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Is the United States Postal Service's Business Model Broken? Fixing the Model through Innovation not Competitive Postal Services

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Is the United States Postal Service’s Business Model Broken? Fixing the Model through Innovation Not Competitive Postal Services

A capstone project submitted in partial fulfillment of the requirements for the degree of Master of Science in Social and Applied Economics

By

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ABSTRACT

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Is the United States Postal Service's Business Model Broken? Fixing the Model through Innovation not Competitive Postal Services.

This project suggests that the United States Postal Service (USPS) business model that utilizes very large mail volume revenues to cross-subsidize last-mile delivery is broken by the continuing trend of paper documents converted to electronic documents. As the paper to electronic conversion trend continues, the USPS will need to develop additional revenue sources and/or cut costs to survive without government funding. In response to the shift from paper mail to electronic mail, other countries have liberalized postal services to make competitive postal mail systems with the goals of achieving postal service innovation, better service, and reduced prices. Postal liberalization is not a desired result for the U.S. due to the large geographic size of the U.S., and new-entrant mail businesses will advantageously only provide postal service to more populated and profitable service areas, which is known as cream skimming. The USPS should reinvent the organization by adding certified email as a service that will compliment the growing use of e-mail and Internet services. Certified email stands to be an additional revenue source that allows the USPS to maintain universal delivery service for the U.S.
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Introduction

The new economy is based upon the creation of new technological innovations that change the way businesses produce and function in the economy, which leads to large sustained productivity growth. Particularly over the past two decades, computers, information technology, the Internet, and other modern computer-related innovations, changed the way business operates. The efficiency and productivity gains in the 21st century are creating the New Economy. Not all businesses adapted their processes to the changed economic environment. The United States Postal Service (USPS) is an example of a business that maintains its old economy process of delivering letters and documents. It utilizes a large physical delivery network without using any form of electronic delivery system. The USPS is dependent on very large mail volumes to remain a self-sustaining, profitable organization. This project shows that the United States Postal Service (USPS) must reform and invent a business model that does not rely on high mail volumes to cross-subsidize last mile delivery, because the New Economy makes paper communication obsolete compared to computer and digital media communication.

Digital communication is superior in speed to postal mail; however, a postal service is necessary for the economy to function properly because documents with critical information and packages from businesses and governments always need to be delivered for public and private communication. A nationwide postal delivery network is indispensable to maintain a viable economy, a viable democracy, and individual well-being due to the ease of nationwide communication provided by postal services.
(Rawnsley & Lazar, 1999). A universal postal service will remain the communications backbone of the economy and our democracy, but the New Economy continues to shift communications toward a complete digital age.

The United States Postal Service (USPS) hand-delivers mail, a practice started in 1775. Since its conception, the USPS remained an independent department of the Executive branch, and the USPS is responsible to generating revenue to support and grow operations. The USPS grew alongside the economic growth that the United States experienced over the past two centuries and in part contributed to that growth. Today, the United States Postal Service (USPS) is the largest provider of mail delivery services. The USPS daily delivers over 680 million pieces of mail to 143 million addresses. In terms of total parcels delivered, that is almost 20 times greater than the nearest delivery competitor. The USPS network consists of 38,000 Post Offices and retail outlets and includes 400 mail processing facilities with 212,000 vehicles and 244,000 delivery routes (United States Postal Service Strategic Transformation Plan 2006-2010, 2005).

The USPS is the only postal provider that delivers to every home and business address in the entire nation, known as last mile delivery. The USPS does last mile delivery because of the universal service obligation (USO) mandated to the USPS by Congress. The USO concept is, “everyone should have reasonable access to a postal service at an affordable price (Rawnsley & Lazar, 1999).” In 1896, the United States enacted the Rural Free Delivery (RFD) bill that provides universal access to the postal services for everyone at the same price. Today the USPS offers USO with access for everyone in the nation at the same price throughout the day.
Historically, a USO postal service provides a “public good” or “public service.” The notion of the postal service providing a public service with a USO leads to a postal monopoly to prevent cream skimming, which is delivery to only low-cost or high-value geographic areas such as densely populated areas while rural service and high-cost areas are neglected. Cream skimming abandons universal service for everyone because service is only available in the most profitable areas. A postal monopoly within a USO prevents cream skimming because the USO requires uniform pricing, and the monopoly keeps other new entrants from price undercutting and cream skimming (Rawnsley & Lazar, 1999).

The USO requires the USPS to deliver mail to the last mile at the same price that justifies the monopoly on first-class mail delivery to mailboxes, which includes curbside mailboxes, front door mailboxes, apartment mailboxes, etc. Other parcel businesses like United Parcel Service (UPS), FedEx, or DHL must deliver to the doors and footsteps of homes and businesses. These three companies do participate in some cream skimming because they do not deliver to all areas of the U.S. They leave last mile delivery to the USPS.

