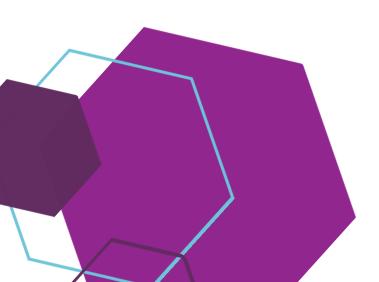# Understanding Current Processes and Bottlenecks Before Reengineering Processes: A Case Study of Pilot Express

Shenika Thomas, MPS, CFE, MBA
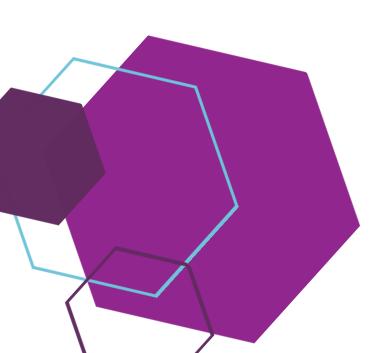**Summer 2020**

Abstract

Business process reengineering (BPR) is a management strategy appropriate for the leadership at Pilot Express to use to meet the demands of reshaping and improving the way they run their operations. Through careful planning for the use of BPR techniques, Pilot Express will be able to achieve the radical and fundamental improvement in their business processes that are required to be competitive and meet its mission.

Keywords: Courier, Business Process Reengineering (BPR), Implementation, Strategic Goal, Pilot Express, Critical Success Factors, Technology.

Acknowledgements

My parents (Eddie and Jessie Hudson), family members, and friends have been instrumental in my pursuit of a dream. I want to extend a special thanks to my mom, who passed away on July 17, 2017, the same day I got the call that I had been accepted into this program. My parents' belief and support enabled me to be the first of 10 siblings to complete a college degree.

I would also like to thank Robert Corley and my son, Malik Thomas, for their patience and support throughout this project. Robert always gave me encouragement and took time to proofread my material, even while working on his own doctoral studies. As part of the iGeneration, Malik always gave me "shout-outs" on social media as a form of praise while he was working on his final year of undergraduate studies.

I owe gratitude to my siblings: Diane Evans, Eurtha Jackson, Carolyn Martin, Johnnie Hampton, Gregory Hudson, Joyce Hall, Edward Hudson, Cynthia Pittman, and Deondray Hudson. Even though I missed many family gatherings to attend class or complete assignments, they gave me their unwavering support and understood the goal I had in mind.

I cannot go without mentioning thanks to my friends of 25-plus years, Victoria Allen, Carla Griffin, Tiffany Kirkwood, and Adrice Williams. These ladies offered endless inspiration and faithful encouragement while enduring this long process with me.

As my EdD colleague, just saying THANK YOU to Agenia Clark is not enough. Agenia never wavered in her support and always picked up the phone for those moments I needed to talk about this program or just to have a pleasurable conversation.

Lastly, I would like to thank the administrator at UTHSC, Dr. Kennard Brown, for being a mentor and sponsor with inexhaustible support and allowing me to adjust my schedule for school.

This project would not have been possible without the patience, understanding, and support of everyone concerned. The journey of completing my degree has been a learning experience I take great pride in accomplishing.

About the Author

Shenika D. Thomas, MPS, CFE, MBA serves as the Assistant Vice Chancellor of Business and Fiscal Affairs in the Office of the Chancellor and Executive Vice Chancellor at the University of Tennessee Health Science Center (UTHSC). She has the responsibility of providing leadership for business and fiscal affairs for the Chancellor and Executive Vice Chancellor's office and its administrative units. Responsibilities include coordinating the day-to-day management of fiscal operations and the effective management of her responsible units. Ms. Thomas began her university service in December 2005 in the Office of the Chancellor as an Administrative Assistant. She previously served as Director in the Office of the Executive Vice Chancellor.

