. There were a number of challenges in creating the Palestine postcode, most notable of which were the lack of a formal border and the approximately 350 Israeli settlements in the West Bank. Practical challenges included the need to digitise maps of the two territories. Additionally, at the time of the postcode study the two territories were governed separately, which prevented contact with authorities in Gaza.

Innovating in the Basics: the World's Best Postcode

Despite the challenges our vision for the Palestine postcode was clear. We wanted to develop ***"The World's Best Postcode"***. After all, we had a blank canvas and we could use international best practice to learn from developments in other countries. While postcodes were originally conceived as a way of aiding the processing and distribution of mail, a good postcode actually has far greater utility in marketing and other applications. In designing the Palestinian postcode we wanted to maximise its wider functionality beyond being a tool for Palestine Post. Most importantly we wanted a postcode that was logical, to ensure it could be adopted, which is why we linked it to known localities. The postcode should also be as short as possible, meaning it was essential to fully utilise the use of each digit in the postcode. Functionality, ease of use and efficiency became the criteria for designing the postcode.

Functionality

Introducing a postcode useful for many purposes and organisations would help spread its use. We established that several organisations already had codes for their internal use but most did not relate specifically to existing localities. All were keen to have a national code that they could incorporate into their databases. We also identified that the Ministry of Finance was keen to establish addressing and building codes to assist in the collection of property taxes. Associating the postcode to the collection of property tax was a means of ensuring the postcode would be used. In addition we envisaged the postcode could be used for all the following purposes:

- Statistical Analysis
- ID cards
- Census Areas
- Electoral Boundaries
- Vehicle Licensing
- Other Licensing
- Land Coding
- Mapping (Google)
- Rapid Addressing
- Outlet Locator
- Logistics
- Postal Routing
- Utility Payments
- Emergency Services

Ease of Use

It was essential that the postcode was easy to use both in terms of length and logic. It had to be logical so that people could learn it intuitively, so we linked it to existing administrative boundaries. West Bank is made up of 11 Governorates and 518 village areas, while the Gaza Strip is made up of five Governorates and 33 village areas. Linking the postcode to the 551 village areas would make it easier to learn, use and adopt in existing databases. However, we had to take account of the fact that some village areas contained fewer than 50 inhabitants and others many thousands – 500,000 in the case of Gaza City. This was important because we wanted each postcode area to contain similar populations. Fortunately towns and cities were split into distinct known neighbourhoods, which could be given their own unique codes.

Figure 1 Postcode zones

Efficiency

The postcode had to maximise the use of each digit in order to keep it as short as possible. Our theory was that the shorter the code the easier it would be for people to remember and therefore more likely for them to use in the future. It was important to group the 16 Governorates into nine postcode regions to ensure the use of the first digit was maximised. Each region would then be split into ten sectors and each sector would be further split into ten zones as shown in Figure 1. This zooming would make the postcode as efficient as possible, whilst working within the constraints of existing village areas.

Guiding Principles

In designing the postcode we established the following guiding principles:

1. The outer boundary of the postcode was the 1967 Green Line – since it is unlikely a future peace agreement will result in the 1967 Green Line being extended.
2. All areas within the Green Line were given postcodes – the postcodes of any areas lost in a future peace agreement will simply become dormant.
3. The postcode is numeric – a numeric code works for both Arabic and Latin scripts.
4. The Postcode maximises the use of each digit – we aimed to make the postcode as efficient as possible.
5. The postcode did not start with a zero – a zero at the start of a number can be lost when it is imported into applications such as spreadsheets.
6. Postcode areas were defined based on population and area – giving postcode areas similar populations would allow it to be used for more purposes.
7. The standard length of the postcode was three digits – the lack of detailed mapping prevented us from developing the postcode beyond three digits.
8. The postcode is designed to reach individual buildings in the future – once detailed mapping to individual property level becomes available the postcode can be given a four-digit extension to identify individual properties.