The USPS achieves last mile delivery through the use of cross subsidization. Cross subsidization covers the costs of delivery to rural far-away areas with the extra revenue earned from delivering to high volume urban areas. With last mile delivery, the importance of maintaining a high volume of delivery and a large consistent revenue stream is crucial to cover the extra costs for delivery to rural addresses that require extra travel and generate less revenue per square mile. A disruption in USPS revenue from less mail volume affects last mile delivery because the USPS can no longer cover the extra
costs to deliver to remote rural areas (Kolin & Smith, 1999). Cross subsidization is not maintainable with a permanent loss in revenue.

With a decline in revenue for the USPS, reformation or reinvention is necessary to maintain the universal service obligation and last mile delivery with cross subsidization. Currently, the USPS faces revenue loss from a decrease in first-class mail volume caused by electronic diversion where firms and households substitution of delivered mail with electronic communications. This electronic substitution, which will be discussed further in the next section, is a prevalent factor in mail volume reduction. All signs point towards electronic substitution becoming the dominant media for communication. Therefore, USPS reinvention with services that compliment email, the Internet, and the electronic diversion phenomenon are required to fix the high-volume dependent glitch in the USPS business model.
Electronically sharing information over the Internet greatly speeds information and knowledge transfer. Recently, advances in the rate of data transfer over the Internet occurred due to new broadband capabilities. These advances in transfer rates increase productivity due to the high-speed, especially for businesses. Currently, broadband access is available to approximately 95% of U.S. households with 73 million subscribers (24.5%) at the end of 2007 (USA Broadband Overview, 2008). Broadband provide consumers, households and businesses, access to lightning fast email, websites, videos, advertising, instant messaging, blogs, ecommerce, news, and all other available online services. Subscriptions to broadband services continue to grow. Businesses and households can share knowledge and obtain information that they need from the whole world in a matter seconds with broadband speed. Having to wait a day or two to receive a simple paper letter or bill reduces productivity, and any service traditionally handled through the mail, i.e. bill payments, banking and advertisements, is easily substituted for Internet and speedy broadband delivery.

Moving critical information through any business at a faster rate can increase productivity and save money; however, sharing information over distances via paperwork and hand-deliveries always will take longer than Internet delivery, where, email is instantaneous in most cases. Businesses still use “snail-mail” to deliver bills, ads, and other documents because the Internet and Broadband is not available in every household yet. Everyone still checks mailboxes daily, and some businesses always contact
customers by USPS mail. Postal mail is a good way to contact and advertise to customers, but advertising online and sending electronic bills is more cost effective than postal mail. As more people subscribe to broadband service and use the Internet, contacting customers over the Internet will be even more cost effective and First Class Mail volume will decline further.

Historically, the USPS utilized previous innovations and technology to better serve customers. Postal mail delivery transformed itself as different methods of transportation and delivery developed from foot, to horse, to carriage, to train and boat, and finally to automobile, truck, and airplane (United States Postal Service, 2007). The USPS states that it is dedicated to utilize innovations to better serve customers, which it has often done in the sorting and organization of mail, but has failed to utilize the Internet and electronic communications within the delivery process, with the exception of online package tracking.

Packages always need to be delivered. In fact, the current increases in Internet users purchasing goods online, known as e-commerce, have increased the need for package delivery services (Bradley & Jansen, 2006). On the other hand, advertisements, magazines, letters, documents, and newspapers can be delivered or accessed via the Internet and email. An increase in demand for these newer online services reduces the volume of delivered mail, which reduces revenue for the USPS. The new services reduce the demand for first-class delivery disproportionately more than the increase in delivery demand from e-commerce. Approximately 18.9 billion fewer first-class single-piece letters were delivered in 2008 than in 2000, which is approximately a 36% decrease over eight years totaling 7 billion dollars in revenue loss (United States Postal Service, 2007;
United States Postal Service, 2000). First-class mail is a very high revenue generator relative to standard-mail. Standard-mail is business presorted mail sent with a minimum of 200 pieces, and standard mail is a cheaper way for businesses to send mass mailers. It takes three standard-mail letter deliveries to compensate for the reduction of one first-class letter delivery. A 36% drop in first-class mail is a very significant loss in revenue.

If this trend continues, which it will most certainly, the economic impact on the USPS will be quite significant. An econometric study conducted by Michael D. Bradley and Dennis W. Jansen determined that the impact of the increase in the demand for electronic mail will decrease demand for single letter delivery services provided by the USPS (Bradley & Jansen, 2006). Bradley and Jansen created a mathematical model that accounts for the demand for electronic and physical mail, marginal costs of physical and electronic mail, the total costs for physical and electronic mail, and the price markups to recover costs on physical and electronic mail.

