



OFFICE OF INSPECTOR GENERAL

UNITED STATES POSTAL SERVICE

Riding the Waves of Postal Digital Innovation

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Executive Summary

For decades, posts have been experiencing digital disruption of their core business. At the same time, digital innovation has been at the heart of their efforts to conceive new products, spawn efficiencies, and adapt their organizational culture to the needs of the digital economy.

The U.S. Postal Service Office of Inspector General (OIG) has identified four distinct waves of digital innovation that have impacted postal operators around the world. Each wave affected different posts at different times and to different degrees.

Wave 1: Efficiency and automation of operational processes.

Wave 2: Creation of new revenue-generating digital services.

Wave 3: Digital enhancements to existing core products and services.

Wave 4: Large-scale digital transformation of an enterprise using advanced innovation management practices and cultural change.

Based on the results of the Universal Postal Union's (UPU) 2015 "Measuring Postal eServices Development" survey, this OIG paper examines how major global posts have navigated the waves of digital innovation, then compares the U.S. Postal Service to its peers. When it comes to revenue-generating pure digital services, the Postal Service is lagging behind many of its peers, mainly due to a legal framework that prohibits the provision of new non-postal services and a strategic and cultural

focus on the physical core business. By contrast, the Postal Service is among the top posts in core-enhancing digital services, except in the case of e-finance (like electronic money orders and payments).

Highlights

A 2015 UPU survey measuring the development of digital services in posts around the world showed how international posts have embraced digital as a way to spawn new efficiencies and new products.

Constrained by legal limitations, the U.S. Postal Service is a relatively small player in revenue-generating pure digital services. Its digital strategy is focused on services that enhance the core mail and parcel businesses.

Even in a constrained environment, there is room for the Postal Service to advance its digital strategy in a transformative way.

The Postal Service could accelerate its transformation by adding a digital layer to existing business lines, considering new purely digital services, and implementing better innovation management processes.

Interviews with postal digital pioneers in the United States and abroad revealed six takeaways from the last few decades of digital experience:

- A favorable legal and regulatory environment is necessary for posts to fully exploit digital opportunities.
- Revenue from digital services has not replaced lost revenue from mail's decline.
- Proactive e-government policies drive posts' success in digital.
- A willingness to experiment and take calculated risks is vital to long-term success.
- Open innovation practices advance a post's digital agenda.
- Digital support services are being increasingly bundled into integrated solutions.

Even within a constrained regulatory environment, there is still room for the Postal Service to advance its digital strategy in a transformative way. This paper identifies four building blocks upon which the Postal Service could build its digital innovation strategy of the future.

First, the Postal Service could further leverage data analytics and the Internet of Postal Things to gain more real-time control

over its fleet and operations, and build more customer-centric and information-rich value chains, from collection to delivery.

Second, the Postal Service could strengthen current efforts to spread a digital layer on top of existing products and services. For example, a connected mailbox equipped with sensors could enable temperature-sensitive deliveries or monitor delivery and pickup times. Efforts to make mailpieces more engaging through digital aspects like augmented reality should continue. Legacy products such as money orders could also be digitized.

The third building block relates to the rejuvenation of the Postal Service's revenue-generating digital services. This can be done by modernizing legacy products like hybrid mail, the Electronic PostMark (EPM), or electronic money transfers. New use cases for these products could also be explored.

Fourth, the Postal Service could accelerate its organizational transformation by adopting best practices when it comes to stimulating digital innovation from within, as well as partnering with nimble external innovators.

The Postal Service's current digital strategy of focusing on the core business is understandable given its current constraints. However, it is not sufficient. New customer demands and new competitive pressures demand a fully-digitized enterprise that is innovative and responsive to changing market needs. Management and stakeholders need to focus on creating an environment that will enable the Postal Service to embark upon this transformative journey.

Table of Contents

Cover	
Executive Summary.....	1
Observations	5
Introduction.....	5
The Waves of Postal Digital Innovation.....	5
Innovation in Digital Services: A Global Snapshot.....	7
Analysis of UPU Survey Results	7
The U.S. Postal Service vs the Rest of the World: Comparing Approaches.....	9
Lessons Learned	13
A Less Constrained Legal Environment Helped Foreign Posts Invest in Digital Diversification.....	13
Digital Services Is Not the Revenue Engine That Was Expected	14
Proactive E-Government Policies Drive Success in Digital.....	15
Digital Leaders Must Experiment and Take Measured Risks	16
Advanced Posts Are Putting in Place Open Innovation Practices....	16
Digital Support Services Are Increasingly Bundled into Integrated Solutions	18
The Building Blocks of a Future Digital Innovation Strategy for the Postal Service.....	19
The Four Building Blocks	19
Leverage Data and the Internet of Things: Boosting Operational Efficiency	20
Leverage Data and the Internet of Things: Building an Information-Rich Environment for Customers	21
Digitally Enhance Core Products and Services.....	23
Rejuvenate the Digital Portfolio	24
Expand Identity Services for Government and Customers	25
Accelerate Digital Transformation	25
Conclusion	27

Appendices28

- Appendix A: Examples of Early, Unsuccessful Revenue-Generating Digital Services From the Postal Service.....29
- Appendix B: Australia Post Experiments With Revenue-Generating Digital Innovation.....30
- Appendix C: Examples of Posts’ External Innovation Programs31
- Appendix D: List of Interviews and Meetings with Stakeholders32
- Appendix E: Select List of References33
- Appendix F: Management’s Comments36

Contact Information38

Observations

Introduction

For posts around the world, digital is a double-edged sword. From the electronic substitution of letter mail to the Uber-ization of delivery, digital innovation over the past 30 years has been the great disruptor of the postal business model. At the same time, digital innovation provides a means to generate new efficiencies and new products. Some posts have enthusiastically embraced it. For others it is only a reluctant nod to inevitability.

Whatever the motive, adoption of digital has never been a steady or linear process. Rather, posts have innovated in “waves” in response to changing market needs, technologies, and internal strategic priorities. The first wave automated postal processes as a response to electronic substitution. The second wave was a bid to create entirely new lines of business — and revenue. The third was about applying a digital layer to the existing mail and parcel businesses in order to make them more robust. Today’s algorithm economy, the Internet of Things, and big data are bringing about a transformative fourth wave of digital innovation. This new wave may bring about wholesale changes to postal business models.

A survey on the state of digital development at posts around the world was conducted by the Universal Postal Union (UPU) in 2015. The survey report (“Measuring Postal eServices Development. A Global Perspective” (UPU survey)) showed that almost all have made strides toward digital service innovation. While priorities increasingly differ across countries, the overall goal — shifting a purely physical industry into a physical/digital hybrid — appears to be widely shared.

Building on joint research conducted with the International Bureau of the UPU, a “Postal Digital Transformation” workshop held in October 2015, and interviews with industry experts, this paper first describes the waves of digital innovation over time.¹ It then uses data from the UPU survey to assess the U.S. Postal Service’s digital offerings compared to those of its peers, and what lessons can be learned from those peers. Finally, it suggests building blocks for a future digital strategy that could help the Postal Service stay relevant during a turbulent period for the postal industry.

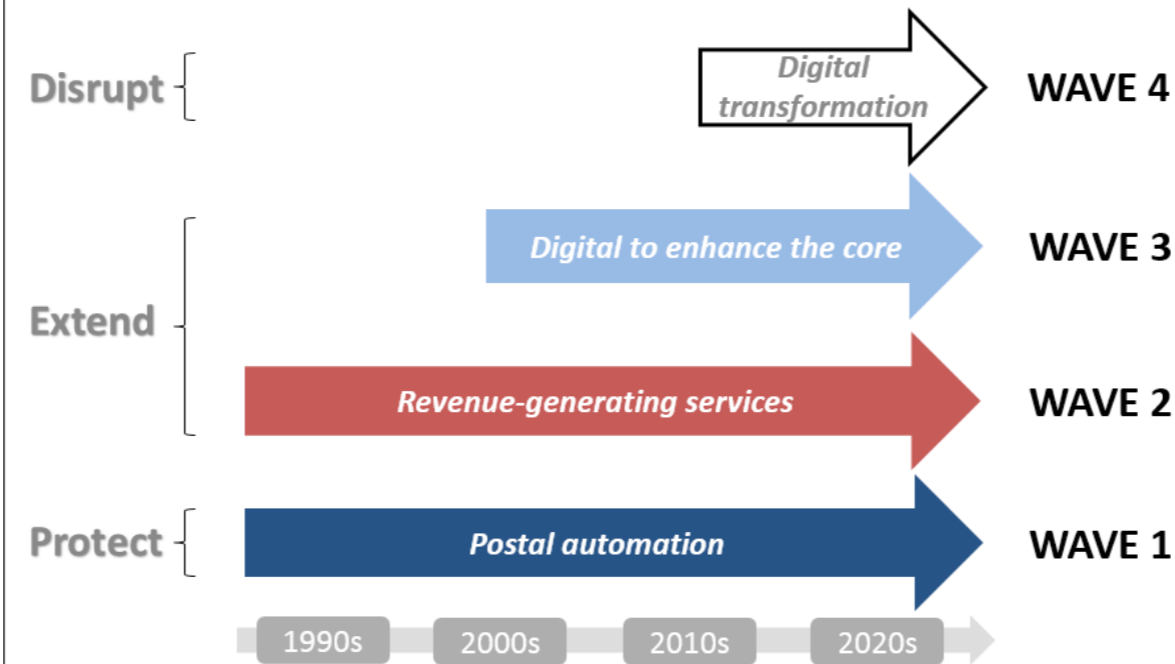
The Waves of Postal Digital Innovation

The rise of digital technology over the last 30 years has created both threats and opportunities for the postal business. Digital innovation by posts in industrialized countries has become an imperative in order to slow mail decline caused by substitution, increase cost efficiencies, and improve the quality of products and services. It has also provided opportunities to modernize to ensure long-term relevancy and diversify by creating new sources of revenue. The following section describes the waves of digital innovation that major posts have undergone (Figure 1).

Although the waves of digital innovation are presented with chronological reference points, this refers only to the first instances of each wave. Both the introduction and pace of each wave has differed significantly from one post to another. Some posts have changed their digital strategies over time, embracing a wave in the 1990s only to abandon it later, then picking it up again when market conditions changed.

¹ The U.S. Postal Service Office of Inspector General (OIG) participated in the preparation and writing of the UPU 2015 report “Measuring Postal eServices Development. A Global Perspective,” developed under the supervision of the Postal Services and Development Group of the UPU Postal Operations Committee 4 (E-services). The OIG wishes to thank Paul Donohoe and Daniel Nieto from the International Bureau of the UPU as well as Jan Sertons from PostNL. Universal Postal Union, *Measuring Postal eServices Development. A Global Perspective*, February 2016, http://www.upu.int/uploads/tx_sbdownloader/studyPostalEservicesEn.pdf.

Figure 1: The Four Waves of Digital Innovation in the Global Postal Sector



Source: OIG analysis.