9. The postcode takes account of existing geographical, administrative and political boundaries – the main boundaries used are Governorate, village and neighbourhood boundaries.
10. The postcode is designed to be used by all Government departments, utility companies, public and commercial businesses – it is also hoped that applications such as Google maps will adopt the postcode to encourage its dissemination and use by the general public

Postcode Structure

The postcode is made up of three digits: the first being 100 and the last 999. The postcode contains 9 postcode regions, 90 postcode sectors and 900 postcode zones. The 900 postcode zones follow existing Governorate, village and neighbourhood boundaries. Each digit of the code represents the following:

123

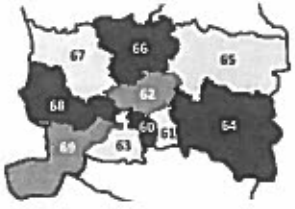
1	9 postcode regions each containing ≈ 400,000 people
12	90 postcode sectors each containing ≈ 40,000 people
123	900 postcode zones each containing ≈ 4,000 people

Figure 2: Map of the West Bank and Gaza Strip

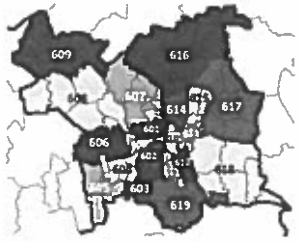
The map of West Bank and Gaza shows how the 11 Governorates in West Bank and five Governorates in the Gaza Strip were allocated to the nine postcode regions. In allocating Governorates to regions we wanted to ensure that any particular Governorate was wholly within one region. We balanced the population of Governorates, their physical areas and the way the regions looked on the map. This resulted in some compromises with some regions having larger populations than others. Nevertheless we felt the compromises made were balanced by the resulting ease of use. There is no confusion of postcode regions crossing Governorate boundaries. It is hoped that mapping at region, sector and zone level will help people associate with their own specific postcode.

The table below shows how the regions balanced population and area. The Gaza Strip contains almost 40% of the total population but conversely represents only 6% of total land area. Gaza Strip was subsequently allocated two postcode regions.

Postcode Region	Governorate	Population	Area in Km²
1	Jerusalem & Bethlehem	539,036	991
2	Jenin	256,212	583
3	Tulkarm, Qalqilya & Salfit	308,723	704
4	Nablus	321,493	691
5	Tubas & Jericho	90,495	995
6	Ramallah & Al-Bireh	278,018	855
7	Hebron	551,129	1060
8	North Gaza & Gaza City	766,655	133
9	Deir el-Balah, Khan Yunis & Rafah	649,884	230
	TOTAL	3,761,645	6242



Each postcode region was split into ten postcode sectors made up of a given number of villages based on populations. In the case of Postcode Region 6 the "villages" of Ramallah and Al-Bireh were given the individual postcode sectors 60 and 61. In all postcode regions the principle town would be given the code ending in zero – hence Ramallah is given postcode sector 60.



The postcode sectors were then split into ten postcode zones. For example, postcode sector 60 was split into zones numbered from 600 to 609 and postcode sector 61 was split into zones 610 to 619. Postcode Zones 600 in Ramallah and 610 in Al-Bireh are considered to be the centre of the postcode sector and therefore end in zero. It is hoped that postcode users will quickly recognise a zero at the end of a postcode relates to the centre of a particular sector or region. The map of Ramallah and Al-Bireh also shows how neighbourhood boundaries will be used in future as the basis to extend the postcode to building level.

Having created the postcode, the challenge is to put it into use. International experience suggests this is not easy. The US postcode (Zip code) was only widely adopted when customers were first given discounts for printing it on letters and latterly when it became compulsory to use it on letters. Palestine Post does not have the luxury of being able to force customers to use the postcode, which is why we tried to increase the utility of the code to other users. Work is being carried out to persuade Government departments, such as the Palestinian Central Bureau of Statistics, to adopt the postcode. The Ministry of Communications and IT has also established an online postcode directory to promote the use of the postcode.

Conclusion

On implementing the postcode did we realise our vision to create the world's "best" postcode? That is a very subjective question and therefore there is no specific answer, but we believe we have created a very good and robust postcode that ranks among the best. Linking the postcode to existing Governorates, towns, villages and neighbourhoods makes it intuitive to use and at only three digits in length it is easily memorised. Despite having only three digits, each postcode zone represents an average of only 4,000 people, which is surely a good result!