Using their model, as the volume of physical mail is “diverted” to electronic mail and electronic communications, the rates and prices of physical mail increases. Marginal costs for the USPS increases because gains from economies of scale decrease as physical mail diverts to electronic. Price increases are necessary for the USPS to break even. As the price of physical mail increases, the quantity demanded for physical mail decreases, which further decreases the volume of mail physically delivered. Eventually, the volume of physical mail demanded does not cover the fixed and variable costs of the USPS; the USPS is no longer self-sustaining. (Bradley & Jansen, 2006) At this point, a change in government policy and USPS reformation is necessary.
If this trend continues, and the USPS experiences diseconomies of scale with first-class mail, the USPS business model flaw will come to full fruition. At this point, the government needs to develop new policies to permit the USPS to survive and perhaps prosper. Good policy for the USPS is important because the USPS performs a necessary service for the present vitality of the US economy into the near future (Rawnsley & Lazar, 1999). A strong nationwide postal service may not be as necessary in the far future because the New Economy and information technology can make the USPS irrelevant for the economy, and all goods and parcels will be delivered by private businesses like UPS or FedEx. This will occur if all the information and data everyone needs can be electronically communicated without physical delivery; however, such a scenario is decades away and the USPS remains essential. Therefore, solid plans must be developed for the USPS to succeed. The following sections discuss ways the USPS can reinvent the organization to continue to be a successful and self-sustaining business entity in the New Economy.
Reinventing the USPS

Electronic substitution for first-class mail reveals the flaw in the USPS business model. Slowing down the electronic substitution is impossible because trends indicate continued increased use of digital media and digital communication. The electronic substitution trend will continue to grow as technology improves and more and more online and other digital services are offered. The USPS can utilize this digital trend by the incorporation of innovative services alongside their tried and true traditional services to maintain a viable business. Adding innovative services that compliment mail delivery will not fix the flaw in their business model, but additional services with growing revenues can help fill the gap in revenue from the declining first-class mail volume, for example, electronic certified email.

Trying to add profitable innovative services is one way to help the USPS to continue its universal service to the entire U.S., but the U.S. has the option to completely change national postal mail services by the elimination of the USPS monopoly on mailbox delivery, which is termed postal liberalization. A postal liberalization creates a competitive postal environment where several postal organizations compete over first-class mail and mailbox delivery. Remodeling the USPS business plan to function in a competitive postal environment is likely to be necessary to improve efficiency within the USPS to survive and remain competitive.

Offering new additional electronic services like certified email while either maintaining traditional delivery services or liberalizing the universal service provider
(USP) represents two primary approaches the USPS can take to reinvent and reform the USPS to create a sound business model in the 21st century. Certified email adds a new growing revenue source for the USPS to maintain last mile delivery and universal service. If the USPS has a new growing revenue source, then it will not have to solely depend on very large first-class mail volumes for cross subsidization. The new revenue source from certified email creates cross-subsidization for last mile physical delivery possible with a reduced mail volume.

In contrast, liberalizing the USP to make a competitive postal system effectively forces the USPS to rethink and realign postal mail operations in a competitive environment. The USPS may look like a completely different organization after liberalization, but improved postal services by the USPS in order to compete better is a likely result. Improving services and developing new plans to succeed with competition could simultaneously help fix the business model flaw caused by the electronic substitution of first-class mail. The USPS knows that it is losing revenue from electronic substitution, and competition may help them to realize fully the problem and to create solutions to fix the USPS as an organization.

Liberalizing Postal services completely changes the postal service atmosphere in the U.S. compared to the addition of certified email and other services to the USPS. The U.S. has limited political structures and market regulations to effectively monitor and control a new competitive postal mail system. The use of certified email by the USPS produces additional cross-subsidizing revenue to continue universal service, and this outcome is more likely and desired than a competitive postal system.
Certified Email

Several different electronic services exist that the USPS could potentially offer; however, online bills, online banking, and other online services are within a highly competitive marketplace in the U.S. Achieving enough market penetration of online services by the USPS to gain the needed revenue could prove difficult. Innovative services that compliment electronic online services must be developed by the USPS to gain enough market penetration for long term growth.

One possible innovative service the USPS could offer is certified email. Certified email creates a new growing revenue source that provides an online service to deliver electronic documents and files that is as reliable and secure as standard certified delivered mail. Regular delivered certified mail is used by businesses and customers to confirm mail delivery and acknowledgment for time and/or content sensitive materials. Customers obtain verification that a letter or package was delivered and received by the intended recipient. Today, no such confirmation and authentication service exists for email addresses. Traditional email services allow you to know that an email was received and opened at a particular email address, but no verification exists that the intended recipient is the actual person who received the email or the email was not viewed by unintended recipients. Identity theft, false or fake email addresses, and other forms of cyber theft make email unreliable for delivery confirmation and verification.