Wave 1: Postal Automation

Starting in the early 1990s, in a context of fast-growing mail volumes and, in Europe, impending market liberalization, the digital efforts of posts were primarily focused on rationalizing and automating sorting centers. Mail tracking, then a novel technology, was first introduced for high-end express items, then extended through massive projects like the Intelligent Mail Barcode in the United States. Machines that sort letters and flats together into carriers’ walk sequences, thereby making delivery faster, have been installed in sorting facilities. Now, with mail volumes shrinking and ecommerce growing, posts are shifting investments from a mail-centered to a parcel-centered value chain. The next steps of automation are still unfolding.² Robotics, the Internet of Things, and on-demand delivery apps will likely bring more efficiencies to sorting and delivery in the near future.³

Wave 2: Revenue-Generating Services

Many posts hoped they could replace lost mail revenue with income from digital services. They were anticipating a role for themselves in the management of electronic communications and transactions between governments, businesses (such as banks or utilities), and citizens. They would attain that role through their physical proximity to citizens and government, as well as their reputation for trust, reliability, and security. A few posts have (partly) enacted that vision. For example, Australia Post, Poste Italiane, Denmark Post, and Swiss Post offer trust-based services like certified electronic communications, online identity verification (for example, digital signature), secure electronic mailboxes, and online payment and government services platforms. In the coming years these posts expect to introduce applications targeting new segments (such as e-health) and to extend their platforms to new sets of personal data (such as those generated by “smart cities”).⁴

² Presenting Swiss Post’s 2015 results, CEO Susan Ruoff said, “We are wrapping up major restructuring programs, in particular, in the area of mail processing automation (Distrinova). In the future, it will be difficult to further increase efficiencies.” Swiss Post, “Annual results press conference,” March 10, 2016.

³ DHL, *Robotics in Logistics: A DPDHL perspective on implications and use cases for the logistics industry*, March 2016, http://www.dhl.com/content/dam/downloads/g0/about_us/logistics_insights/dhl_trendreport_robotics.pdf.

⁴ Smart cities are cities in which government gathers and analyzes data from around the city in order to improve municipal services and quality of life.

Wave 3: Digital to Enhance the Core

As broadband penetration and Internet use increased in the early 2000s, so did efforts to digitize parts of the mail chain, in particular the upstream stages of mail creation. The objective was to expand customer access to postal services and to create new services at the intersection of physical and digital. Many posts introduced services that combine elements of a digital first mile — that is, using digital means to enter a piece into the mail stream — and the ubiquity of the physical last mile — think hybrid mail or print management.⁵ These operators also put basic services online (e.g. ZIP code lookup, change of address, and price calculators) to increase customer convenience and simplify access.

Recent market conditions have spurred more innovation. Increased competition in the parcel market led to innovations in delivery management. Mail's decline led to innovations that increase the value of letter mail. The emergence of mobile apps and new data collection technology, for example, through letter carriers' smartphones, has improved customers' experience. Through these, posts strive to bridge their digital and core businesses to provide customers with the level of immediacy, control, and information granted by the Internet.⁶ In the future, by further integrating their information systems with those of mailers, e-merchants, technology partners, and even individuals, posts could be able to respond to customer needs in real time.

Wave 4: Digital Transformation

The latest wave goes far beyond a finite set of products or initiatives. Digital transformation is not about any particular function. Rather, it is a fundamental organizational change that comes from an update in technology, process, culture, and business model. It is about converting an organization wholesale into an information enterprise, where connectivity, cloud, and analytics can enable faster innovation, more informed decision-making, and quicker execution.

For postal operators, digital transformation is a long-term roadmap. Its impacts are just starting to be felt, and it is unclear whether any post will achieve it fully.⁷

Innovation in Digital Services: A Global Snapshot

Analysis of UPU Survey Results

In 2015, the UPU conducted a survey on postal e-services at member posts around the world. The UPU survey focused on those services that have been developed in response to two of the four waves of digital innovation discussed above:

- Wave 2: Revenue-generating digital services (e.g. trusted services or e-government);
- Wave 3: Digital services that enhance the core, such as those that support ecommerce growth.⁸

⁵ It should be noted that hybrid mail can be analyzed as a core-enhancing service as well as a revenue-generating one.

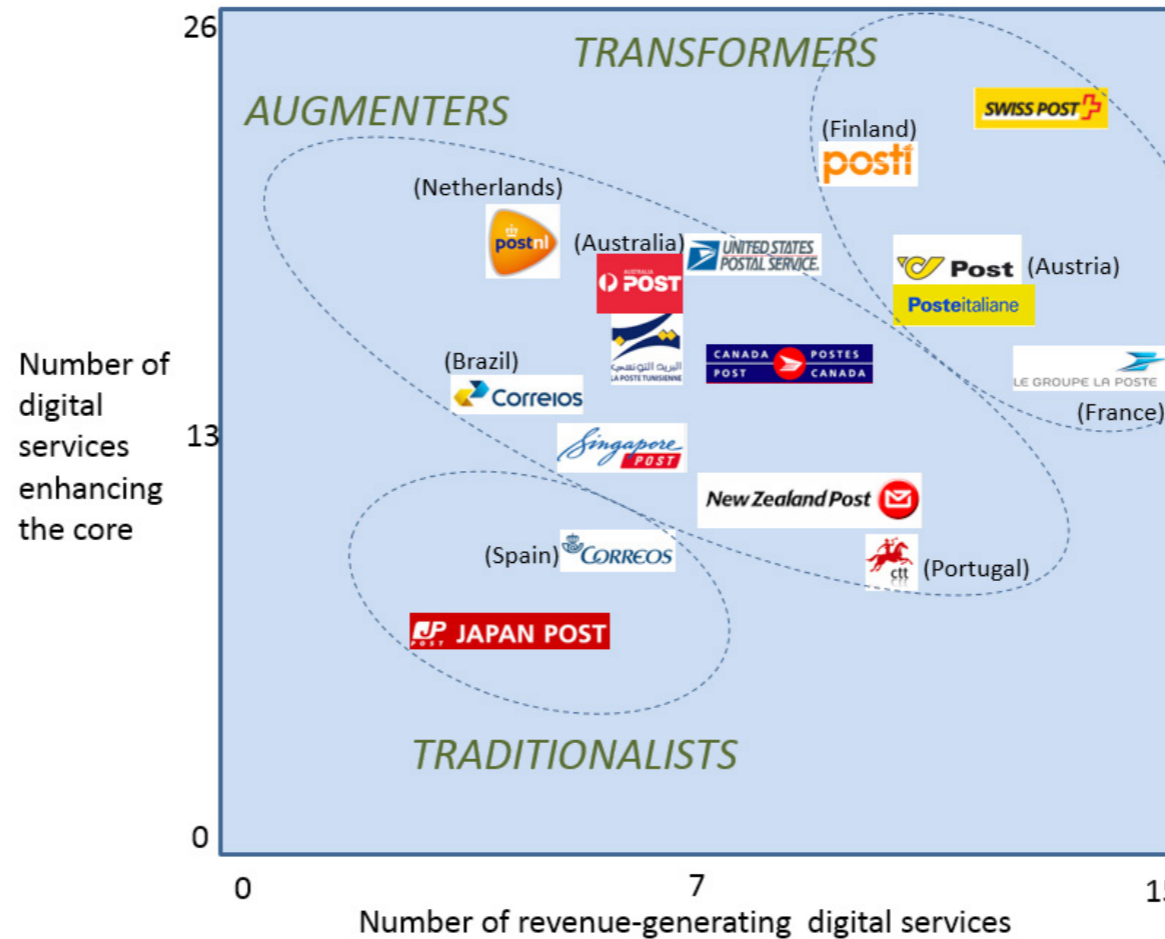
⁶ OIG, *Mail Innovations*, Report No. RARC WP-14-013, September 22, 2014, https://www.usps.oig.gov/sites/default/files/document-library-files/2015/rarc-wp-14-013_0.pdf.

⁷ For example, Accenture recently noted that posts and parcel players are still struggling to embed digital into the heart of the business. Accenture Consulting, *Achieving High Performance in the Post and Parcel Industry*, November 2015, https://www.accenture.com/t20151116T035247__w__us-en/_acnmedia/Accenture-Conversion-Assets/DocCom/Documents/Global/PDF/Dualpub_23/Accenture-Achieving-High-Performance-in-the-Postal-Industry-2015-V2.pdf, p.14.

⁸ The UPU survey also included questions on factors and technologies driving or hampering the development of e-services and strategies used to implement these services.

The survey asked how many, out of 15 possible revenue-generating innovations and 26 possible core-enhancing ones, each post offered.⁹ Out of the 87 respondents, the OIG isolated the survey results of 15 major posts and, based on those results, mapped out how they stand relative to the Postal Service and to each other, as shown in Figure 2.

Figure 2: Where Major Posts Stand with Digital Innovation (2015)



Source: OIG analysis, based on results of UPU survey. Figures refer to the number of services provided by each post according to the survey report. Some key postal players, such as Royal Mail Group, Deutsche Post DHL, and PostNord, did not fully answer the UPU survey and are not included in the graph.

The upper right portion features the “Transformers:” Swiss Post, Poste Italiane, Austria’s Österreichische Post, France’s La Poste, and Finland’s Posti. By offering a significant number of services in both categories, they have, over time, positioned themselves as the most digitally advanced and diversified postal operators.

At the opposite corner are the “Traditionalists.” Japan Post and Spain’s Correos are in the lower left corner because they have so far opted for very limited or very focused adoption of digital.

Every other operator in our sample falls somewhere in the middle. They are the “Augmenters.” For these posts, most digital projects are aimed at reinforcing existing mail and parcel business lines rather than directly generating new revenue. New Zealand and Portugal have been slightly better at diversifying than supporting the core, but their approach is not significantly different.

⁹ These services are listed, respectively, in Figure 3 and Figure 4. Some service categories were broadly defined by the UPU to reflect the common denominator of capabilities of UPU member posts with different levels of digital development. The UPU used the number of services provided as a proxy for posts’ relative digital strength, as very few publish or share data on the revenue that digital services generate.

The U.S. Postal Service vs the Rest of the World: Comparing Approaches

The OIG worked with consulting firm Strategia Group to understand how foreign posts have achieved the level of digital sophistication that they have, determine where the Postal Service stands in relation to its peers, and how it can improve. Interviews with industry experts, foreign postal digital officers, and current and former USPS digital pioneers supplemented our analysis.

Revenue-Generating Services

The 15 types of revenue-generating services offered directly or indirectly (through partners) are divided into three buckets: ePost, trusted services, and other e-government services (Figure 3).

1. “ePost” includes services relating to electronic communications (transactional or advertising messages) between consumers, businesses, and government.
2. “Trusted services” are those that bring an authentication or identity management layer to online services to ensure their privacy, integrity, and security.
3. “Other e-government services” is a catch-all for those not fitting into one of the previous two. For example, e-health and applications such as fines management fall into this bucket.

Figure 3: Digital Revenue-Generating Services in Selected Countries (2015)
(A blue box indicates the post provides the service)

	Australia	Austria	Brazil	Canada	Finland	France	Italy	Japan	Netherlands	New Zealand	Portugal	Singapore	Spain	Switzerland	Tunisia	USA	Comments
ePost																	
Postal electronic mailbox																	
Hybrid mail																	Through partnerships
E-cards																	Through partnerships
E-invoicing																	
Online facilitation of hybrid mail																	Through partnerships
Online direct mail																	Through partnerships
Digital archive																	
Reverse hybrid mail																	
Postal registered electronic mail																	
Trusted services																	
Digital identity services																	
Electronic postal certification mark																	Electronic Postmark
Digital signature																	
Credentialing services																	USPS Connect
Other egovernment																	
E-government																	Passport service *
E-health services																	Health Connect

* The downloading of forms (to be submitted in hard copy) is the only digitized component of this service.

Source: UPU, *Measuring Postal eServices Development. A Global Perspective*, pp. 26, 27, and 30. The OIG broke down the UPU “ePost and e-government services” category into the three sub-categories shown above.

The most common revenue-generating service among the 16 major posts examined by the OIG, as well as among the 87 posts included in the UPU survey, was hybrid mail, followed by the electronic mailbox.¹⁰ Least common were e-health, credentialing services, and postal registered electronic mail — only one-third of posts in our sample provide these niche services.