Questions for thought and discussion

1. This case illustrates how something considered very basic in one country, may be truly innovative in another. In general, what are the potential advantages of being a late mover rather than a first mover?
2. Social entrepreneurship can be broadly defined as innovative activity with a social objective[1]. Given the value created to society, beyond simple revenues to Palestine Post, to what extent could an example like the creation of a new postcode in Palestine be considered a form of social entrepreneurship?

1 Austin, J., Stevenson, H. & Wei-Skillern, J. (2006). Social and Commercial Entrepreneurship: Same, Different, or Both? *Entrepreneurship: Theory & Practice*, 30(1), 1-22

CHAPTER EIGHTEEN
My Personal Journey into the Postal Sector – as a New Entrant Innovator

Colin de Vries
Founder and owner, BlueMailCentral

This chapter contains the very personal reflections of a new entrant into the postal sector, trying to build an innovative global hybrid mail business. Almost invariably, new entrants come with innovative ideas, products, services and approaches. However, as the author explains, it is not easy being an innovator from outside the industry. Nevertheless his experience from outside the industry enabled him to learn some strong lessons which can make us all think about how we approach the selling of new ideas. In passing he also recognises some of the very great strengths that incumbent postal operators often take for granted.

Introduction

When I started BlueMailCentral in 2008 I didn't have any background in the postal industry, or any knowledge about Hybrid Mail. However, BlueMailCentral now has more than 45 printing locations all over the world serving more than 4,000 customers in 50+ countries in seven languages. We've sold a licence to our software to Lithuanian Post, and there are three more postal companies considering the proposition.

Early Lessons Learnt

With hindsight I strongly believe that had I had more background knowledge about the postal industry I would never have started the company, because history shows that other companies before me tried to do the same thing and most of them failed within a couple of years. I was able to innovate because of the experiences I had in other markets and of course global technological development and a higher acceptance from the market. Looking at and resolving a problem from within is almost always more difficult than looking at a problem as a bystander – not only in the big picture but also in regards to small details.

A good idea is one thing, but selling it is another issue. One of the main issues I've personally learned is that it is *much easier to sell and market incremental innovations than radical innovations*. It is easier to explain a new version of something that already exists than something completely new. Sometimes the difference between incremental and radical innovation is not dependent on the technology, but on internal stakeholders at the client.

During one of the sales initiatives at BlueMail we encountered a powerful stakeholder who delayed the deployment of our software for two years. Later we learned that our software would have removed three FTE from his team and as a result he would receive less pay! That's why we now take a close look at postal processes within businesses and try to match the process to our software in such a way that both the stakeholders and the users are served best.

Now, with the traction we have, we can guide our customer to our next product release. This is our '*integrate and migrate*' strategy. During the migration processes companies have to let go of the old procedure. This has to be approved by the stakeholders who might need to let go of certain assets, whether tangible or not. *This is the price any company has to pay for innovation*. Letting go of the past will only succeed if you offer something with much more value.

Postal Companies are our Best Partners

As the owner and CEO of BlueMailCentral I have had contact with many postal companies around the world, and I keep a close eye on all new developments. Building and maintaining BlueMailCentral's hybrid mail network can be challenging. In order to obtain the best price in each new country we have to investigate the local rules regarding addressing, pricing, time schedules, local regulation and so on, as every postal company has its own set of rules and legislation that are specifically designed and mastered for their respective countries. It's near to impossible for a new company to enter a new country without a strong partner that already knows the local market and has a strong relationship with its end-users. Those companies are of course the postal companies.

Most postal companies are now introducing e-services as the opportunities are endless. Postal companies have of course a couple of big advantages like brand awareness and trust that they have earned in the market. The trust factor is something that can't be bought by any marketing campaign. Trust and innovation is a troublesome marriage, because innovation often comes with *learning on the job* and that means solving problems and mistakes. But mistakes cannot be made in the postal industry. The message contained in the envelope can change somebody's life. That is why innovation in the postal industry is a very thorough and sometimes painfully slow process. But it's much needed in order not to lose the trust in the very complex postal processes that most people take for granted.

Cooperating with the Customer

Cooperating with postal companies gives our company the benefit that they know the local market and the local market knows the postal company. This means that if the postal company offers our software to their market they not only use their marketing power but also the trusted relationship they have with their customers – a relationship that spans multiple generations. No marketing budget can give you that.