The mentioned identity and delivery confirmation problems with email make certified email a potentially desirable service that the USPS can provide. A new certified
email service provided by the USPS needs to be a reliable and cost effective alternative to standard certified mail. For the USPS to offer certified email the USPS must use registered e-mail addresses and encrypted email files because both measures are needed to certify that electronic documents are sent securely to the intended person.

Personal email addresses exist in a cyber world that does not identify who owns the email address. Anyone can obtain a personal email address without delineating any personal information. Email registration links one email address to one person, which is necessary to identify the person with the email address. Registering email addresses requires people to personally sign-up for the registered email address. A physical link is established during the email registration process by matching a confirmed home address and/or an identification number like a social security number with the email address that is registered. The goal with email registration is to correctly confirm the personal identity of the email address owner. No national email registration exists, and the USPS could spearhead the project to create a national email registration list to provide certified email for the U.S.

File encryption is necessary with registered email addresses to make certified email feasible because encryption prevents theft and unauthorized access to sent documents. Encryption essentially scrambles a file to make it unreadable without a cipher code/password that unscrambles the file. Reliable encryption is an essential security measure, which regular email does not possess, to ensure that unauthorized access of documents cannot be read without the encryption password. A logical and potential encryption program that the USPS could use is software called TrueCrypt. This software is on-the-fly encryption that instantaneously encrypts data when it is loaded or
saved and instantaneously decrypts the data when it is accessed with the password. This on-the-fly encryption process works well with emails because the email will be encrypted when it is loaded to be sent, and the email is decrypted when it is opened with the password. Users have reassurance that an email sent is not accessible without the password, which the intended recipient should be the only one who knows the password. Encryption needs to include all data formats to be used in any certified email. Videos, spreadsheets, slideshows, word files, and any other data format can be encrypted in an email. Sending encrypted files by email save time relative to physical encrypted disk delivery.

Registered email addresses and encryption certifies emails because the sender knows to whom the email is being sent, and the encryption ensures that the email is not accessible without the encryption password. The challenge for USPS certified email is to register email addresses with the USPS to provide a unique identity with each email address. Due to privacy concerns, many people might be hesitant to surrender personal information with their email address, but the USPS can overcome this problem with smart planning.

Customer registration entails a good way to verify and confirm the identity the person’s identity. Registration requires the ability to match and verify personal information like home address, social security number, and other identifiers. To register an email address, a user visits the USPS registry center and provides his or her email address along with personal identifiers. Once personal information is confirmed and matched with government information, the registered user creates a password. The password is the key to any encrypted certified email sent.
Along with the password, a unique site-key picture and phrase is chosen for additional security measures. The site-key picture and phrase is similar to what many online banks use when you sign into a personal banking site. The banking site-key picture and phrase confirms for a user that the webpage and bank account information accessed is authentic. Similarly, a unique site-key picture and phrase is chosen and used with certified email to confirm that the email sent is authentically from the USPS.

For example, when a certified email is sent from the USPS to a registered user, their chosen unique site-key picture and phrase is displayed on the email. The unique site-key picture and phrase verifies for the user that the email came from the USPS. For certified email access, the user must enter their unique password that matches with the site-key picture and phrase they chose. When the user enters the correct password, the USPS knows that the certified email went to the intended user. Together, the user password and unique site-key picture and phrase produce dual-identity confirmation.

Similarly, the unique site-key picture and phrase with password is used when a registered user sends a certified email. The USPS will prompt the user for his/her password along with the unique site-key and phrase to send a certified email for the user. Again, the user knows the email is going to the USPS to be sent the intended email address because of the site-key picture and phrase. The USPS knows the email came from the user because of the correct password entered.

Additional security measures with certified email needs to be used similar to online banking security measures. Individual computers are identified through IP addresses on the Internet, and banking websites record the IP address when users access their personal online banking account. Users must answer self-created security questions
anytime they try to access their online account from a new computer with a different IP address not previously used. Once users correctly answer the security questions, they have the option to save or not save the computers IP address depending on whether the computer is public or not. If the user decides to save the computer as a non-public computer, then he/she will not have to answer the security questions again if he/she accesses his/her online account from the same computer. Certified emails need to add this feature as an additional security measure. The first time a user tries to access a certified email from a computer not previously used, the user must answer the security questions created during the registration process. The user has the option to save or not to save the computer, which will determine if he/she needs to answer the security questions next time he/she accesses certified emails from that specific computer. The security questions are an additional way to verify and confirm that the intended user is the one accessing the certified email.