Ms. Thomas has a Bachelor of Professional Studies (BPS) with a concentration in Organizational Leadership and a Master of Professional Studies (MPS) with a concentration in Human Resource Leadership from the University of Memphis. In spring 2015 she earned her Master of Business Administration. Ms. Thomas has Certified Fraud Examiners (CFE) credentials from the Association of Certified Fraud Examiners (ACFE). The Certified Fraud Examiner (CFE) credential denotes proven expertise in fraud prevention, detection, and deterrence. The ACFE association is the world's largest anti-fraud organization and premier provider of anti-fraud training and education.

Project Overview

In answering one of the frequently asked questions about business process reengineering being a fad, it has been proven that it is not. No fad takes a decade to prove its effectiveness (Hammer and Champy, 2006). BPR initiatives have proven effective in enhancing processes that led to the improvement of performance and productivity with companies such as IBM, Ford, American Express, Chrysler, Texas Instruments, and Duke Power (Hammer and Champy, 2006). Organizations considering business process reengineering (BPR) are typically in a desperate position, whether they are small businesses or big names. At this point, the business has either failed or stagnated and is looking to recreate, reorganize, or redesign its fundamental business processes with the intention of improving quality and reducing costs.

Business process reengineering has been common in the business world due to the dire need for companies to improve and develop their operations in response to rapidly changing circumstances. Pioneered and introduced by Michael Hammer more than two decades ago, "reengineering showed companies how to transform their processes and ways of working to capitalize on technology (Hammer and Champy, 2006, p. 3).

Hammer and Champy (2006) believed that the new era marked by advanced technology has proven reengineering to be efficient. Consultants and experts have developed various approaches and tools for kick-starting the practice of reengineering (Yu and Wright, 1997). Correspondingly, there are variations in how organization approach BPR as mentioned by different authors in the third chapter (Conceptual Framework) of this case study, as there is no cookie cutter way of doing so.

Inadequate technology and failure to establish organizational strategic goals are two of the overarching factors that contribute to the bottlenecks and breakdowns of change in many organizations (Kim and Perreault, 1997). Hence, the primary objective of this study is to understand current processes and bottlenecks before leaders of Pilot Express, the company at the heart of this study, can start to reengineer their processes. I will begin by identifying answers to the following essential questions:

1) What are the current underlying processes in effect at this company that connect its strategic goals to key target outcomes?
2) What are the bottlenecks or problems that are blocking the effectiveness of these processes?
3) What processes should be designed to create alignment with the organization's strategic goals to start implementing business process reengineering?

Table of Contents

List of Figures

List of Abbreviations

BPR ....Business Process Reengineering

CDL... Commercial Driver License

CEO ....Chief Executive Officer

COO .... Chief Operations Officer

CSF ....Critical Success Factors

ERP..Enterprise Resource Planning

GPS .... Global Positioning System

IT... Information Technology

ITS .... Information Technology Systems

PE..Pilot Express

1   Executive Summary

The company in this case study has asked to remain anonymous and is identified throughout this report with the pseudonym Pilot Express, a courier service industry based in the Mid-South region.

The rapid development of technology has changed the core and basic operational capabilities of the courier service industry in recent years. New services are demanded, and new methods of operation are needed such as improved route planning, Global Positioning System (GPS) tracking, and connectivity via smartphones. These technologies have improved functional operations in the courier service industry nationwide and increased the competitive landscape. As technology develops, customers' expectations change as well.

In association with a mass-shifting of processes to technology, the volume of paper-based communications has declined in many industries, the courier industry included. What used to be reams of paperwork has been replaced by the innovative use of electronic communications such as email, internet/intranet sites, enhanced push-to-talk and electronic instant/text messages which can be delivered via a broad assortment of computers, tablets, and mobile phones. According to Cheng, et al., (2017) "development of information and communication technologies has enabled express companies to manage their service" (p. 2470) more efficiently. Owners of GPS systems can use this network to track, monitor, and record data, ultimately making business efforts more organized and professional.