During the PostExpo in 2010 we met with Lithuanian Post who wanted to license our product. After a period of meetings and comparing their wishes with our offerings we came to a mutually beneficial agreement. One of the challenges was of course adapting the product for the Lithuanian market. As our software is already available in seven languages I thought that it would be a breeze. But during the testing we discovered some very odd software behavior and apparently the Lithuanian language has a couple of unique letters. We had to adjust whole parts

of the website to be able to meet the requirements. Luckily Lithuanian post was very helpful with the translations and together we pulled it off. Since their first marketing campaigns we are flooded with new sign-ups each day from Lithuania. I'm looking forward for the next innovative postal company to use our software to offer Hybrid Mail to their customers.

Business Print Partners

In countries where there are currently no postal companies who have bought a license we have to rely on our Print Partner. They are the pillars on which BlueMailCentral is founded and so they are the most important key factor to maintaining the reliability of our service.

In order to deliver the same print quality in different countries we have put together a requirements list. They have to use the Xerox Igen 3 or 4, an automatic inserter and of course be certified to handle postal items. Due to these requirements we can make sure that a letter to the USA will be exactly the same as a letter to Singapore. Maintaining this network is critical so we are putting a lot of time and effort into making sure everything is running smoothly, so our customers will gain trust in our service.

We are often contacted by other print companies who offer a lower price. But we always decline, as loyalty to our suppliers who supported us from day one is more important than money.

Conclusion and an Open Invitation for an Innovative Lunch

During the many meetings I have with people from the postal industry, either supplier or postal company, there are always side discussions during the coffee breaks. At one point I decided to note them down to compile a list of topics that seem to interest a lot of people. Take a look at the mentioned items below and form your own opinion. They are great conversation starters during any coffee break:

- Should new postal e-services be based on open communication platforms and structures?
- Should all postal services be offered in the local language and English?
- Should all postal services be available for all users, not only high-volume users?

- Do you need to be a citizen in the country or have a local bank account to use local postal services?
- Must a postal company offer all services with at least a free or low-budget version?

Have you ever done a Skype lunch? It's brilliant! Simply take your lunch, open Skype and have a nice meal together. I have weeks where I have had lunch with people from five different countries. Please send me a Skype invite (account name: BlueMailCentral) and let's do lunch!

Questions for thought and discussion

1. The author says that "A good idea is one thing, but selling it is another issue". Why is it so hard to "sell" a good idea? What can you learn from this personal account which may provide some hints and tips on how to do this more successfully?
2. According to the author, "Letting go of the past will only succeed if you offer something with much more value". A key barrier to introducing innovation is the inability to let go of the past and be open to new ways of doing things and new ideas. Where does "letting go" come in the innovation process and how can it be facilitated or encouraged?
3. Look at the questions posed by the author in the conclusion. What kinds of innovations come to mind as you reflect on those questions?

CHAPTER NINETEEN
Thinking Differently – Developing an Innovative Mindset

Derek Osborn

If the previous chapters in this volume have inspired you and you would like to become more innovative yourself – or to see more innovation in your organisation – then this chapter aims to give you some practical ideas about where to start. Whether you are nurturing or implementing innovation, you first have to have the fresh ideas or at least recognise them when you see them. The premise of this chapter is that before you can move forward with innovation, you first need to develop an innovative mind-set, outlook or approach – otherwise you may not "see" the innovative concept or breakthrough idea when it comes along and so miss the chance to reap the benefits from it. When we look at particular business challenges, making plans or trying to solve problems, most of us repeatedly retread familiar paths – we are often caught in habitual cycles of thinking and acting. So how do we "break out" of this predictable pattern and where does innovation come from? It comes through thinking differently – for which you need to develop an innovative mind-set, outlook and approach. That is what this chapter is all about.

Throw Away the Guide Book

How do you develop an innovative mind-set? What are the steps? Almost by definition, and by virtue of what being innovative means, there are no "formulas" or "10 easy steps" to being innovative. If there was such a process then it would only take you down a familiar track, following where others have gone before, which is clearly not the way to find new places. In fact, to discover new things you need to leave any "guide books" behind and find your own way. Most good examples of innovation are from going along paths less trodden, or taking new routes which have not been trodden at all.