Once users register their email address with the USPS and created a password with a site-key, the users are ready to receive certified emails. The process of retrieving certified emails is simple. A certified email will show up in a registered email address inbox with an official subject title from the USPS. When the user opens the email, the user will see their registered site-key picture and phrase and be asked to provide his/her password, and answer security questions if necessary. Once the user correctly enters their password, the certified email is decrypted and viewable/downloadable. To send a certified email, a user will initially send the email to the USPS with the intended recipient address. Then, the USPS will prompt the user for his/her password to confirm who the sender is, and the unique site-key picture and phrase is displayed. Once the password is
provided, the USPS forwards the email the intended recipient. The recipient enters their password once they receive the certified email and gains access.

There are many technical details that must still be solved to make certified email work with superior security. This includes writing secure programs and software that is compatible with standard email systems. Creating a secure registered database of users certified email is also necessary. Creating the secure certified email software will take lots of computer programmers and information technology specialists.

The USPS can use several different tactics to register email addresses. A national campaign to register everyone’s email address to receive certified emails is one option. The national campaign headed by the USPS uses mass mailings, billboards, and television advertisements to urge people to register their email address to receive USPS certified emails from businesses, individuals, and the government. The campaign needs to thoroughly explain the benefits of a registered USPS email address. These benefits include certification that emails received through the USPS are valid and come from an authentic email address, whether it is a business, government, or personal email address. One benefit is a guarantee of no SPAM will be sent through the USPS certified email system. Emails can be sent with the same reliability as certified mail, but in a matter of seconds as opposed to days. These benefits must be campaigned and marketed thoroughly to gain as many users as possible.

Another good way to register people’s email addresses is through businesses. Corporations and businesses are the prime users of certified email because they already use regular certified mail, and certified email is cheaper and faster than certified mail. Businesses can help the USPS register people because the businesses that want to use
certified email can send certified emails to the email addresses the business already have on file, but the certified email receiver will have to register the email address to view the certified email. Therefore, selling certified email to businesses is very important for the USPS because business sales lead to more people to register for certified email. Businesses that use certified mail to send confidential and private documents to customers can now use certified emails with the same confidence and reliability as certified mail but with time savings. So, a USPS business sales force is necessary for businesses to use certified email.

Developing a good strategy to register email addresses is crucial for certified email to work, but the purpose of the USPS to offer certified email is to create a new revenue source that will help cross-subsidize last mile delivery. Pricing for certified email becomes important because the price must be set to generate the most revenue possible. Custom pricing needs to be made for businesses that use certified email the most. Flat rates based on monthly usage of certified email are logical for businesses. The flat rates are similar to cell phone rates. For example, a business that sends about 100 certified emails a month pays for the 100 certified email plan and pay-per-use that exceed the 100 certified emails. Flat rates for 100, 200, 500, etc. certified emails are typical rate plans. An in-depth study is necessary to determine the proper rate plans and usage fees for businesses, and a large part of the pricing is set according to costs. Pricing for personal use of certified email is most likely on pay-per-use, and another study is essential to determine the suitable national price for a single certified email.

Since the USPS is a government owned business, all government agencies should use USPS certified emails to contact citizens, businesses, and other government agencies.
The government should use USPS certified emails because certified emails add security and registered users know the email is authentic and came from a government agency. The government can lead a certified email movement through the use of certified email whenever possible, which helps influence businesses to use certified emails by setting an example.

Certified email is a good potential revenue generator for the USPS. The more people that register and use email, the more revenue the USPS earns. Marketing and advertising become very important for the USPS to promote and push certified email to the masses. If the USPS can demonstrate the benefits of certified email over regular email, the USPS can convince people to use certified email. Endorsing the security certified email adds to any email or data file attachment shows the scope of certified emails, which is a benefit over both standard emails and certified mail. Several details with certified email need to be discussed, but the USPS can use certified email as another revenue source to remain a self-sustaining organization without government subsidization.
Certified Email and the EUSO

One large issue that needs to be solved for certified email to work is who has the rights or access to the email registration list. Should the registered email list be public domain like home addresses and phone numbers? Should the USPS have monopoly rights to the registration list? Without monopoly rights to the list, the USPS will face stiff competition from other businesses that would like to offer certified emails. Personal use of certified emails drops if everyone has access to the email list because they already know an email is being sent to the intended recipient, and encryption through the USPS might not be seen as necessary. SPAM emails might go through the roof because anyone has access to a large national email list. Businesses could use their own encryption programs and not use the USPS if businesses have access to the registration list.