Customers are becoming more aware of the services and related processes available. Through GPS courier tracking, customers can track their delivery in real time with a supplied tracking number via their smartphones as an increasing number of courier organizations take advantage of these technologies. Competition in any business, specifically in the courier business, is based upon service advertisement, pricing, the kinds services offered, and the degree to which service requests can be met. This competition gives customers the opportunity to evaluate and establish preferences between different types of courier services. Some of the more requested courier service types are standard package delivery, pallet courier, warehousing services, and overnight delivery.

Standard courier services are most commonly used when delivery time is not overly sensitive. Pallet courier services, as the term might already suggest, involve bulk deliveries requiring partial or full pallets. Warehousing services refer to situations in which storage of goods is needed for a period of time between locations. Lastly, overnight courier services are used when it is important for goods to arrive the next day.

To address the challenges presented by the rapid development of technology and digital transformation, Pilot Express, which has operated with more traditional business processes in the past, believes business process reengineering (BPR) will lead to improved organizational design that will change the way work is done and will better support the company's strategic operational goals while reducing costs. As one of the current major drivers of change, "business process reengineering (BPR) is hailed as one of the current major drivers of change within organizations, helping organizations survive in the more

competitive, customer-oriented, commercial environment of today" (Motwani, et al., 1998, p.964). With Pilot Express trying to survive among large and small courier companies, reengineering is the best way to start positioning themselves with a more competitive stance.

To begin this study, I asked basic questions so that Pilot Express could have preliminary information to start the difficult work of reengineering its processes. I have discovered these findings in summary:

What are the underlying processes in effect at this company that connect its strategic goals to key target outcomes?

Currently, the COO of Pilot Express acknowledges that there are no documented processes in use within the company. The CEO says there are limited to no processes in place and any processes used are managed in an ad hoc manner.

What are the bottlenecks or problems that are blocking the effectiveness of these processes?

Having minimal IT integration was another constant concern mentioned among the top three challenges for the company. Indicating these issues were factors such as routing problems, poor network coverage in remote areas, personal device crashing, unrealistic delivery scheduling times, and package sorting. These IT integration issues stem from the reality that the drivers are not equipped with updated communications devices (e.g., uniform smart phone devices) or uniform software applications such as a dedicated warehouse management system or a real-time dedicated navigation GPS system.

What processes should be designed to create alignment with the organization's strategic goals to start implementing business process reengineering?

Having a navigation device garnered the most responses among employees, with 37% believing it will make their jobs more efficient. A fourth of the drivers believed optimizing the routes would make the biggest difference since efficient routing will save time and required resources to service the same amount of deliveries. Another 25% of the drivers believed having a package sorting system will make the biggest improvement, while 13% believed having an on-call assistance service will provide the biggest improvement since this will improve communication and support.

The recommendations made in this report have been put into four groups: Organization, People, Technology, and Business Process, illustrated by the figure below; the full list of detailed recommendations is provided more in detail under recommendations.

Figure 1: Four Groups of Recommendations

Organization	Process
Create a clear strategic plan, mission and vision statement Develop an organizational structure that supports the mission and strategic initiative & recruit and Office Manager to head it up Review current activities; identify critical tasks that have not been performed and complete those priorities	Document all current processes, utilizing technology to support processes wherever possible Optimize technology and reduce manual steps as much as possible Standardize and streamline future processes and ensure compliance
Continue to evaluate vendor for solutions for GPS/Warehouse Management Collaborate with IT professionals to ensure that technologies meet functional and business needs Create website to include most up-to-date information	Align tasks with skillsets and competencies Separate the strategic activities from the transactional tasks Provide training for all drivers Create job descriptions and future state structure
Technology	People

As indicated through the interviews, discussions, and research findings, integrating effective software and technologies at Pilot Express can make all information clear and available. These technologies will enable Pilot Express to understand, streamline, and develop processes for overall performance improvement.