A good starting point is to recognise that you probably don't know as much as you think you know – then you are likely to be more open to new ideas. An old Chinese proverb says that

> "He who asks a question is a fool for five minutes. He who does not ask a question is a fool forever."

The difficulty for most of us is that, year after year, in our heads we cultivate a thick vegetation of tangled ideas in a dense dark forest of entrenched and established opinions. How then can we expect new small seeds of ideas to land and grow – when there is little space, soil or light?

Clearing the Space

A good practical way to start is to challenge our own assumptions and leave behind what we think we know, and also to clear our minds to create "space" for reflection and fresh thinking. We are often "plugged in" to so many external inputs (e.g. mobiles, texts, e-mails, tweets, Internet, sound tracks in our ears) which create a lot of noise and interference, so much so that it can be hard for us to concentrate, let alone have new ideas.

For this reason it is tough to innovate in mature industries. Often before being able to see the opportunities to improve it is necessary to strip away all the "clutter" that has built up around business processes over years. Work elements that evolve and develop over years may have outlasted the original reason that they were introduced in the first place. Also, new "space" can sometimes be found by changing the way you work or the context, as this can provide more stimulus to help you think differently. This is part of the rationale for "innovation labs" that deliberately create a different environment which can help to "disrupt" normal thinking patterns and stimulate more imaginative avenues of thought.

Where Does Innovative Thinking Come From?

Discontent, complaints, disruption, and difficulties all provide fertile ground for innovative thinking. In fact, a state of restless dissatisfaction and a relentless search for improvements provide a good platform for innovative thinking, in order to "regard old problems from a new angle" as Albert Einstein once said. After all, it is it is also said that "necessity is the mother of invention" and there are many examples that support this. If you want to find innovation, welcome these challenges, especially if they come from customers or competitors. Prepare your own list of what, on the face of it, is a real problem, if not totally impossible – then you will have to think of things you have not thought of before.

There are different techniques to help you be more creative and think laterally, but one way is to bring in people who come from a different perspective, discipline or background who can then approach your problem with "fresh eyes" and possibly "re-frame" it for you, by describing how they see it.

Road blocks cause you to go in a different direction or be diverted, and these types of inconveniences or real disasters can sometimes spawn inspiration for new ways to respond. Indeed, creative conflict and healthy tension can provide the essential "friction" that leads to a productive "re-think" in a project team or work group. Other triggers for new thinking can be breaking with convention, tradition or established rules, or just looking at the same thing but in a new way. After all, the word innovation comes from the Latin *innovatus* which means to renew. In fact, innovation is rarely something that has not been seen or discovered before, rather a way of seeing something that is familiar but in a new light. This is where the concept of "reinventing" comes in and there are many opportunities for that in the postal sector!

Bringing together two familiar ideas or approaches but from different roots is when you can create a collision of "cultures", which often leads to a new "fusion" – whether it be in music, sport, food or art. The same principle applies to translating ideas from one business sector to another or from one type of organisation or profession to another – the possible combinations of "cross-overs" and cross-pollination are literally endless, proving that there are no limits to innovative thinking.

Taking other ideas or solutions and then adapting, inverting or converting them for your own situation may mean turning things upside down, on their heads or inside out. It might mean bringing people with different experience into your team on a temporary basis or positively encouraging the maverick or unconventional

character – this may be uncomfortable, but listening to new "voices" from all parts of your organisation could be an experiment worth trying.

Just like the concept of "quality" which is too important to be left to a few people or a department in an organisation, likewise "innovative thinking" should be done and encouraged throughout an organisation and not left just to a "think tank" or an innovation department. In some ways, breakthroughs are as likely to happen in the least expected places – the question is whether your organisation will pick these up and develop them or dismiss them as ridiculous ideas.

Why is Innovation Difficult for Large Organisations?

Harvard business guru Theodore Levitt noted that

> "Organisations by their very nature are designed to promote order and routine. They are very inhospitable environments for innovation."[1]

Organisations are usually structured in order to standardise processes and are focused on being better at what they do – with most of the effort going into doing it faster, cheaper and with better results, ideally towards six sigma quality with few if any failures. Innovation, by contrast, often thrives on failures and can be disruptive to normal procedures. It is said that innovation is anything but business as usual. This is why many organisations have systems in place that effectively or actively stifle and prevent innovation or innovative thinking.