The logical solution to all these problems is to give the USPS monopoly rights to the registration list because the government needs to protect privacy rights and prevent cyber tampering. Registration and security must be tied, and the monopoly is necessary. Many people might believe this gives the USPS unfair competitive advantage, but the USPS must present certified email as a universal service just like mail delivery. The USPS can end the registered email list debate if the USPS can offer certified emails to everyone as a universal service, which justifies the monopoly rights similar to the USO and monopoly rights the USPS has with mail-box delivery. The USPS must create an electronic universal service obligation (EUSO) to validate monopoly privileges over certified email, which requires last mile delivery even with email.
To offer certified emails to everyone within a EUSO, the U.S. Congress will need to make a significant investment in the communications infrastructure of the U.S. by building and expanding Internet access to everyone in the U.S. Anyone that does not have access to email in their homes should have the option to receive certified emails if he/she desires. Not everyone in the U.S. wants email in their home because they must register with the USPS, they do not understand email, they have no use for email, and other reasons.

Obtaining email access for anyone who wants an email address in his/her home is not too difficult. The USPS can offer a simple, basic computer with very little processing power and a monitor. The computer needs enough processing ability to connect to the Internet and receive emails with encryption. A computer with these capabilities is termed a “thin-client.” The USPS thin-client will have limited capabilities to make them as cost efficient as possible, but the thin client needs to be both broadband and phone line compatible. If the USPS thin-client can receive emails through both broadband cables and phone lines, then the USPS does not have to expand broadband cables to the last mile because phone lines are already throughout the nation; however, long-term investment in broadband cables nationwide is necessary for speediness, especially with videos and large data files.

People can purchase a standard computer, netbook, laptop, or anything with Internet access to acquire an email address and receive certified emails, but for those who cannot afford a computer and Internet, a USPS thin-client is given to them through a government tax subsidy based on household income. Government tax subsidies for USPS thin-clients are available for anyone who financially qualifies and wishes to have
email in their home. One thin-client per household is sufficient because multiple email addresses can be established on the computer. People who request a USPS thin-client are required to register all email addresses with the USPS for the email address to work on the USPS thin-client. Users can use the email address to send/receive regular emails along with sending/receiving certified emails. The government and USPS should be willing to give a USPS thin-client to anyone because the more people that use a thin-client must register their email address through the USPS. The more people with registered USPS email addresses means that more people can use and receive certified emails. More registered email addresses is more potential revenue for the USPS.

Certified email along with regular email that is available to anyone within a EUSO created by the USPS is overall beneficial for the U.S. economy. The communications infrastructure is enhanced, and more people are connected with each other through email. The increased connectivity between people through email promotes social activity. The government can easily contact and communicate with the public. Businesses can contact more customers with certified email. Many other potential benefits not yet realized will occur from achieving universal email and certified email services.
Universal Service Provider (USP) Liberalization

Adding electronic services to postal delivery to counteract the electronic substitution of paper is not the only solution countries use to fix the problem of electronic substitution. Many other developed countries use more than one universal service provider (USP) for postal delivery. In the past twenty years, foreign countries began to liberalize their USP by allowing new entrant postal providers to deliver to areas that were once serviced only by the USP, which are called reserved areas. A USP still exists in many of these countries, but new postal entrants are permitted to compete with the USP in reserved areas. When the USP is liberalized, postal service is opened to competition with the goals to improve postal services, increase efficiency, and maintain or lower prices while providing a USO for citizens (Accenture, 2008). The U.S. potentially could liberalize the USPS to achieve the mentioned liberalization goals; however, an examination on postal liberalization affects in these liberalized USP countries is needed to analyze potential impacts from liberalization on the U.S. and the USPS.

The European Union (EU) is at the forefront of postal liberalization with the objective to eliminate all postal reserved areas in all 15 EU countries by the year 2013. Other countries that utilize some form of postal liberalization are New Zealand, Australia, Japan, and Canada. Each country’s liberalization policies are different and unique. Each country uses different regulations unique to their business environment to control for fair competition while maintaining a USO. (Accenture, 2008)
The liberalization of postal services is a relatively new concept. Each country is unique, but some general conclusions about post liberalization can be made. Liberalizing a USP allows new entrants to compete for first-class postal service businesses. The extra competition sparks innovation and diversified services. Liberalized postal countries must monitor closely postal services to ensure fair competition occurs. For countries that liberalized the postal service, new entrants gained business in different process segments of postal service as the following chart demonstrates (Accenture, 2008):