2 Context and Problems

2.1 Context

Pilot Express (PE) is a pseudonym for a registered and licensed Tennessee domestic courier company established in 2010. In 2018, the company was sold to a new owner, who now runs the company. It employs approximately 75 drivers (the actual number changes frequently). These drivers utilize a fleet of company-owned box trucks to deliver goods to several areas within a large city in the Southeastern part of the United States. This courier company delivers small to medium-sized goods and parcels and provides a variety of related services. Those services include standard courier services, pallet courier services, warehousing services, and overnight courier services. Standard courier services are most commonly used when delivery time is not overly sensitive. Pallet courier services, as the term might already suggest, involve bulk deliveries requiring partial or full pallets. Warehousing services refer to situations in which storage of goods is needed for a period of time between locations. Lastly, overnight courier services are used when it is important for goods to arrive the next day.

The courier delivery service industry is made up of two sectors: the larger courier sector and the smaller courier sector. Among these companies are household names such as Federal Express, United Parcel Services, DHL Express, Allied Express, Blue Sky Couriers, and Priority Courier Services. Each sector caters to different consumers based on the demand for the services offered. According to Industry Market Research, Reports and Statistics, there is a great deal of competition in the courier services industry at any level. There are 214,204 couriers and local delivery service businesses in the US as of 2020 and this number was expected to grow 3.5% in 2020 prior to the pandemic shutdowns. The number of businesses in the couriers and local delivery services industry has grown 4.0% per year on average over the five years between 2015 and 2020. The pandemic may have a growth effect on courier businesses as larger numbers of people are now shopping by mail.

This means Pilot Express faces stiff competition from established national couriers capable of spending more on marketing, more able to deliver interstate parcels, and have already integrated currently available technology into their operations. Pilot Express' goal is to become one of the leading courier and delivery services situated in the Southeastern United States.

2.2 Definition of Problem

Pilot Express reports many problems in maintaining versatility and variety while providing the different services mentioned above with consistent quality and accuracy. As a major weakness, Pilot Express does not have the financial capacity to continue competing with established companies in providing enough of a variety of services to maximize earnings. The goal, as with any other courier company, is to make the most amount of profit for the least amount of effort in a predictable, consistent way to maintain cashflow. Unfortunately, this objective is far from being accomplished. The biggest reason

these goals have not been achieved is the company has not articulated strategic organizational goals to know where to optimize.

The Chief Executive Officer of Pilot Express reports there is still general uncertainty throughout the delivery chain about whether a shipment has been delivered or collected on time. Their current process depends on the driver communicating back to the CEO or the COO via manual phone calls or paper reports regarding the status of each delivery. There is a similar manual system established for managing routes, drivers, and schedules. This often causes the dispatch portable mobile phone to ring all day, further creating backlog as only one line and one individual for dispatch is available. The dispatcher (or the person in charge of taking the calls) takes calls from drivers and clients, writes down information they are given, and finally makes another phone call to communicate that information to whomever is available at that time of the day. The dispatcher also has to manually coordinate driver availabilities, travel times, and routes. This inefficient manual system leads to continuous misinformation and miscommunication, not to mention the high degree of dispatcher burn-out. These are issues that reflect inadequate information technology integration or enterprise resource planning.

The CEO notes that recruitment and retention is a continuous issue as well. There is often difficulty identifying replacement drivers when regular drivers and "hot shot" drivers (drivers who work last minute loads, off a regular route, and/or requiring immediate delivery) are on leave, off sick, unresponsive, or otherwise unavailable. This significantly slows down service delivery and further damages customer service and employee morale. Another issue for the company is driver performance. There is no monitoring of traffic jams, optimization of delivery and pick-up routes, tracking of waiting time for pickup and drop-offs, or notification of truck malfunctions and breakdowns—all key elements that determine (un)satisfactory driver performance. These issues reveal inadequate information technology or enterprise resource planning.

These are processes that, in many ways, reflect delivery systems characteristic of decades-old technology and lack of strategic organizational goals. The escalation of competition, enabled by very rapid improvements in technology, has left Pilot Express in need of significant change to achieve its profitability goals and build its competitive edge.