The Postal Service operates under a much more restrictive legal framework than most of its foreign counterparts. Pursuant to the Postal Accountability and Enhancement Act of 2006 (PAEA), a few digital services were authorized to continue: three non-postal services — the Electronic PostMark (EPM), the online change of address, and hybrid mail, which was available through the Postal Service website but provided by third parties and the international money transfer service.¹¹

The Postal Service's revenue-generating e-services — or lack thereof — directly reflect these constraints; it cannot offer new non-postal services or expand its digital portfolio through acquisitions. For example, the Postal Service is not allowed to offer an electronic mailbox, despite that service's ubiquity in other countries.¹² In addition, some e-services available through the Postal Service, like the aforementioned hybrid mail, are actually executed by partner companies through a revenue-sharing agreement with USPS.

Not all services missing from the Postal Service portfolio can be blamed on legal framework, however. Some are attributable to strategy choices. Permissible initiatives, popular among other major posts, such as the provision of digital services to federal agencies (e.g. digital identity services), could be further expanded.¹³

The Postal Service has made some progress in this area with its USPS Connect credentialing service which allows citizens to log in to government sites using an existing digital ID from a trusted provider rather than creating a separate user name and password for each site.¹⁴ The Secure Digital Solutions group is planning to pilot digital identity solutions as well as e-records solutions in real estate and health care. Last year, as part of an internal pilot, USPS employees were given access to Health Connect, a portal through which medical records could be stored and managed. A plan is also underway to reconfigure the Electronic PostMark, one of its earliest digital innovations, which has been underutilized and often overlooked.

These projects aim to position the Postal Service as a secure intermediary in electronic communications and as a protector of private consumer information. If successful, they would help push USPS closer to the European posts featured in the upper-right portion of [Figure 2](#).

Core-Enhancing Services

The 26 types of core-enhancing digital services offered by posts can be divided into three buckets ([Figure 4](#)):

1. "Support to ecommerce" includes services that add a digital layer to the physical components of the ecommerce value chain (e.g. warehousing, fulfillment, transport, delivery) by supporting, enabling, or integrating them.

¹⁰ Hybrid mail is offered by 49 percent of UPU respondents and 88 percent of major posts. As already mentioned, hybrid mail can be analyzed as a revenue-generating service and as a service enhancing the core letter business.

¹¹ Government Accountability Office (GAO), *U.S. Postal Service: Overview of Initiatives to Increase Revenue and Introduce Nonpostal Services and Experimental Postal Products*, Report No. GAO-13-216, January 2013; <http://www.gao.gov/assets/660/651298.pdf>, pp. 18-19; and Postal Rate Commission, *Review of Nonpostal Services Under the Postal Accounting and Enhancement Act, Order NO. 154*, December 19, 2008, pp. 76-77.

¹² Electronic mailboxes are offered by 33 percent of UPU respondents and 81 percent of major posts.

¹³ Federal law (39 U.S.C. § 411) permits the Postal Service to provide and be remunerated for services offered to the federal government.

¹⁴ This service was formerly known as FCCX. USPS Connect, [usps.com](http://about.usps.com/news/uspsds/connect.htm), <http://about.usps.com/news/uspsds/connect.htm>; U.S. Postal Service, Digital Solutions, Presentation, January 2016, https://ribbs.usps.gov/pccworkshopbox/documents/tech_guides/DigitalSolutionsSpeakerNotes.pdf; and memo from the Postal Service's Secure Digital Solutions group to the OIG, February 17, 2016.

2. “E-finance and payment solutions” are those that facilitate the electronic movement of money.
3. “Other support services” is a catch-all for those not fitting into one of the previous two buckets. They typically facilitate customer access to postal services, digitize and improve the interface between customer and post, and generate useful data about letters or parcels.

The most widespread of these services (offered by at least 14 of the 16 posts in our sample) are those that started riding the wave more than 15 years ago and have been refined over time as new technology platforms emerged:

- Online lookup of post codes, addresses, and post office locations
- Track and trace
- Online information about postal services and fees, including mailing rates
- Online customer service help and contact information
- Online shopping for philatelic and other postal products

Integration of postal web services with e-merchant websites — in the support to ecommerce category — is an example of a more recent but already widespread core-enhancing service.

Figure 4: Digital Services Enhancing the Core in Selected Countries (2015)
(A blue box indicates the post provides the service.)

	Australia	Austria	Brazil	Canada	Finland	France	Italy	Japan	Netherlands	New Zealand	Portugal	Singapore	Spain	Switzerland	Tunisia	USA
Support to ecommerce																
Online philatelic and postal products shop																
Online shopping malls / portals																
Online customs declaration																
Integration with e-merchant sites																
Performance reports and analytics																
Virtual international address service																
Calculation of estimated total landed costs																
Online management of delivery options																
E-finance and payment solutions																
Online management of financial postal account																
Electronic remittances																
Payment solutions																
Online bill payment																
Escrow services for ecommerce																
Other support services																
Public Internet access points in post offices																
Online information on services and tariffs																
Online lookup (post codes, addresses...)																
Online contact and customer service																
Track and trace																
Electronic notification of delivery																
Online change of address																
Holding of mail delivery online																
Online address cleansing service																
Electronic postal invoicing																
Digital postage																
Digital customized postage																
Pick up service																

Source: UPU, *Measuring Postal eServices Development. A Global Perspective*, pp. 26, 27, and 30. The original names the UPU gave to the three segments are respectively “eCommerce,” “Digital financial and payment services,” and “Support Services.”

The Postal Service offers all of the aforementioned popular services and has a strong presence in the core-enhancing category overall and in the “other support services” bucket in particular. Of the 13 services in this bucket, the only one USPS does not provide is public internet access in post offices.¹⁵

Many of these 13 services, such as online information lookup, were introduced in the early years of broadband Internet. Some have gotten a second look in recent years thanks to renewed interest by management and technological advances. A novel approach to “electronic notification of delivery” is Informed Delivery, a mail preview service through email that the Postal Service debuted in two metro areas last year as a pilot. Posts are also reconfiguring their old online services into mobile applications. The

¹⁵ Only France and Australia offer this. In fact, this service is most popular as a digital inclusion tool in Africa, where half of posts offer it.

UPU survey noted that the number of posts offering mobile apps surged from 16 in 2012 to 51 in 2015. Although not every service from USPS.com is available through USPS Mobile — particularly business services like the PostalOne! commercial mail manager — the Postal Service is progressively adding them.¹⁶ There are plans to debut Hold Mail and Redelivery mobile apps before the end of the 2015-16 fiscal year.

Rising parcel volumes have prompted posts to increase their engagement with ecommerce providers. Among the eight services in the “support to ecommerce” bucket, the only ones USPS does not provide are “virtual international address service” and “calculation of estimated total landed costs” for international shipping.¹⁷ The latter gap may close soon through a proposed program known as Global ecommerce Marketplace (GeM) Merchant. GeM Merchant would give U.S. online sellers the ability to charge (estimated) customs duties to foreign customers at the time of purchase, rather than the customer being charged when the package arrives at their country’s border.¹⁸

Where the Postal Service is comparatively weakest is in e-finance and payment solutions. This should come as no surprise. USPS has been resistant to expand its financial services scope overall, so it follows that electronic support for those services would also be lagging.¹⁹ The Postal Service’s only presence in this space, the Dinero Seguro electronic money transfer service to Latin America, is very small; USPS chose not to list it on the survey.

Postmaster General Megan Brennan’s recent announcement regarding the Postal Service’s digital strategy confirms that the organization wants to continue to play to its current digital strengths. She reaffirmed that protecting the core was the highest priority of the Postal Service’s digital strategy. The objective is to “combine the power of mail with the ubiquity of mobile,” and to “elevate the role of mail in American marketing and communications.”²⁰

Lessons Learned

To supplement the UPU survey and understand the common factors of success in e-services innovation, the OIG interviewed industry experts, digital officers at foreign posts, and current and former Postal Service digital pioneers. As conveyed by those sources, the OIG’s primary takeaways are summarized below.

A Less Constrained Legal Environment Helped Foreign Posts Invest in Digital Diversification

Posts that have best innovated with digital all enjoy a favorable legal and regulatory environment that gives them the freedom to diversify beyond core physical services. Governments often granted this flexibility when they turned posts from government departments to corporations in the 1980s or 1990s. Those posts took this opportunity to branch out into everything from logistics to banking to digital services to international expansion. Today’s leaders in digital services, such as Swiss Post, the Nordic posts, Poste Italiane, and La Poste, all started to explore digital lines of business very early. Letter mail liberalization that started in the late 1990s, volume declines and, in some cases, privatization accelerated the trend.

¹⁶ For the list of services, see USPS Mobile, *Google Play Store*, <https://play.google.com/store/apps/details?id=com.usps&hl=en&gl=us>.

¹⁷ The virtual international address service is a package fulfillment service. It consists of providing a physical address in the country of the e-merchant to foreign customers so that they can purchase goods from that merchant, have them first sent to that address, then forwarded to them as international packages. In 2013 the OIG proposed a related concept, called Virtual PO Box. OIG, *Virtual Post Office Boxes*, Report No. MS-WP-13-002, April 17, 2013, <https://www.uspsog.gov/sites/default/files/document-library-files/2015/ms-wp-13-002.pdf>. A 2015 OIG white paper suggested the Postal Service consider offering a duty calculator or a Delivery Duty Paid service. OIG, *Cross-border Ecommerce: An International Roundtable Recap*, Issue Brief No. RARC-IB-15-007, September 14, 2015, <https://www.uspsog.gov/document/issue-brief-cross-border-e-commerce-international-roundtable-recap>, p. 9.

¹⁸ Ina Steiner, “USPS to Test Cross Border Ecommerce Service,” *EcommerceBytes.com*, March 22, 2016, <http://www.ecommercebytes.com/cab/abn/y16/m03/i22/s01>.

¹⁹ See the U.S. Postal Service’s official response letter to the OIG white paper *The Road Ahead for Postal Financial Services*, Report No. RARC-WP-15-011, May 21, 2015, https://www.uspsog.gov/sites/default/files/document-library-files/2015/rarc-wp-15-011_0.pdf.

²⁰ “U.S. Postmaster General Unveils Digital Strategy to Support Mailing Industry at National Postal Forum,” *USPS.com*, March 21, 2016, https://about.usps.com/news/national-releases/2016/pr16_011.htm.

The Postal Service was also one of the earliest and most proactive posts when it came to digital experimentation. It started its E-COM program, which allowed business mailers to send messages by computer for remote printing and delivery, in the early 1980s.²¹ In the 1990s it came up with a string of new digital communications concepts, from a portal for e-government services, to electronic bill payments, to secure electronic messaging solutions. Most, however, remained little more than concepts. A few went beyond the pilot stage but most were discontinued after a couple of years (see selected list in [Appendix A](#)), and USPS's first-mover advantage was lost.²²

There were a variety of reasons. Private-sector companies voiced concern to regulatory bodies that the Postal Service could use its governmental status as an unfair advantage when introducing competing products that did not cover their costs.²³ In addition, there was not a major push for these services from within the Postal Service. Unlike in northern Europe where mail volumes started to decline in the early 2000s, volume in the United States continued to grow steadily until the late 2000s global recession. USPS leadership saw no compelling need to launch purely digital services, especially since some considered them a threat to cannibalize the letter business. Digital was considered at best low-priority and at worst too risky.²⁴

Among the projects that did get early traction, some were scuttled by design and execution issues. The Postal Service did not always have the know-how to execute complex technical projects, but even when outsourcing them to external partners, it struggled with effective project management. This is the reason why an agreement to provide the Netpost.Certified document delivery service to the Social Security Administration, in partnership with AT&T and IBM, fell through. USPS digital innovation teams were very small and, for the most part, composed of career postal employees who had difficulty navigating the rapidly-changing landscape or the various stakeholder groups.