**Chart 2: New Entrants Roles in the Mail Chain After Liberalization (Accenture, 2008)**

Downstream specialists focus on preparation and generation of bulk mail for businesses in a specialized manner with bundled marketing and offer lower prices for these services than the USP, while the universal service provider (USP) handles last-mile delivery. Integrated bulk-mail providers develop and deliver bulk mailers for companies in specialized geographic areas. End-to-end (E2E) providers duplicate the services of a USP. E2E providers specialize in deliveries to specific geographic areas like city centers, and offers specialized tailored solutions at lower prices, which is cream-skimming and offers little improvement for rural areas service. Business model innovators develop new ways to bypass the traditional mail chain and offer customized innovative solutions.
New entrants in open postal markets increase competition in the postal system, but new entrants do not necessarily impact customer service for everyone. The following chart shows the overall impact to customers from postal liberalization (Accenture, 2008):

Chart 2: Customer Impact from Liberalization (Accenture, 2008)

<table>
<thead>
<tr>
<th></th>
<th>Quality of Service</th>
<th>Price</th>
<th>Innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumers and SMEs</td>
<td>+</td>
<td>=</td>
<td>=</td>
</tr>
<tr>
<td>Large Mailers</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

Changes observed following market opening:
- + Measurable improvement
- = No change or limited improvement
- - Deterioration

As the table illustrates, consumers and small-mid size enterprises (SMEs) see little improvement from liberalization. Quality of service for consumers and SMEs improves in urban areas because more retail buildings and better hours of operation are established in the dense areas due to the increased demand. Rural and remote consumers and SMEs see a drop in quality of service due to the closing of less productive retail buildings in sparse area. Innovation and prices stay about the same for consumers because most new entrants focus on services for large mailers and businesses. The new entrants that mainly focus on large mailers improve customer service in all three criteria; quality, price, and innovation. (Accenture, 2008)

New entrants only focus on mass mailing used by the large businesses, and little to no penetration into the consumer and small business market occurs. The customer
impacts in chart 2 supports this view (Accenture, 2008). These impacts of new entrants, who only focus on large businesses, should be a significant factor in the decision whether to implement postal liberalization in the U.S. because of the potential cream skimming impact on the revenue stream of the USPS and the loss of cross-subsidization to rural areas.

Postal liberalization should lower prices from increased competition; however, the other liberalized countries show that prices only are lowered for businesses and remain the same for consumers. Postal liberalization in the U.S. likely will raise prices for consumers because the increased competition removes revenue from the USPS, which forces the USPS to raise prices to cover the costs of last mile delivery, particularly to less desirable revenue areas.

The USPS has no other sources of revenue other than delivered mail; therefore mail volume is very important to the USPS. The USPS needs high mail volume to keep prices competitive, to deliver to the last mile, and to support the large contracted labor force of the USPS. Competition with the USPS could prove detrimental to the organization and postal services in the U.S. Letter delivery in 2006 generated $61 billion in revenue for the USPS compared to $67 billion in revenue that the EU generates with letter delivery (Accenture, 2008). The EU has a one-third larger population but is about three times smaller geographically than the U.S. (Accenture, 2008), which shows the importance of revenue per capita for the USPS. The USPS needs as much revenue as possible to maintain universal delivery for a smaller population in a much larger geographic area than the EU.
If the U.S. wants to maintain a USO for postal services, even with liberalization, the USPS is the postal service that delivers to the last mile. The USP in other liberalized countries remains the provider of last mile delivery. All new entrants in the U.S. are not capable, and will not be capable for some time, to generate enough revenue to cover the costs of last mile delivery because of the large geographic size of the U.S., which leaves last mile delivery to the USPS. The USPS has been successful at last mile delivery in the U.S. because of the large amounts of revenue the USPS derived from very large mail volumes and cross subsidization. New entrants will focus on mass mailers for businesses and other services for businesses, particularly in large population centers as happened in other liberalized countries, and will participate in cream skimming because it is profitable.

The USPS’s susceptibility to cream skimming combined with their high mail volume and revenue dependency for last mile delivery over a large geographic market make the U.S. highly exposed to the harms of postal liberalization. These problems include and are not limited to cream skimming and increased postal prices. An Accenture report ranked different developed countries on their exposure to postal liberalization, which is a grade on a country’s overall vulnerability to the negative effects of postal liberalization like cream skimming and high prices. Compared to other developed countries, the U.S. demonstrates the highest exposure to adverse affects from liberalization.

Chart 3 demonstrates that the U.S. is highly exposed to the adverse affects of liberalization based on cost structure and competitive landscape. Accenture also ranked the countries on the amount of support and necessary regulation available for countries to manage the transition into a liberalized postal service environment, which is termed flanking measures to support the liberalized USP and the liberalized system. The U.S. also has little flanking measures to regulate and control a liberalized postal service compared to other developed countries. For liberalization to work and be successful in the U.S., a complete reformation of postal service rules and regulations is necessary, which requires extensive new legislation and planning.
Postal liberalization does force the USPS to cut costs and increase efficiencies to be a competitor in a free liberalized system. The high risk of postal liberalization in the U.S. means postal services could dramatically change for the negative because of potential large price hikes. Several implications other than the effects on the USPS from postal liberalization in the U.S. must be considered. The biggest change from liberalization is the elimination of the USPS monopoly on mailbox delivery. An open mailbox for any new entrant business to deliver brings the concerns of security, privacy, and advertisement bombardment.