3   Study Questions

Before Pilot Express can employ the difficult work of reengineering its processes to become more efficient and effective, I will begin by asking three basic questions:

1) What are the current underlying processes in effect at this company that connect its strategic goals to key target outcomes?
2) What are the bottlenecks or problems that are blocking the effectiveness of these processes?
3) What processes should be designed to create alignment with the organization's strategic goals to start implementing business process reengineering?

With answers to these questions, I will be able to prescribe specific critical success factors that may transform this company's operations. These may include setting clear strategic goals; capitalizing on advancements in information technology and enterprise resource planning systems and support; identifying the internal and external processes that will drive change to the new system and establishing change management strategies for the long term.

4   Conceptual Framework

Organizations seeking to implement business process reengineering should first start by understanding the current basic processes and bottlenecks that are blocking the effectiveness of existing processes. As one of the first steps of implementing business process reengineering, understanding the company's current and future business processes is essential before a redesign strategy can start to take place. Elzinga et al., (1995) mentioned that the processes should be separated in terms of what should be changed and what should be left alone. Yu and Wright (1997) suggest tools such as project management, coordination, human resource analysis, system development, and business process analysis should be considered at the beginning and throughout the lifecycle of the project. Intuitively, Pilot Express realizes the importance of analysis before proceeding in the radical design of reengineering its processes. Understanding the processes that should be designed to create alignment with the organization's strategic goals is a way to close the gap and start the process of transformation as soon as possible.

It is imperative that organizations begin BPR approaches by using responses to targeted questions regarding the most important foundational processes in use and analyzing those processes for the best strategy. Doing this makes clear where process inefficiencies exist, and it becomes possible to name opportunities for improvement. This opens the way for organizations to decide which specific improvements will support their business goals. This part of the process is not necessarily focused on changing or altering the process yet, but instead on finding those areas that can most help achieve current business goals. These are areas defined as "future state" business processes. To understand what the future state business might look like, it is important to listen to front-end workers as a means of identifying which business processes will help your company grow. This creates value by tying BPR strategies directly to organizational strategic goals. In addition, due to high levels of competition, organizations need to analyze their basic business processes on a regular basis and restructure them when they are not working to help their businesses continue to thrive.

Business Process Reengineering is fundamental to staying afloat in the competitive business world. The central aspects of BPR include radically changing fundamental business operations. The business process requires fundamental changes for enhanced quality and productivity. The changes should be radical rather than incremental which will result in dramatic improvements. BPR creates changes to the process or reduces the number of activities undertaken to finish a certain process. It also entails coming up with renewed work plans, redesigning activities, and effectively implementing the changes in every dimension such as process, human, technological, and organizational spheres.

This business tool has been used in a variety of industries for more than two decades. Due to the formation of free trade, services have become even more competitive which has created changes and

instability in the overall business environment. Companies are striving to stay competitively in line with pricing and services. Additionally, technological innovations have allowed for increased productivity (Smith, 1995); this has intensified competition. The changes in the economy demand stronger organizational development and transformation. This involves changing the organization's process, structure, and climate to ensure that a competitive edge is attained and retained.

Business reengineering entails redesigning systems and operations to meet the demands in the target market. Reengineering put emphasis on how the organization approaches its work and activities. There are various achievements made simultaneously which include: cutting the cost of production, enhancing the effectiveness of sales, boosting customer service, employing new technologies, implementing business restructures, and complying with new regulations. Strategic planning is fundamental in shaping organizational policies, processes, and supporting structures. Hence, the process is intended to give the organization holistic benefits that are both operational and strategic.

Even with the benefits and need of reengineering, one of the primary challenges is making the decision on whether to move forward with the reengineering process or remaining in the current state. Even though there are organizations that have successfully tackled this feat of reengineering their processes, there is a report made by Holland and Kumar (1995) that suggests "60% to 80% of these programs have failed" (p.79). Similarly, Hammer and Champy (2006) state "up to 70% of organizations are not successful at reaping the associated benefits" (p. 221). According to Smith (1995), the human element is fundamental for BPR. Guimaraes (1997) points out it is paramount to develop rigorous and systemic methods that are considered crucial for reaching business goals and objectives as well as the prevention of failure in the process.