New digital initiatives were often held to the same standards of excellence as established initiatives, which they had difficulty meeting. Stakeholders generally did not have the patience for failure or even extended experimentation. With an internal and external environment hostile to digital diversification, the Postal Service was not able, in the early 2000s, to turn its experiments into additional revenue.

Many of those same constraints are still present today. PAEA further limits its ability to introduce non-postal products and services. Nevertheless, there are opportunities for digital innovation within the current regulatory boundaries, as well as within the scope of the core delivery business. As the VP of New Products and Innovation, Gary Reblin, recently remarked, "My objective currently is to innovate within the law."²⁵

Digital Services Is Not the Revenue Engine That Was Expected

Posts have discovered that digital is less of a revenue engine than first expected.²⁶ Although profitable, these services tend to be either too low-margin or too niche to make a big financial impact. Swiss Post's digital unit, Swiss Postal Solutions, contributes

21 Devin Leonard, "The Postal Service Almost Delivered Your First E-Mail," *Bloomberg.com*, May 16, 2016, <http://www.bloomberg.com/features/2016-usps-email/>.

22 For a description of some of the early initiatives and of the legal and regulatory issues they raised, see GAO, *Postal Activities and Laws Related to Electronic Commerce*, Report No. GAO/GGD 00-188, September 2000, <http://www.gao.gov/archive/2000/gg00188.pdf>, and Robert A.F. Reisner, "When a Turnaround Stalls," *Harvard Business Review*, February 2002, <https://hbr.org/2002/02/when-a-turnaround-stalls>.

23 A 1998 GAO report concluded that non-postal services (most of them digital innovations) had lost \$85 million from 1995 through 1997 on a revenue of \$148 million. GAO, *U.S. Postal Service: Development and Inventory of New Products*, Report No. GGD-99-15, November 1998, <http://www.gao.gov/assets/230/226624.pdf>, p. 19.

24 For example, the Web Interactive Network of Government Services (WINGS) e-government portal would have necessitated long-term commitment from government agencies and significant initial investment before yielding substantial revenue for the Postal Service.

25 V. Vara, "The Nineteenth-Century Idea that Could Keep the U.S. Postal Service Alive", *The New Yorker*, April 22, 2016, <http://www.newyorker.com/business/currency/the-nineteenth-century-idea-that-could-keep-the-us-postal-service-alive>.

26 In 2014, Accenture concluded: "Our research shows that digital as a channel works, digital as a product does not." Accenture, "Revitalization: The Success Of New Postal Models," (presentation at PostalVision 2020, April 9, 2014), <http://www.postalvision2020.com/wp-content/uploads/2014/04/Achieving-High-Performance-Globlal-Postal-Industry-2014.pdf>, slide 9.

7 percent of operating income but less than 2 percent of operating profit.²⁷ Deutsche Post DHL's electronic communications solution, E-POST, generates just 3 percent of the revenue of the company's Post-eCommerce-Parcels division. Finland's Posti is one of the few posts where a digital business — Opus Capita, a long-established business process outsourcing unit — represents a major component of revenue (16 percent) and profit (24 percent).²⁸

There is little clarity as to whether digital services will become a more significant source of revenue in the future. Accenture recently noted that these services “show promise,” but that “more time and investment is required to fully exploit their revenue potential.”²⁹ One of the few published forecasts comes from Groupe La Poste, which hopes to grow the revenue from its new digital proximity services from \$23 million in 2015 to \$200 million in 2020.³⁰

Proactive E-Government Policies Drive Success in Digital

While a substantial contribution to revenue is still unproven, e-services do contribute to a post's public service goals. E-services facilitate citizen interaction with government agencies, thereby furthering social inclusion. Not surprisingly, a government's decision to include the national post in their e-gov plans can act as a boost to that post's digital ambitions. According to the UPU survey, 31 percent of posts are assigned a role in the provision of such services.³¹

For example, the Brazilian government has used the post, Correios, as a conduit for the implementation of its social and digital inclusion policies. This includes e-government services such as public Internet kiosks, the permanent electronic address, and Correios virtual shopping services.³²

An extreme example is in Denmark, where as part of the eGovernment Strategy 2011-2015, a law made the use of digital communications mandatory for government-citizen interactions. All citizens and permanent residents over 15 not yet in the system were automatically registered in November 2014, except for those who had obtained an exemption to use alternative communications methods.³³ As a result, Danish Post's joint venture, eBoks, which won a tender to manage the national e-government platform, saw its number of users reach 5 million, out of a total population of 5.6 million over 15 years old (Box 1).³⁴

Box 1: eBoks — Big Societal Impact, but Small Revenue

The e-Boks platform connects government agencies and municipalities with all companies and 90 percent of Danish citizens. It allows companies, public authorities and private individuals to send secure communications whilst reducing processing costs.

The business model is based on a small 3-cents-per-piece fee and IT fees based on message size.

Although profitable, e-Boks generates low revenue (\$22 million in 2014).

27 Swiss Post, Annual Report 2015, http://annualreport.swisspost.ch/15/ar/downloads/geschaeftsbericht_konzern/en/E_Post_GB15_Geschaeftsbericht_WEB.pdf, pp.2-3.

28 Posti, Annual report 2015, http://www.posti.com/attachments/financials/2015/Posti_Group_Financial_Statements_Release_and_the_Board_of_Directors_Report_2015.pdf. Another exception is POST Luxembourg, a holding company that hosts the post and one of the country's largest telecoms operator and Internet service providers. “The Group”, *POST Luxembourg*, <https://www.postgroup.lu/le-groupe/presentation>.

29 Accenture Consulting, *Achieving High Performance in the Post and Parcel Industry*, November 2015, p. 11.

30 B. Bayart and M. Visseyrias, “Nous achetons le temps nécessaire pour réussir la conversion stratégique de La Poste,” *Le Figaro*, January 23, 2016, <http://www.lefigaro.fr/societes/2016/02/23/20005-20160223ARTFIG00409-nous-achetons-le-temps-necessaire-pour-reussir-la-conversion-strategique-de-la-poste.php>.

31 UPU, *Measuring Postal eServices Development. A Global Perspective*, February 2016, p.49.

32 M. Burhan, *Postal Operators as Viable e-Government Partners*, in M. Finger, B. Bukovc and M. Burhan, *Postal Services in the Digital Age*, (Amsterdam: IOS Press, 2014), pp.131-134.

33 The Netherlands, too, have said that by 2017 citizens and businesses should be able to conduct any and all business with government online. (However, off-line alternatives will remain available.)

34 “Digital Post from public authorities,” *Danish Digitization Agency*, <http://www.digst.dk/ServiceMenu/English/Policy-and-Strategy/Digital-Post-from-public-authorities>, “14 years of success and expansion,” *E-boks.com*, <http://www.e-boks.com/international/about-e-boks/background/>, D. Du Preez, “Denmark has made digital mandatory for government-citizen interactions,” *Diginomica*, October 22, 2015, <http://diginomica.com/2015/10/22/denmark-has-made-digital-mandatory-for-government-citizen-interactions/#.VnLKzVWrTcs>.

In Italy, Poste Italiane partners with local and central governments to provide a wide variety of e-government services, including electronic payments of pensions and entitlements, certified email for official communications, and digital signature for official documents. Likewise, one of the few e-government services offered by the U.S. Postal Service, its USPS Connect credentialing service, came into being in the wake of a separate White House initiative, the National Strategy for Trusted Identities in Cyberspace (NSTIC).³⁵

Digital Leaders Must Experiment and Take Measured Risks

Another reason for posts to consider digital, despite its lack of proven profitability, is its “soft value.” Exploring digital’s possibilities can build technical skills, strengthen the post’s brand, and solidify its presence as a service provider to governments, businesses, and citizens. Exploration requires experimentation, which involves a certain level of failure. Posts need to expect and tolerate some failure in order to make breakthroughs. As they learn what works, they streamline their digital portfolio by concentrating on the most promising markets and services.

For example, Australia Post’s digital journey has not always been smooth. Australia Post exited the hybrid mail market after 9 years and sold its transactional printing subsidiary after 3 years. It built its payment capabilities in stages — starting with online bill payment 15 years ago, followed by secure payment gateway via a 2010 acquisition, to what is now a key component of its flagship MyPost digital platform. It is now better positioned to achieve its digital vision to build on its core capabilities of deliveries, identity, payments, and trusted communications ([Appendix B](#)).

The U.S. Postal Service has often demonstrated a conservative culture when it comes to adopting new services, digital or otherwise. This culture may stem from its tight financial situation, a leadership that is resistant to change, or its memory of having so many early digital forays shut down prematurely. While this conservative culture reduces short-term risk, it may retard the ability to transform the organization around new long-term growth engines.

Advanced Posts Are Putting in Place Open Innovation Practices

Open innovation is a paradigm that assumes firms can and should use external and internal ideas, as well as internal and external paths to market, as they look to mature their technology.³⁶ The most successful posts are able to capture innovation inside and outside the organization.

Internal Innovation

Posts must engage all employees in the innovation process by giving them the means to feed the dedicated “innovation team” with new ideas — and enough incentives that they want to take up the challenge.

Swiss Post and Australia Post, among others, have rejuvenated the antiquated “ideas box” found (and ignored) at many workplaces. They have turned it into an effective tool to unlock employees’ ability to ideate new processes or products. Swiss Post’s PostVenture15 program puts employees into teams that come up with business ideas in six areas: epost, ecommerce, mobility, direct marketing, online banking, and document management. Of all the ideas generated last year, 26 were selected as finalists by a jury of experts and three chosen for full-fledged testing in 2016.³⁷ Australia Post introduced “hack days” — internal brainstorming sessions aimed at coming up with a concept and putting it into working form within 24 hours.³⁸

³⁵ In addition, the White House in 2014 issued an executive order to “ensure that all agencies making personal data accessible to citizens through digital applications require the use of multiple factors of authentication and an effective identity proofing process.” White House, *Executive Order --Improving the Security of Consumer Financial Transactions*, October 17, 2014, <https://www.whitehouse.gov/the-press-office/2014/10/17/executive-order-improving-security-consumer-financial-transactions>. See also OIG, *Government as a Postal Customer and Partner: International Round Table Recap*, Report No. RARC-IB-14-003-DR, August 11, 2014, <https://www.uspsaig.gov/document/government-postal-customer-and-partner-international-round-table-recap>.

³⁶ “What is Open Innovation,” *Openinnovation.eu*, <http://www.openinnovation.eu/open-innovation/>.

³⁷ Swiss Post also has a traditional internal suggestions program, PostIdeas. 1,500 ideas are proposed every year through this channel. “Il n’y a pas de mauvaises idées,” *Swiss Post employee magazine*, <http://mobile.journaldupersonnel.poste.ch/fr/dialogue/sondage-du-mois/il-n-y-a-pas-de-mauvaises-idees-199673>.

³⁸ N. Cameron, “How Australia Post’s IT and marketing chiefs lead digital change – together”, *CMO Australia*, July 30, 2015, <http://www.cmo.com.au/article/580811>

The Postal Service has an internal innovations program called eIDEAS. Employees can contribute ideas that will improve “customer satisfaction, generate revenue, improve safety, increase productivity, reduce costs, and increase [USPS] viability in the marketplace.”³⁹ However, recommendations related to “non-Postal Service programs or activities” are not eligible. That means employees are only permitted to brainstorm within existing lines of business, preventing truly transformational ideas.