Security is a big issue with mailbox access. Currently it is a serious felony offense to tamper with the mail and mailboxes, which does deter people from mailbox tampering. If several businesses deliver to a mailbox after postal liberalization, then policing and enforcing mailbox laws becomes more difficult. In fact, mailbox laws need to be rewritten to allow open access to mailboxes, which makes identity-theft through mailbox tampering more attractive (ILO Institute, 2008). Add multiple postal companies which deliver to mailboxes, and the safety and privacy of mail comes into question (ILO Institute, 2008). The combination of the USPS only delivery to mailboxes only and the high penalties for mailbox tampering provide people peace of mind that their mail is relatively safe.

Privacy is also an issue after postal liberalization. New entrant postal companies may have financial incentives to track incoming and outgoing mail for customer research purposes. Companies could sell the information gleaned from each customer’s mailboxes for marketing and cross-selling purposes. The USPS is known for not participating in any such customer tracking. (ILO Institute, 2008)
More postal companies focus on mass mailers for businesses is a trend associated with postal liberalization, and implies more advertisements and “junk mail” in mailboxes. Excessive advertising to customers that do not want or request ads often creates a backlash from customers. For example, telemarketing is combated with a national Do Not Call list to stop excessive unwarranted calls. Spam mail has been reduced with the CAN-SPAM act. A national Do Not Mail list could be a potential result if excessive junk mail occurs from postal liberalization. A national Do Not Mail list would inhibit new entrants into postal services because mass mailers no longer would be profitable if they cannot be delivered to mailboxes, which limits the desired results from postal liberalization and increased competition. (ILO Institute, 2008)

The apparent security, privacy, and mass mailing problems from postal liberalization require several rules and regulations to prevent such outcomes. A careful certification process for new entrants to provide mail services to and from home mailboxes is needed. Even with government certification of new private mailbox providers, a backlash against more companies with access to home mailboxes could result. The USPS is one of the most trusted government agencies in the U.S., and new mail providers will not be as trusted because they are new and pose possible security issues. In fact, postal liberalization is termed a “think tank” issue with little to no grassroots backing. The USPS provides very reliable and trustful service for so many decades that little to no support from customers for postal liberalization has been expressed. (ILO Institute, 2008)

Liberalization of postal services in the U.S. requires dramatic legislative and systematic reformation for postal services. Currently, the government does not have
enough tools in place to regulate and monitor a new competitive postal system. New laws need to be written to decide how to govern a competitive postal system, which requires lots of debate and power delegation. The USPS and the overall U.S. postal system are vulnerable to postal liberalization. Therefore, USPS reformation to improve efficiencies and boost revenues is a better alternative than liberalization of postal services in the U.S.
Conclusion

Electronic diversion from postal mail poses a threat to the business model on which the USPS relies to provide a USO and last mile delivery. The large revenue amount from first-class mail to deliver to the last mile diminishes with the paper to digital conversion. The USPS revenue from first class mail continues to diminish, and several cost reductions like post office closures are in effect.

Postal liberalization is not a panacea for the problem. Proponents of postal liberalization in the U.S. argue that liberalization would provide higher quality of service based on economic theory of competition, but theory does not always translate into practice. Countries that have liberalized postal services show few and small gains for customers, particularly for households and for households and businesses in low density areas. Liberalization provides new competition and maybe innovation, but someone still must deliver to the last mile. New entrants shy away from last mile delivery because of the added expense, which still leaves last mile delivery up to the USPS. New entrants participating in cream skimming hurt the mail revenue for the USPS even further. A larger price increase from the USPS is the likely result from postal liberalization while last mile delivery is maintained. Price increases are necessary to maintain universal service for the nation after postal liberalization.

The diminished revenue source for the USPS from electronic substitution means the USPS needs to deliver to same number of customers with less volume of first-class
mail to deliver, which is the current business model flaw. The USPS market share is smaller and they need to generate more revenue from the reduced base. The USPS must focus on new ways to generate more revenue and cut costs to maintain a price-efficient USO. Certified email is an innovative service with potential revenue growth. Currently, certified email is not offered by anyone in the U.S., which makes the service a potential long term revenue growth for the USPS as the electronic diversion of paper documents continues into the future.
References


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