As per Francis and McIntosh (1997), there are various factors which demand the implementation of BPR, i.e., global competition, changes in consumer needs, technology, and the demand to change organizational and managerial structure. This framework is based on the sequence of many operations which make up the entire business process. But due to the increase in market size, competition, and the advancement of technology, organizations are finding it difficult to stay stuck on conventional approaches to running their operation and remain successful. Therefore, organizations need to enhance productivity and enhance quality while reducing the time it takes to serve consumers.

In the modern business world, firms cannot rise above their competitors without standardized processes or adequate technology. It is paramount for them to evaluate their primary operations to meet the required changes. BPR serves the purpose of redesigning the business operations to enhance the business value at hand. It involves periodically restructuring for flexibility for future operational design.

Hammer and Champy (2006) identified three types of firms that should undergo reengineering. The first group are organizations that are in crisis and have no other solution to get out of the crisis. Second are the organizations that may not be affected by crisis, but the stakeholders have a feeling that they are weak and vulnerable to threats in the future. Last are the organizations that are performing well in their endeavors, but stand a good chance for gaining a competitive advantage against their competitors (p. 36).

There are several definitions of BPR, but the primary goal for BPR is to radically improve business operations and processes. As company needs vary, there are no tools or techniques set as mandatory universal solutions as the standard for customary use in business process reengineering. Also, BPR consultants and business scholars have employed the use of a diverse range of techniques and tools to reach the best results. The following are a few of the commonly applied techniques and tools:

- Process visualization: Barret (1994) stated that successful reengineering requires developing the process' vision as its backbone. A substantial number of authors recommend the development of an ideal "end state" for the reengineering of processes (Barrett, 1994).
- Change management. The available literature suggests that applying the skillset of personnel in reengineering is a key factor to consider. For instance, Grover (1999) termed change management as "the management of the multiple facets of process change—including the technology, people, change, and strategy, along with planning, structuring, and evaluation of business processes" (p.38), with the emphasis on people. In addition, "the aim is to draw out the people who really know how the business works and have been dying to improve it, and train them in best practice" (Kennedy, 1994, p.65).
- Benchmarking: bench marking is fundamental in reengineering as it supports planning and mapping the processes needed for development. It helps point out operational elements applied by other competitors in similar industries.

Available studies show few consultants depend on a single tool or approach to reengineer business processes. A majority of BPR approaches make use of various techniques and tools depending on the situation. Most studies prove that BPR not only encompasses the methodologies used, but also the tools and techniques applied in the process. Consequently, BPR includes the combination of activities that target to enhance business processes. But some scholars propose that the key to its success depends on comprehending and forming the BPR strategy. From all the studies done on the topic, it is rational to argue that "the success of any change effort depends on the workforce" (Smith, 1995, p.24). This must be inclusive of key management, front-line employees, and stakeholders.

Having reviewed the material available regarding BPR, it became apparent that Pilot Express would need to go back to the beginning and redefine its established mission and goals to see if they are in line with where the new owner wants to take the company as well as to understand the current climate it is operating in. With a clear understanding of where it has been and the processes established to get it to where it is now, and then a vision of where it wants to be as the world around it continues to change, it would then be possible to look at the existing processes in place to see if the company is set up to meet those challenges. Trying to synthesize that down into easy-to-communicate steps for the company to follow is what led to the development of the strategic research questions I developed for this assessment. These questions, again, are:

1) What are the current underlying processes in effect at this company that connect its strategic goals to key target outcomes?
2) What are the bottlenecks or problems that are blocking the effectiveness of these processes?

3) What processes should be designed to create alignment with the organization's strategic goals to start implementing business process reengineering?

5 Research Methodology

5.1 Research Design

This is a case study of Pilot Express where some of the research was done through field research and analyzed through content analysis using qualitative methods. These methods provide a description of the behavior of the employees and a view of the business from their perspective. The information used in this study comes from interviews and other sources, such as observation, C-Suite employee reports, and drivers' reports, each of which detail events from the individual point of view. The interviews conducted were an extremely effective procedure for obtaining information about Pilot Express processes and structure.