External Innovation

In addition to developing in-house ideas for new services and processes, posts have always sourced ideas from consulting firms and technology partners. When it comes to disruptive technologies or business models, however, posts increasingly feel the need to reach out to new types of agile innovators, many of them startups. Engaging the assistance of newborn startups often calls for specialized forms of partnership, such as incubators and accelerators, that involve a trade of mentorship for intellectual property.⁴⁰

Such collaboration allows startups to benefit from a post’s know-how, infrastructure, and network. Posts get a unique opportunity to identify best-in-class innovators early, help shape the startup’s output, and test their services in a “real life” environment. (Examples of posts’ external innovation programs are shown in [Appendix C](#).) In 2014-15 La Poste supported 65 companies in areas as diverse as 3D-printing, big data analytics, peer-to-peer platforms, and services for the ageing.⁴¹

Incubators and accelerators are not the only examples of collaborative innovation research implemented by posts. Other outreach programs include

- *Hackathons* – gatherings where developers work collaboratively over 1 or 2 days to develop new applications often based on postal datasets.
- *Information-sharing workshops and seminars*, such as Deutsche Post DHL’s Innovation Days.⁴²
- *Innovation Centers*. Deutsche Post DHL was a postal pioneer in the creation of dedicated innovation centers, first in Germany and, since 2015, in Asia.⁴³
- *Venture capital units*, such as La Poste’s Xange Private Equity joint venture.

Effective collaboration with startups involves a learning curve, given all of the cultural differences between them and posts. For example, startups do not have the means or the time to go through the long onboarding process that most posts require. Many posts, including the Postal Service, are also bound to comply with strict rules on procurement, non-disclosure agreements, and intellectual property rights that limit the scope of collaborations.⁴⁴

[how-australia-post-it-marketing-chiefs-lead-digital-change-together/?pp=2](http://www.usps.com/innovation/2015/01/20/how-australia-post-it-marketing-chiefs-lead-digital-change-together/?pp=2).

39 U.S. Postal Service, eIDEAS program, https://about.usps.com/manuals/elm/html/elmc6_015.htm.

40 Accelerator programs tend to be shorter than incubators and typically involve funding in exchange for equity.

41 “18 mois plus tard, l’accélérateur Start’inPost a-t-il atteint ses objectifs?,” *Frenchweb.fr*, December 3, 2015, <http://www.frenchweb.fr/18-mois-plus-tard-laccelerateur-startinpost-a-t-il-atteint-ses-objectifs/215591>. In addition, La Poste has created the Internet of Things Initiative, in which selected Internet of Things companies are given international visibility, for example, through participation in national and international industry events such as the Consumer Electronics Show.

42 In addition, DHL in 2010 began a community innovation model that features several levels of partners: DHL Global Innovation Partners (able to develop joint innovation with DHL on a global level), DHL Technology Providers (provide technology know-how in a specific area of logistics), Industry Partners (industry sector players providing inputs on their requirements), and Research Partners (who help identify trends and innovative developments, for example, consultants or academics.) K. Ulrich, “DHL Open Innovation; Program for the Development, Deployment and Promotion of Innovative Solutions in Logistics,” in M. Hülsmann and Pfeffermann, *Strategies and Communications for Innovations*, (Springer; 2011), chapter 20.

43 “New DHL Asia Pacific Innovation Center in Singapore develops game-changing logistics solutions and promotes collaborative innovation in the region,” Press Release, DHL, September 12, 2015, http://www.dhl.com/en/press/releases/releases_2015/logistics/new_dhl_asia_pacific_innovation_center_in_singapore.html.

44 Speaking on March 14, 2016 at a PIP/OIG Roundtable “Injecting Innovation into Large Organizations,” USPS Chief Marketing Officer Jim Cochrane mentioned these constraints, but also insisted that the Postal Service has already collaborated with external innovators including printers, workshare partners, software providers, and academic institutions like Carnegie Mellon and MIT.

Digital Support Services Are Increasingly Bundled into Integrated Solutions

The integration of individual e-services into a multi-service platform enables posts to give customers seamless access to more than one service within the same online transaction — and therefore cross-sell them. Service integration has other advantages too:

- Expanding access to more customers. PC Postage, which allows shippers to print postage using only a web connection, was an early democratizer of postal access. As e-commerce grew, posts turned to the integration of their shipping and payment solutions with e-merchants and e-commerce service providers to generate a network effect that would grow and protect market share. Posts like Royal Mail have integrated with Chinese e-commerce platforms to grow cross-border parcel flows. One novel service, tested in Germany by La Poste subsidiary DPD, embeds DPD's delivery functions into the in-store software of local retailers; if a customer does not want to carry out an item, the cashier can schedule same-day delivery with the push of a cash register button.⁴⁵
- Improving customer experience. Integration of a post's customer-facing systems (online, mobile, social media) improves customer interaction with the post across multiple platforms. For example, Australia Post consolidated its IT systems to create a single customer record — enabling it to know who a customer is when they come into a post office or when they interact through any digital channels.
- Simplifying the selling process for e-merchants. Integrating multiple services into a single platform allows shippers to manage data from order to delivery, including order management, warehousing and fulfilment, production of shipping labels or customs documentation, scheduling pickups, tracking of parcels, and management of returns. Many posts link their IT systems with those of ecommerce solutions sellers, whose software is then used by e-merchants; customers of those e-merchants are then given the option to ship through that post. Royal Mail is one of the posts cutting out the middleman entirely by acquiring ecommerce solutions companies.⁴⁶

The increased use of application programming interfaces (APIs) has greatly assisted integration with partners' systems. A number of posts, including the Postal Service with its Web Tools API Portal, make shipping APIs readily available to third-party developers and e-merchants.⁴⁷ While most APIs relate to shipping or addressing, some international posts also use them to extend the reach of their payment solutions, electronic mail, or hybrid mail solutions.⁴⁸

45 "Same-day delivery for high-street retailers," *DPD*, February 22, 2016, https://www.dpd.com/de_en/home/ueber_dpd/presse_center/presse_mitteilungen/en/press_releases/same_day_delivery_for_high_street_retailers_dpd_germany_tiramizoo_and_poe_present_innovative_check_out_integration.

46 Since the beginning of 2015, Royal Mail has invested in e-commerce software companies Store Feeder, MailZee, Market Engine Global, NetDispatch, and Intersoft.

47 The Postal Service has APIs for applications such as labeling, tracking, parcel pickups, price calculation, service standard calculator, address verification, USPS location finder, and ZIP code lookup. *Webtools API portal*, <https://www.usps.com/business/web-tools-apis/welcome.htm>.

48 International examples of postal APIs other than shipping and addressing include Australia Post's online payment API, New Zealand Post's Connect electronic mail management API, and Deutsche Post's ePost hybrid mail and secure email API.

The Building Blocks of a Future Digital Innovation Strategy for the Postal Service

The Four Building Blocks

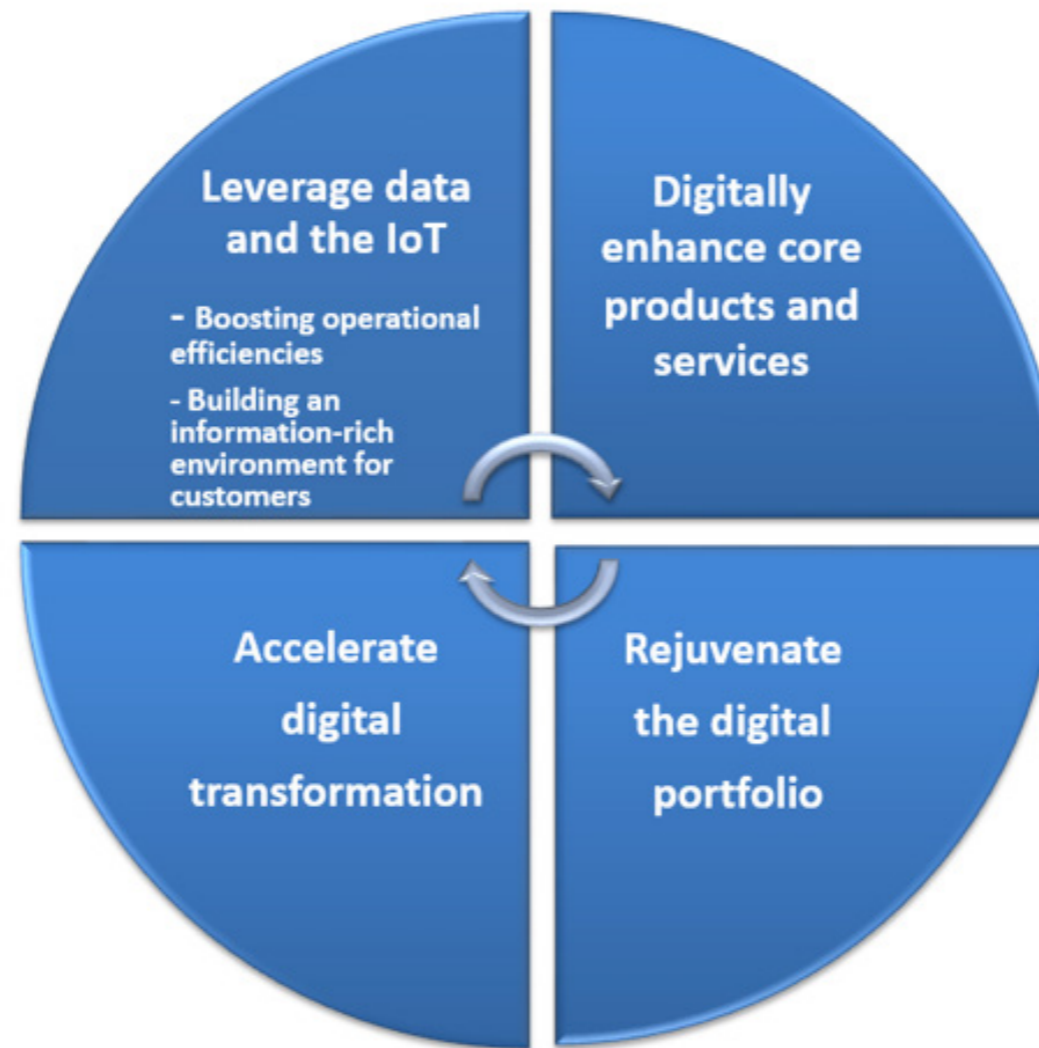
The Postal Service has made strides in its use of digital. It needs to continue to move forward along the waves of innovation to strengthen its positioning in an increasingly electronic market. A strong digital strategy is essential because

- Digital is driving competition in the delivery market. The combination of algorithms, geolocation, and data analytics is not only enabling the rise of nimble and asset-free companies like Postmates and Uber, but is also helping established providers like UPS and Fedex optimize and automate their logistics supply chains.
- Digital will help the mail channel stay relevant. The integration of digital features into the physical mail piece (e.g. QR codes or augmented reality) can help generate new volumes by enhancing the value of the mail, improving response rates, and providing useful customer data.
- Customers have grown accustomed to the immediacy and convenience of digital and mobile channels. They expect multi-channel access to postal services and control over the delivery experience.
- There are areas in the digital space where USPS can bring an additional level of security, reliability, and convenience to electronic communication and transactions, enhancing people's access to the digital economy.

In this context, digital innovation and transformation become an imperative, and despite the limitations it is facing, there is a lot the Postal Service can do within the current restrictive regulatory framework.

To capture these opportunities, a balanced digital strategy could focus on four building blocks:

Figure 5: The Four Building Blocks of Digital Innovation



Source: OIG.

The following sections describe these four building blocks, also building on previous OIG research.

Leverage Data and the Internet of Things: Boosting Operational Efficiency

Strengthen Real-time Control and Optimization of the Delivery Value Chain

Real-time control over the postal infrastructure and real-time response to inputs are capabilities that the Postal Service needs to fortify. Installing sensors on vehicles to collect data on traffic and road conditions could support real-time route optimization and dynamic re-routing. Improved scanning technologies, combined with data management and sharing software, could help the Postal Service provide its customers with real-time visibility over their mail and parcels.