To foster innovation, an organisation needs to be tolerant of failure, and to welcome mistakes and the opportunity they may provide. It needs to provide a platform for uncomfortable truths to be articulated and for obstacles to be confronted with honesty and imagination. A big challenge for large organisations is to find ways of discovering fresh insights from people "buried" deep within the organisation. What new ideas can be triggered, and how can those ideas be gathered and evaluated, without killing them before they have had a chance to germinate and take root? At all levels, people need to feel both empowered and enabled to think and work "outside the box". Some large organisations try to manufacture innovation through research and development (R&D) or even by investing in an innovation centre. This can be helpful but it has also been said that

> "whereas R&D uses money to make ideas, innovation uses ideas to make money".

1 Levitt, T., "Creativity is not Enough". *Harvard Business Review*, August 2002

For all these reasons, small organisations that often start up around an innovative idea (product, service or way of doing things) are often the vehicle to bring innovation into a sector. Incumbent players should pay good attention to these "irritants" that may begin to challenge their market and maybe their foundations – and even completely begin to re-shape the industry, such as the "low cost" model in the airline sector. So another clue to developing an innovative mind-set in a large established business is to try to think and act like a small business or a competitor.

The Innovative Mindset – Some Hints and Tips

Having an innovative mind-set means literally setting your mind on innovation, looking for it and expecting to find it. Here are some hints and tips.

Be aware of your own limited horizons

In Plato's cave, Socrates describes a situation where a group of people, chained to the wall of a cave, facing a blank wall, see shadows projected on that wall. The shadows are all they "know" and as far as they are concerned that is their reality. Beware of being "trapped" in your own limited space, working only with shadows of reality – see if you can explore the wider reality that is above and beyond your current horizon. If you always think what you always think, or always do what you always do, then you know what you are going to get! You will be "locked into" your small world. This is why it is healthy to find opportunities to exchange ideas and share your experience between organisations and outside the postal sector.

An example of this is the tendency in many parts of the postal sector to still focus only on letters – with the decline in volumes – and on the senders of mail. As soon as you view the sector as being as much about recipients and a trusted platform for all kinds of communications then the previous "limited horizons" start to melt away.

Be curious and challenge

Be open to suggestions, don't make assumptions and avoid pre-conceived ideas – otherwise you will rule out ideas before you have given the seed of an idea time to take root and begin to grow. Look in unusual places, listen to different "voices" and explore new places, literally and metaphorically. Look at new opportunities arising from emerging technologies and see what different applications you can find. Hear how some people are describing the future and what it might look like. Pick up on trends – what are they telling you and where are they leading? Imagine that you are a pioneer on virgin territory – not knowing what to expect and expecting the unexpected – look at everything, as if for the first time, with fascination and eager inquisitive eyes – taking your habitual filters or blinkers off.

An example of this would be the original pioneering innovation of the stamp which ultimately enabled Rowland Hill to introduced prepayment of mail postage or, in more recent times, when Australia Post issued next-day stamps featuring their Gold Medallists at the Sydney Olympic Games. Now "personalised stamps" have been developed as a product in many different countries.

Be positive and persistent

Use principles from positive psychology – use empowering language, see what is possible, keep your glass "half full" and choose to see what can be done, even if it is not the most direct route. See challenges as opportunities and persevere intelligently. Some of the most famous innovations have happened as a result of someone having to swim against the tide of opinion and keep going regardless of the hurdles put in their way.

Examples of this would be the Easy Weigh products which help retail customers to work out the weight of a letter, or the lock box automated parcel stations which are now being introduced quite widely. Both ideas have been around for a while but more widespread adoption has depended in part on the persistence of their innovators.

Be radical, but also practical and flexible

Start by being radical. This is the old principle of "brainstorming". To begin with don't evaluate or constrain your ideas – just let them flow. The key thing is to be able to think "outside the box". In the postal world this means not just "pushing the envelope" but getting outside the envelope and the letter! This does not come naturally to most people, as we are all "stuck" in one box or another.

One of the skills is to work out what questions to ask and then to decide to whom to put those questions. Challenge, test and push yourself outside your own comfort zone. Do plenty of "what if" scenarios and allow yourself the option to wonder and dream. Ask not why but why not?