The purpose of this study is to identify preliminary information so that Pilot Express can start to reengineer its processes by answering the following questions:

1) What are the current underlying processes in effect at this company that connect its strategic goals to key target outcomes?
2) What are the bottlenecks or problems that are blocking the effectiveness of these processes?
3) What processes should be designed to create alignment with the organization's strategic goals to start implementing business process reengineering?

5.2 The Population

The population for this study is the employees of Pilot Express. According to the Chief Executive Officer, there are 70-75 employees on payroll at any given time, many of whom may never come into the office to handle administrative work, to receive orders, and/or to make deliveries. Of these approximately 75 employees, two are C-Suite employees and the others are truck drivers.

5.3 Sample Design

The sample was identified from the accessible population. This portion of the population was used because very few drivers made themselves available for interviews after repeated calls, many reminders, onsite visits, and unresponsiveness to messages being left. Therefore, this group was my convenience sample.

5.4 Limitations of the Case Study

Like many other research studies, this research is not without limitations. One limitation encountered was access to pertinent data. Due to the newness of the individuals within the organization, processes are not documented, and policies are not in place. The processes and policies used by the company changed frequently according to the situation, and decisions were often made in an ad hoc manner. Because the turnover rate for drivers at Pilot Express is so high, sometimes drivers were not

available for additional information or clarification. Another limitation was the disadvantage of open-ended questions as compared to close-ended questions; open-ended questions are time-consuming, the responses are difficult to code, and sometimes difficult to interpret. On the other hand, closed-ended questions that reduce the disadvantages listed above are themselves limited in that they lack the ability to gain detailed information.

5.5   Data Collection

The primary data was collected using structured questions that were asked during scheduled interviews. The questions were divided into two sections (see Appendix III). The first set of questions was designed to capture relevant high-level information about the operations of the business from the Chief Executive and Chief Operations Officers' points of view. The second set of questions was designed to capture front-line information about the operations of the business from the drivers' point of view.

Both sets of questions included closed-ended questions where a short or single-word answer was required and open-ended questions where there were no predefined options or categories provided. Respondents were free to answer as they chose. The participants were asked to supply their own answers and were reminded that there are no right or wrong answers to any question asked.

These types of question combinations are ideal for qualitative research. The advantage of open-ended questions is that participants can respond to the questions the way they would like to respond and tend to submit a lot of data to interpret. The advantage of close-ended questions is that they help get rid of irrelevant answers, help inform interpretation of open-ended responses, and are quicker and easier for respondents to answer.

6   Data Analysis, Results and Discussions

6.1   Introduction

In this chapter, the data collected from the interviews and questionnaires will be discussed. The data was analyzed to understand the key objective of the case study. That key objective is to identify preliminary information so that Pilot Express can start to reengineer its processes by answering the following questions:

1) What are the current underlying processes in effect at this company that connect its strategic goals to key target outcomes?
2) What are the bottlenecks or problems that are blocking the effectiveness of these processes?
3) What processes should be designed to create alignment with the organization's strategic goals to start implementing business process reengineering?

6.2   Data Analysis

According to Babbie (2011), "Qualitative data analysis is the nonnumerical assessment of observations made through participant observation, content analysis, in-depth interviews, and other qualitative research techniques" (p. 419).

During this analysis, I searched for common themes and patterns. The data collected from the interviews and questions were exported into an excel spreadsheet. The data was then scanned, coded, and categorized into simpler categories.

Once the data was coded, I focused on the themes that may have contributed to the bottlenecks and breakdowns that fell into four major categories of critical success factors. These factors included: (1) organizational strategic goals; (2) information technology/enterprise resource planning systems and related support; (3) internal and external drivers of change; and (4) change management.