Foster New Dynamic Forms of Collaboration

Sensor-based data could also be a way to extract value from underused components of the postal infrastructure. For example, the ability to predict when postal vehicles will have empty capacity, and report that information in real-time, could be combined with information about the vehicle route to optimize space in vehicles that increasingly contain unpredictable parcel loads. This data could also be made available to other carriers or retail stores (through an app for example), which could then rent the available space. Such consolidation would reduce the number of half-empty delivery trucks in crowded urban centers. The same space-filling model could be applied to postal facilities, where empty shelves could be rented out to ecommerce providers to store their merchandise.

Generate Savings and Efficiencies in Fleet and Building Management

Applied to postal vehicles, sensors can monitor vehicle condition and performance data to help schedule preventative maintenance. Applied to postal buildings, such as processing centers, monitoring of temperature or HVAC systems can help reduce energy costs, detect defects, and decrease maintenance costs.

Promote New Forms of Supply Chain Automation

The HP Instant Ink cartridge replacement system and the Amazon Dash Button are powerful examples of how a retail product can morph into a fulfillment service in the modern economy.⁴⁹ In the case of HP, owners of HP printers are automatically mailed ink cartridges when sensors in the printer detect that ink levels are low. Customers pay a monthly fee based on the number of sheets printed, as captured by the printer. As new automated supply chains develop, the Postal Service will need to ensure it remains central to supply chain fulfillment.

Leverage Data and the Internet of Things: Building an Information-Rich Environment for Customers

Develop Information Feedback Loops for Mailers

Data that provide insights on customer behavior and preferences are essential for commercial mailers, as they help improve targeting, service quality, and personalization.

Although advertising mail has strengths, particularly its tangibility, it is limited in its ability to function as a two-way communications link between recipients and mailers, especially when compared to digital advertising. A digital feedback loop built into hard copy mail can reduce this weakness. As part of this loop, mailers place a code or symbol on advertising mail pieces. Recipients are rewarded for scanning the code with their smartphone and providing feedback. Mailers can use the feedback to tailor ads more precisely, increasing future response rates.⁵⁰ The recent pilot of a political mail dashboard by the Postal Service, called “Deliver the Win,” is one example of how more data can help commercial mailers personalize mail and better coordinate their omni-channel marketing campaigns.⁵¹

Provide Recipients with Greater Control over the Delivery Experience

Recipients have strongly taken to knowing the delivery status of their parcels and being able to customize the delivery experience according to their needs. The ability to meet these expectations is becoming a key differentiator between delivery companies. For years, the Postal Service has been committed to providing greater visibility into mail and parcels. The MyUSPS parcel tracking,

49 Amazon's Dash Button allows shoppers to reorder frequently-used domestic products like laundry detergent with the click of a button.

50 OIG, *Strengthening Advertising mail by Building a Digital Information Market*, December 11, 2013, https://www.uspsaig.gov/sites/default/files/document-library/files/2015/rarc-wp-14-002_0.pdf.

51 The dashboard puts political mail tracing data into a user-friendly mapping interface. In particular, it maps out mail pieces from different origin locations and the percentage delivered in each ZIP code. Information can be sorted by state, county, or congressional district.

shipping manager, and Informed Delivery — which provides digital images of mail pieces before physical delivery — are aimed at enhancing visibility and control. Nevertheless, these tools are not yet fully designed as two-way information flows through which recipients can act upon the information or express their future preferences.⁵²

The next step would be expanding MyUSPS for it to become an interface for recipients to manage their “personal logistics network” by tailoring time and delivery location to their needs, indicating the type of direct mail they would like to receive, communicating with carriers in real time, and getting customer assistance. The Postal Service plans to extend its new Informed Delivery service from a one-way information medium to an interactive tool that allows recipients to click on a direct mail piece and be sent to the vendor’s website.

Modernize Addressing

The Postal Service’s addressing system is another traditional postal asset that would benefit from being linked to its digital equivalent. Bridging users’ emails with their physical address could facilitate multi-channel mailing campaigns, protect people’s identity, and prevent mail loss due to change of address.⁵³ The upcoming USPS “Intelligent Addressing” pilot is a step in this direction, as it will allow direct mailers to send physical mail to a person using their email address on the envelope in cases where the delivery address is not available. The next step could be turning addressing into a dynamic concept. An address would be associated with a person, not a place, so a delivery could be made to wherever the person is located at that moment by using GPS.

MyUSPS could serve as the enabling online platform by providing users the ability to constantly update their delivery location or preferred delivery address. This would allow USPS to address the growing need for “anytime, anywhere” delivery, especially for ecommerce purchases. In the future, the Internet of Things could add a real-time dimension to addresses to enable premium services like 1-2 hour delivery. For example, the address could be associated with a GPS location that the customer communicates via mobile to the carrier. The Postal service could provide this special addressing and delivery service for a fee.

Increase Integration with Third Party Systems through APIs

Integrating customers and partners more deeply into the postal ecosystem is critical to the development of further cost efficiencies, competitive advantages, and customer value. It expands the reach of the Postal Service by selling postal products and services through third parties. APIs are crucial to integrating the Postal Service’s multiple and complex IT and operational systems with those of external partners.

The use of Postal Service APIs has indeed increased by 70 percent in the past year. More than 70,000 businesses are using them to access USPS tracking data through shopping carts or shipping software.⁵⁴ USPS is also introducing new APIs, for example, to help direct mailers locate and select suitable routes for their campaigns.⁵⁵

The Postal Service needs to continue opening up postal datasets through APIs and actively market its APIs to third-party vendors and e-merchants. In the future, it could also use APIs to share “non-postal” data, such as data on local environmental conditions that postal vehicles could collect through Internet of Things sensor technology.

⁵² An example of a two-way information flow already implemented is the ability for parcel recipients to provide delivery instructions on certain packages or to request redeliveries, if needed.

⁵³ The OIG also suggested the creation of an eMailBox, an electronic mailbox/address creating a one-to-one link to a physical address to help ensure participants’ identities and prevent mail loss due to change of address. OIG, *eMailbox and eLockbox: Opportunities for the Postal Service*, November 14, 2011, https://www.uspsoidg.gov/sites/default/files/document-library-files/2015/rarc-wp-12-003_0.pdf.

⁵⁴ Robert Dixon, “Web Services and Post Office Anywhere”; Presentation to the 2016 National Postal Forum, March 14, 2016 and Robert Dixon and Doug McGrath, interview with the author, February 9, 2016.

⁵⁵ This API is targeting the users of the Every Door Direct Mail (EDDM) service.

Digitally Enhance Core Products and Services

Expand Mobile Access to Services

The Postal Service needs to provide a unified user experience across channels of access (web site, mobile apps, third-party shipping apps) and make a broader set of services available through apps. Americans' time spent on mobile devices has risen by 65 percent since 2013 and now makes up two-thirds of all time spent with digital media.⁵⁶ The addition of new capabilities to the USPS Mobile platform, such as access to the Change of Address service, is a step towards building a stronger mobile presence.⁵⁷ Apps to manage pickups, returns, and mail creation should also become part of the portfolio.

Use Digital to Enhance the Value of Mail

Adding a digital layer to mail can enhance its value by increasing customer engagement and response. Features like QR codes, augmented reality, and near-field communication allow recipients to access an advertiser's products, services, or information using the mailpiece and their smartphone.⁵⁸ The Postal Service already offers a discount to mailers who do this, through its "Emerging and advanced technology/video in print promotion." Keeping up with emerging technologies that could enhance the value of mail, like virtual reality, will be essential to keep the mail channel relevant.

Digitize Money Orders and Revamp International Electronic Money Transfers

As already noted, it is in digital financial services that the Postal Service is weakest compared to other posts. If it chose to pursue those opportunities more aggressively, there are several ways it could digitize financial services. It could sell paper money orders through its website and mobile app, rather than exclusively at retail locations. It could introduce a fully-electronic money order to allow customers to pay bills, make person-to-person payments, or make ecommerce purchases. It could also create a reloadable Postal Service Card that could be used to send or receive domestic and international money transfers.⁵⁹

The Postal Service could also consider revamping its international money transfer business. Dinero Seguro (also known as Sure Money), USPS' international electronic money transfer service to select Latin American countries, is not well positioned to capitalize on the growth of the international remittances market. The Postal Service could modernize it by providing new forms of prepaid card and mobile-based money transfers and expand it to a wider number of countries by, for example, joining the UPU's International Financial System (IFS), a platform that enables secure money transfers through posts globally.⁶⁰

Digitally Connect the Mailbox

The digitization of a pure physical component of the postal infrastructure like the mailbox could open up an entirely new range of services. A digitized (and larger, to accommodate parcels) mailbox incorporating a variety of sensors would collect and transmit both postal and non-postal data, such as mail delivery and pick up time, temperature, and data on the external environment. Data about when customers cleared their mailbox would certainly be of interest to direct mailers.⁶¹ The collection of environmental data could benefit local governments' smart city initiatives. Additional smart features could include a locking mechanism and a

56 ComScore, *Cross-Platform Future in Focus* 2016, March 2016, <https://www.comscore.com/Insights/Presentations-and-Whitepapers/2016/2016-US-Cross-Platform-Future-in-Focus>, slides 5 and 6.

57 The OIG also suggested new mobile apps, such as coupon collection or mobile bill pay.

58 To participate in the promotion, the mailpiece must incorporate standard near-field communication technology, Video in Print (ViP), beacon technology, or an "enhanced" augmented reality. OIG, *Enhancing Mail for Digital Natives*, Report No. RARC-WP-14-001, November 18, 2013, https://www.uspsoid.gov/sites/default/files/document-library-files/2015/rarc-wp-14-001_enhancing_mail_for_digital_natives_0.pdf.

59 PRC approval would be required as these would be new offerings. OIG, *The Road Ahead for Postal Financial Services*, Report No. RARC WP-15-011, May 25, 2015, https://www.uspsoid.gov/sites/default/files/document-library-files/2015/rarc-wp-15-011_0.pdf and OIG, *Modernizing the Postal Money Order*, Report No. RARC WP-16-007, April 4, 2016, <https://www.uspsoid.gov/sites/default/files/document-library-files/2016/RARC-WP-16-007.pdf>.

60 OIG, *The Road Ahead for Postal Financial Services*, Report No. RARC-WP-15-011, May 21, 2015.

61 OIG, *The Internet of Postal Things*, Report No. RARC-WP-15-013, August 3, 2015, https://www.uspsoid.gov/sites/default/files/document-library-files/2015/rarc-wp-15-011_0.pdf.

temperature control system managed remotely through an app. This could pave the way for the delivery of temperature-controlled goods like food and medicine. USPS could generate new revenue through the sale or rental of the smart mailbox.

Rejuvenate the Digital Portfolio

Revamp and Expand the Hybrid Mail Program

Hybrid Mail, by providing an online interface to digitally create, print, and deliver a mail campaign, simplifies the sending of mail, especially for small businesses with limited time and resources. The Postal Service created a program to offer hybrid mail through affiliate partners. These providers are accessible through the USPS website, and for each customer who accesses their site through USPS.com, the Postal Service receives an affiliate fee on the purchase. The program, which currently includes a limited number of providers, could be expanded by opening it up to all those providers that meet the quality criteria and other operational requirements established by the Postal Service. The program would also benefit from additional marketing to increase its visibility. The more the service is used, the more volume and revenue for the Postal Service. Finally, USPS could promote the integration of its Every Door Direct Mail app into the systems of all hybrid mail providers through an API, making it easier for small mailers to create unaddressed mail campaigns.