At some point, you will need to be more practical, evaluate those ideas worth developing and work out how to implement the best ideas. A good idea that is not ultimately practical may not be such a good idea. One of the key lessons from the previous chapters in this book is how those with an innovative mindset have managed to turn their ideas into actions and operationalised innovations.

Some new entrants, such as Inpost in Poland, are now changing the landscape of the postal industry by the way they are shaping the market and engaging customers via social networks. This is a radical departure from traditional postal approaches

which is leading to significant business success. Another example would be the case study in this book by Post Shore, where a radical solution has been operationalised and led to other practical business development opportunities as a consequential benefit.

Be different

Having an innovative mindset is not just thinking differently, but it is doing things differently and being different. There are many followers and few leaders, whether it is in fashion, music or business – fresh thinking and innovation will put you right in the spotlight and in the forefront of all the action. Being different wins you new customers and gets your business noticed. Everyone notices when an old business is refreshed or reinvented. For the postal sector, if ever there was a time when innovation was absolutely critical to the survival and reinvigoration of a business sector then it is now.

An example of this would be the business model of Cycleon who have defined reverse logistics and built a demonstratively different business that is outside the conventional postal approach but complementary to it and fuelling new growth in important areas.

Where Can This Lead Us?

The postal industry is currently languishing in an uncertain position in an equally unpredictable and uncertain world. It has not been here before but nor has anyone else. The future business landscape is open for innovation and is being reformed and redrawn on a daily basis by people with an innovative mind-set, seeing and doing things differently.

Taking the road which is not on any map, thinking and being different, could lead the postal sector to create a future that is very different from what we know now, allowing the rich diversity of people in the post to weave their experience of the past into new patterns and pictures for the future – the future that is in the post.

> "How many times must a man look up before he can see the sky?
>
> The answer, my friend, is blowin' in the wind" (Bob Dylan)

Questions for thought and discussion

1. It is suggested in this chapter that investing in R&D can be costly and may not be a reliable way of developing innovation. What role can R & D play in an innovation strategy, as compared with developing an innovative mind-set throughout the organisation?

2. What is your own experience in terms of innovation in large and small organisations? Is it always true that smaller organisations are more innovative than large ones? What does it depend on? Can organisations help their employees to develop innovative mind-sets? If so, how can they do that?

3. It is argued that it is important to be open to suggestions and to seek out ideas. When was the last time you had an open and honest conversation about your business with a customer? When did you last ask individual employees below your direct reports, or outside your own zone of influence, for their ideas for the future of your organisation? When did you last have coffee or a meal with a competitor?

Contributors

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THE FUTURE IS IN THE POST

Perspectives on Strategy in the Postal Industry

Edited by Kristian J. Sund and Derek Osborn

Published in 2010

ISBN: 978 1 907471 16 2

The ***Future is in the Post*** is the first of a series of titles relating to the Postal Services and was launched at the Copenhagen Post-Expo 2010. In ***The Future is in the Post*** an international group of highly experienced industry thought leaders discuss some of the strategic choices facing postal operators. Their discussion of the main drivers for change provides managers, suppliers, customers, policy-makers and politicians, regulators, and academics with insights into the challenges and opportunities the sector is facing, and how strategically the industry is responding. ***The Future is in the Post*** shows clearly that there is no "one size fits all" recipe for strategic success and that each business will need to determine its own route to survival.

THE FUTURE IS IN THE POST II

Perspectives on Transformation in the Postal Industry

Edited by Derek Osborn and Kristian J. Sund

Published in 2011

ISBN: 978 1 907471 57 5

For industry observers, it is evident that the postal industry has changed dramatically over this past decade and that it will continue to change over the next. It is also true that many operators have been successful in adapting their organisations to the new reality and in actively pursuing novel strategies for growth. ***The Future is in the Post II*** shows that despite the digital challenges, paper has an impact and is still a compelling medium. Most informed analyses now talk about integrating the digital and the physical, in order to maximise the benefits from each and the postal industry is certainly in a unique position to be at the heart of this integration. The contributions in this book, the second in The Future is in the Post series, outline the nature of the transformation in the postal industry, and emphasise the role of technology.

Both books are available online at www.libripublishing.co.uk