Identify New Uses for the Electronic PostMark (EPM)

The EPM is the digital equivalent of the traditional time/date postmarking of an envelope. EPM protects the integrity of electronic transactions by authenticating sender and recipient and securing message delivery and data veracity.

While the Postal Service has not fully benefited from EPM's commercialization (it only licensed its use to a few providers), it still has significant expertise on the technology and holds patents for an EPM. Unlike European posts, USPS, under the PAEA, cannot combine EPM with a postal electronic mailbox — a non-postal service — to directly provide secure electronic communications.⁶² Nevertheless, there are other options to monetize EPM:

- As the backbone of a certified email service provided by others, similar to what the Italian Post does.⁶³
- As part of secure solutions for industries where there is a strong need to guarantee the authenticity of the sender, the certainty of the date and the integrity of the records, such as real estate, healthcare, and insurance.⁶⁴
- To support and add value to the Postal Service's international supply chain.

The last application could be particularly innovative and meet a growing market need. A 2016 OECD study confirmed that counterfeit and pirated goods represent 2.5 percent of international trade and that 62 percent of all seized goods were shipped through the postal channel.⁶⁵ In cooperation with the Department of Homeland Security, foreign posts, and global ecommerce platforms, the Postal Service could initiate the development of an EPM-based supply chain assurance platform. On this platform would sit a “certified trust chain” — a chain of electronic records containing information about the pedigree and origin of products. Each link in the supply chain — manufacturer, exporter, carrier, customs, and importers — would provide Certificates of Origin that would be verified by the Postal Service using EPM.

⁶² The Postal Service cannot under the PAEA offer non-postal services such as the electronic mailbox. Although the Postal Service may conduct market tests of experimental products, the law sets out restrictive conditions. For example, experimental products should not “create an unfair or otherwise inappropriate competitive advantage for the Postal Service or any mailer” (39 U.S.C. 3641(b)(2)).

⁶³ For a description of Poste Italiane's digital certification services, see “Posta elettronica certificata” *Poste Italiane*, <http://postecert.poste.it/aboutpostecom.shtml>.

⁶⁴ USPS memo to the OIG, January 21, 2016 and USPS “Digital Solutions” presentation, January 2016.

⁶⁵ OECD, *Trade in Counterfeit and Pirated Goods - Mapping the Economic Impact*, April 18, 2016, <http://www.oecd.org/gov/risk/trade-in-counterfeit-and-pirated-goods-9789264252653-en.htm>, p.5 and p.56.

This system would be applied to inbound international ecommerce parcels. Priority would be given to parcel flows from large-volume countries like China and categories of goods, such as luxury goods and medicines, where the level of counterfeiting is high. The Postal Service could operate the platform itself or simply license EPM to a third party.

Expand Identity Services for Government and Customers

The Postal Service is the de facto custodian of a large underutilized asset — a database of verified identities. A number of USPS services already require ID proofing, including passport application, P.O. Box rental, MyUSPS.com accounts, and Premium Forwarding Service — Residential. Existing ID verification capabilities could be repurposed as the centerpiece of user-centric online identity services in addition to those currently offered by the Postal Service as part of its USPS Connect program.⁶⁶ One such service is a personal data store (PDS) (Box 2), which could itself generate new services.

Other uses of a verified ID could include:

- **Ecommerce:** Provide e-merchants a high degree of assurance that e-shoppers are legitimate, thereby reducing fraud. The application would even more useful in support of peer-to-peer commerce.⁶⁷
- **E-government services:** Interacting with local governments to apply for services, such as permit applications or paying parking tickets.⁶⁸

To further extend the reach and value of the verified ID database, the Postal Service could also offer it as an API so businesses and governments could reuse it in their own software applications. A Postal Service PDS would help protect the ecommerce business line, contribute to the public service mission, and generate incremental revenue.

Accelerate Digital Transformation

Improve Internal Innovation Management

Currently, the Postal Service's digital innovation seems to be fragmented across several groups: Secure Digital Solutions, New Products and Innovations, and Strategic Planning (DRIVE initiatives). This is in contrast with what innovative peers like Swiss Post and Australia Post are doing; each has centralized their innovation function into one large department that is constantly coordinating with the different business units to capture and respond to their needs.⁶⁹ Others, like France's La Poste, have separated physical and digital innovation by creating a separate digital business unit.

Box 2: Personal Data Stores

A personal data store (PDS) enables individuals to securely gather, store, update, correct, analyze and share personal data. Individuals have the ability to grant and withdraw consent to third parties to access their personal data.

The PDS would be managed by the post but fully controlled by the user. This approach differs from the traditional model where personal data is gathered and stored by organizations and companies internally, with limited or no access and control from the user.

A PDS could provide significant benefits in terms of consumer trust, increased privacy and security, and convenience in accessing public and private services that require authentication.

66 The Postal Service has already announced plans to integrate identity verification services with more of its existing services, such as the Change of Address service, parcel terminals (Gopost), or the Hold-Mail service. It is also looking to market the in-person proofing service to other government agencies.

67 As argued by the OIG in a 2013 White Paper, an identity service would be particularly helpful in peer-to-peer markets to satisfy buyers and sellers that the other party is legitimate. OIG, *Peer-to-Peer Commerce and the Role of the Postal Service*, Report No. RARC WP-13-005, January 14, 2013, <https://www.uspsoidg.gov/sites/default/files/document-library/2013/rarc-wp-13-005.pdf>.

68 This strategy has been successfully implemented by Canada Post in large municipalities like Toronto. A 2014 round table co-organized by the OIG and the Postal Innovation Platform also discussed e-government opportunities. OIG, *Government as a Postal Customer and Partner: International Round Table Recap*, Report No. RARC-IB-14-003-DR, August 11, 2014, <https://www.uspsoidg.gov/document/government-postal-customer-and-partner-international-round-table-recap>.

69 Swiss Post, 2014 Annual Report, Development & Innovation, 2015, <https://www.post.ch/-/media/post/ueber-uns/dokumente/jahresbericht-2014-entwicklung-und-innovation-post.pdf?la=en> and N. Cameron, "Making digital a new way of innovating at Australia Post", CMO Australia, March 8, 2016.

An additional approach to innovation management that could fit the Postal Service's structure is the bi-modal IT suggested by Gartner. According to their model, companies should split IT capabilities and innovation according to the nature of what they do.⁷⁰ Traditional IT (Type 1) ensures stability by maintaining and modernizing legacy systems. Innovative IT (Type 2) focuses on experimentation and the creation of new products, services, and processes. This design requires an agile group tightly aligned with business units and capable of a quick turnaround on new applications.⁷¹

A common element to all these different models is their reliance on initiatives that promote a bottom-up approach to internal innovation and reward employees through recognition and ownership of the implementation of their ideas. The Postal Service should look into all of these different models to make sure their own reflects current best practices.

External Innovation

The Postal Service should strengthen its ability to monitor and capture the innovation that happens both inside and outside the postal world, generated both by traditional and non-traditional organizations. Beyond the established IT and consulting companies, large postal operators and private-sector providers, innovation, especially in digital, often comes from non-traditional sources like startups. To be able to open up to these new innovation sources, the Postal Service should first develop a culture that favors collaboration with non-traditional innovators, as well as adjust, wherever possible, its procurement process to accommodate them.

Akin to its international peers, the Postal Service could set up annual "Innovation Days," perhaps built around specific themes or aimed at solving specific postal problems. In May 2016, USPS organized a Product Pitching Event to help its small business customers innovate. In the future, similar initiatives could be organized for innovators to pitch new digital solutions to the Postal Service itself. Finally, USPS should strengthen collaboration with academic centers that are researching and experimenting with postal-related technologies such as drones, driverless vehicles, smart cities and city logistics, the Internet of Things, or 3D printing.

⁷⁰ IT Glossary, *Gartner*, <http://www.gartner.com/it-glossary/bimodal>.

⁷¹ BCG has suggested a variant of this model, called "two-speed IT," where the higher, "digital-speed" IT is characterized by unpredictability and places a premium on flexibility, speed, and collaboration. A. Gourevitch et. al., "Two-Speed IT: A Linchpin for Success in a Digitized World," *BCG Perspectives*, August 1, 2012, https://www.bcgperspectives.com/content/articles/it_performance_it_strategy_two_speed_it/.

Conclusion

Digital disruption is the new normal. At the same time, digital innovations are helping to keep mail vibrant and ecommerce deliveries efficient and user-centric. When it comes to digital revenue, however, virtually no postal operator has been able to pull in enough to compensate for the lost revenue from mail decline.

Over the past 2 decades, regulatory, financial, and organizational constraints have often stifled innovative Postal Service projects in the digital space. Postmasters General have primarily focused on digital innovations that support and enhance the core business. But even in this constrained environment, there is room for the Postal Service to increase its use of data to optimize operations and build a more data-rich environment for its customers. It can also speed up the digitization of its “physical” products and rejuvenate its limited portfolio of purely digital services, such as hybrid mail or electronic international remittances.

However, as shown by the best practices of foreign posts, digital transformation goes beyond the modernization of products. Updating innovation management processes, giving innovation departments a more prominent role in the organization, and developing meaningful collaboration with external innovators are all key improvement areas. Results can be measured in terms of shorter time-to-market, brand image, more demand for its products and services, and, ultimately, profitability.

Appendices

*Click on the appendix title
to the right to navigate to
the section content*

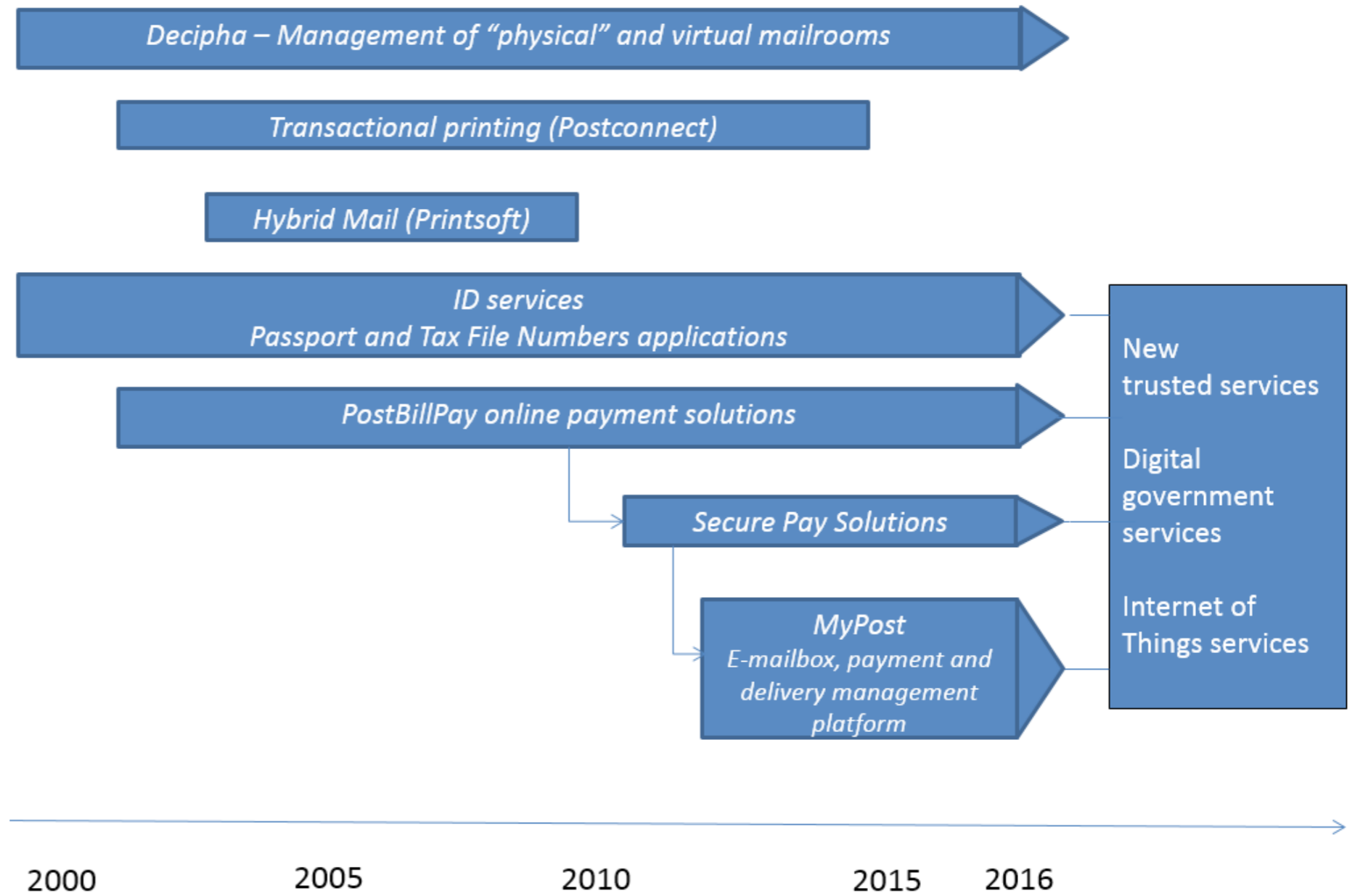
Appendix A: Examples of Early, Unsuccessful Revenue-Generating Digital Services From the Postal Service.....	29
Appendix B: Australia Post Experiments With Revenue-Generating Digital Innovation.....	30
Appendix C: Examples of Posts' External Innovation Programs.....	31
Appendix D: List of Interviews and Meetings with Stakeholders.....	32
Appendix E: Select List of References.....	33
Appendix F: Management's Comments.....	36

Appendix A: Examples of Early, Unsuccessful Revenue- Generating Digital Services From the Postal Service

Initiative	Description	Intended customers	Creation date	Closure date	Reason for closure
eCOM (Electronic Computer Originated Mail)	Allow business mailers across the United States to transmit messages from their own computers, for remote printing and delivery within two days.	Businesses	1982	1985	Financial and regulatory
Web Interactive Network of Government Services (WINGS)	Website, also available via self-service kiosks in public locations, that offered integrated government services (e.g. vehicle registration, birth certificate copies).	Anyone accessing government services	1995	1998	Lack of resources
Remitco	Processing of remittance documents: opening return envelopes and extracting bill payments through OCR technologies, processing the checks and depositing them into business recipients' bank accounts, and electronically transmitting remittance records.	Utilities and credit card companies (Piloted with American Express incoming payments)	1997	1999	Financial
Electronic Postmark (EPM)	Creates a secure electronic time and date stamp for electronic communications and provides evidence of any tampering.	Financial, legal, medical, governmental, and educational organizations	2000	2010	New EPM strategy
ePayments	Provides bill transmission and payment services between businesses and consumers, between businesses, and consumer-to-consumer.	Consumers and businesses	2000	2004	External opposition
NetPost Mailing Online	Hybrid mail enabler that facilitated electronic transmission of documents and mailing lists to USPS, which then passed the files to printing contractors.	Small office and home office customers	2000	2003	Internal opposition Hybrid mail was relaunched later through partners.
PostECS	Provides secure messaging using SSL protocol. Service also provided in Canada and France via collaboration with Canada Post and La Poste.	Businesses	2000	2002	Lack of consumer interest
NetPost Certified	Provides secure electronic delivery of documents to other government agencies. Certified electronic receipt serves as proof of filing.	Any organization that files forms with the government	2001	2004	Technical problems

Source: OIG analysis based on interviews with experts involved in the development of these services.

Appendix B: Australia Post Experiments With Revenue-Generating Digital Innovation



Source: OIG analysis.

Appendix C: Examples of Posts’ External Innovation Programs

	Goals	Partners	Activities
Australia Post	“Identify new opportunities and emerging, disruptive ecommerce businesses that we can accelerate.”	University of Melbourne’s Melbourne Accelerator program (MAP) + creation of an investment fund of A\$20 million to invest in innovative ecommerce businesses	Selected startups will receive funding, office space, mentoring, and access to local and international contacts.
La Poste	Start ‘inPost accelerator is a 1-year program to support startups active in La Poste’s growth areas: B2B ecommerce, local logistics, Internet of Things, e-health and services for the aging, and digital trust services (secure ID, archiving, payment solutions).	Start ‘inPost is part of La Poste’s Digital business unit	Mentoring, assistance with business tests, strategy, and operations. Support is free but La Poste reserves the right to take a minority share in the company.
Poste Italiane	Identify, screen, test and, innovative solutions applicable to the Italian Post Office business.	Digital Magics (Italian incubator)	Creation of Poste Italiane’s Open Innovation Campus in Rome.
Swiss Post	PostVenture: identify and select new business ideas proposed by employees and external stakeholders.	Venturelab accelerator, part of the Swiss Institute for Young Entrepreneurs	Selected entrepreneurs are asked to create a prototype and develop a business plan. They have access to initial funding, Swiss Post’s experts and network, mentoring, and active supervision. Startup retains IPR. Outcomes include partnership or commercialization of new product by Swiss Post.
Polish Post	“Looking for innovative companies that could complement our offer and increase effectiveness of our services.”	Polish Industrial Development Agency D-RAFT (helps companies work with startups)	Launched an external innovation site https://synergia.poczta-polska.pl/en/home-page .
DPD UK (Groupe La Poste subsidiary)	Last Mile Lab program: identify and support innovators in digital technologies that could shape the future of delivery (delivery experience, real time vehicle/customer interaction, data analytics).	Technology investment fund L Marks	Selected teams receive mentoring from industry entrepreneurs, access to DPD parcel data, and initial funding. Annual budget is about \$5 million.
FedEx	Since 2014: Provides financial support to a logistics accelerator in Memphis EPIcenter. Since 2003: Helped create FedEx Institute of Technology, a research center and small business incubator, to bridge the gap between industry and academic research.	The Entrepreneurship-Powered Innovation (EPI) Center aims at supporting local innovative startups. The Institute is part of the University of Memphis and also receives support from state, county, and city.	Mentoring, accelerator and incubator programs, networking, and investment. Research topics include cybersecurity, robotics, autonomous vehicles, and drones. Close relationship with FedEx innovation teams.

Source: OIG analysis.

Appendix D: List of Interviews and Meetings with Stakeholders

Interviews conducted

Name	Company	Date
Brody Buhler	Accenture	January 26, 2016
Chuck Chamberlain	Consultant	January 6 and 29, 2016
Jason Curtis and Dan Curtis	ePostmarks	January 15, 2016
Robert Dixon and Doug J. Magrath, Jr	U.S. Postal Service (Product Technology Innovations)	February 9, 2016
Lee Garvey	Click2Mail	January 4, 2016
Rob Holmes	New Zealand Post	February 1, 2016
Kerry Munro	Formerly with Canada Post	February 12, 2016
Robert A.F. Reisner	PwC Public Sector Practice	January 7, 2016
Carl Rigoni	Australia Post	February 10, 2016
Cathy Rogerson	IBM, formerly with USPS	January 19, 2016

External speakers at OIG workshop “Postal Digital Transformation – The State of the Art, Upcoming Trends, and Future Strategies,” October 16, 2015

Name	Company
Adrian King	Strategia Group
Paul Donohoe and Daniel Nieto	International Bureau of the Universal Postal Union
Thomas Dohrmann	McKinsey
Meghan Cook	University of Albany, Center for Technology in Government
Emil Dzuray	U.S. Postal Service, Strategic Planning
Gregory Crabb	U.S. Postal Service, Corporate Information Security Office and Secure Digital Solutions
Olaf Klargaard	La Poste, Digital Unit

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Appendix F: Management's Comments

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ACTING CHIEF INFORMATION SECURITY OFFICER
AND DIGITAL SOLUTIONS VICE PRESIDENT



July 15, 2016

RENEE SHEEHY
DIRECTOR, RARC CENTRAL
RISK ANALYSIS RESEARCH CENTER

SUBJECT: Riding the Waves of Postal Digital Innovation (Report Number RARC-WP-16-XXX)

Thank you for the opportunity to respond to the June 30 final review draft of the white paper *Riding the Waves of Postal Digital Innovation*. Clearly, management is in agreement with the four building blocks identified in the white paper. We also agree, as the white paper suggests, that the Postal Service is already very active in all of these areas. Management also asserts that we will continue in our efforts to maximize our presence in the digital realm and avail ourselves of all appropriate opportunities consistent with our business interests and applicable laws and regulations. The Postal Service believes that innovation takes many forms. As an organization, we embrace collaboration with industry partners, the creation of new digital products and services, and innovative ideas to drive change, reduce costs, and add value for our customers.

The Postal Service strives to promote a culture of innovation to remain competitive in a dynamic marketplace and where allowed by law and in accordance with our mission. The Postal Service drives aggressive growth and new opportunities in its parcel business with customers playing a leading role in eCommerce fulfillment. Innovation practices have driven our ability to compete, retain, and grow our business. Technology and analytics in our delivery and transportation network have allowed us to provide highly reliable and affordable service for our customers. We are well-positioned to continue this growth through innovations connecting our infrastructure, plants, vehicles, and technologies. For example, the Postal Service has optimized the operations of our several-hundred-thousand vehicles and employees, using visualization and analytics of real-time data to efficiently deliver goods to the more than 154 million addresses across the United States.

The Postal Service has and will continue to make appropriate investments for our mission. Customers have enthusiastically embraced our enhanced digital services, including the Intelligent Mail Package Barcode (IMPB), dynamic routing, and enhanced mobile solutions. For example, the use of our APIs (Application Program Interfaces) has increased by 70 percent in the past year, and the Postal Service will continue to actively market its APIs and enhance those datasets. The Postal Service will continue to iterate and improve its digital portfolio and make enhancements with regards to GPS, addressing, the Electronic Postmark, Informed Delivery, and carrier mobile device capabilities.

A potential weakness in the white paper is the comparison between what foreign posts are doing digitally and the Postal Service's initiatives. As the white paper concedes, the Postal Service operates under a much more restrictive regulatory environment than foreign posts. As a result of fewer regulations and restrictions, foreign posts are able to experiment more aggressively with their innovation process. Postal Service leadership continuously examines opportunities for innovation, including emerging and innovative trends and technologies, with due deference to financial, regulatory, and business limitations.

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While comparison with foreign posts can be interesting and informative, the report does not adequately account for the vast differences in markets, cultures, scales, economies, competitive landscape, and regulatory environments between those posts and the Postal Service. Additionally, as noted in the report, many of these posts have discovered that digital is less of a revenue engine than first expected. Given the tighter regulatory environment and limited financial flexibility, the Postal Service must conduct careful research and be assured of a reasonable return on investment before embarking on any significant capital projects.

We would argue that the Postal Service has been very aggressive in pursuing opportunities in digital innovation within the existing constraints summarized both here and in the white paper. This is in contrast to the assertion in the white paper that the Postal Service has a conservative outlook on new digital services. For example, Informed Delivery allows customers to receive images of the mail coming to their home address. Customer engagement with Informed Delivery has been a success. We have many other innovations underway to support this and other programs, including in-person proofing at our retail locations. Informed Delivery will enable the Postal Service to expand and build a safe and reliable digital relationship with our customers.

In conclusion, the Postal Service is dedicated to enhancing the customer experience and will continue to focus its digital innovations in ways that best support and enhance our core mission of prompt, reliable, and efficient mail delivery services, with consideration to customer needs and opportunities for revenue growth.



Gregory S. Crabb



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