6.3   Results and Discussion

To have an inside view of the business culture at Pilot Express, individual interviews were conducted. A total of 10 people was interviewed, specifically the CEO, COO, and eight randomly selected drivers. The drivers interviewed represented roughly 10% of the driver workforce. As shown in Figure 2 below, all the drivers interviewed were relatively new to Pilot Express, with 62% of the drivers having between 0 to 1 year experience at the company, while the remaining 38% had between 1 to 2 years of experience.

Figure 2: Interviewed Drivers by Years of Experience in Pilot Express

Pie chart showing the years of experience in Pilot Express among the drivers interviewed

A majority of the drivers interviewed in this study indicated Pilot Express was their first driving job, with only 38% having experience as a driver prior to Pilot Express (see Figure 3). This reality must be taken into account with this study as it indicates both their lack of experience/ability to compare with similar companies/tasks and the reality that Pilot Express is often an introduction point for employees of this type, indicating the need for quick and easy onboarding of new hires.
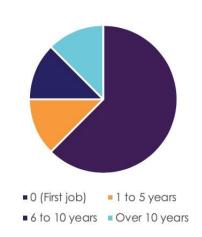
Figure 3: Interviewed Drivers by Prior Driving Experience

Pie chart showing prior years of experience among the drivers interviewed

Despite the relative low experience among the interviewed drivers, 37.5% of the drivers are above 45 years old, another 37.5% are between 25 to 45 years old while one-fourth of the drivers are younger than 25 (see Figure 4).
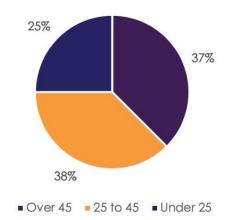
Figure 4: Interviewed Drivers by Age

Pie chart showing the age of the drivers interviewed

With this mix of age and experience in the company, more than half of the drivers listed high school as their highest level of education, with the rest having attained a bachelor's degree or higher (see Figure 5).
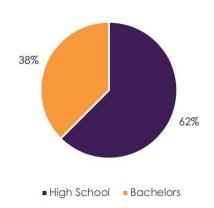
Figure 5: Interviewed Drivers by Highest Level of Education

Pie chart showing the highest level of education of the drivers interviewed

Surprisingly, only 12% of the interviewed drivers possessed a commercial driver's license before or after taking the job at Pilot Express (see Figure 6). To be clear, a commercial driver's license (CDL) is not a requirement toward drivers effectively and legally performing their jobs.
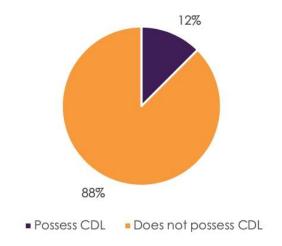
Figure 6: Interviewed Drivers with Commercial Driver's Licenses (CDL)

Pie chart showing the possession of CDL among the drivers interviewed

Research Question 1 - What are the current underlying business processes in effect at this company that connect its strategic goals to key target outcomes?

Currently, the COO of Pilot Express acknowledges that there are no documented processes in use within the company, while the CEO says there are limited to no processes in place. The limited processes are managed in an ad hoc manner.

Having a strategic plan, a mission statement, and a vision statement in place are crucial in establishing and guiding long-term goals in a company. Unfortunately for Pilot Express, all of the interviewees, including the CEO and COO, believed there is no strategic plan in place. They could not point to a mission statement or a vision statement in guiding the company.

The drivers were interviewed regarding how the day-to-day operations of the business are conducted. All the drivers claimed the top customers they service were Staples and LSO. The drivers described how each of their day starts. This process, reported by most, is summarized in the steps below:

1. Coordination with manager regarding delivery vehicle location.
2. Mobilization to the delivery vehicle location.
3. Drive the delivery vehicle to the warehouse.
4. Load the packages to the delivery vehicle in a logistical manner (from last delivery to first delivery).
5. Setup the delivery route and navigation for drop-off locations.
6. Drive to the first drop-off location and deliver the package.
7. Continue to the next drop-off location until all the packages have been delivered.

Thus, even though no one within the company recognized any official processes in place, processes have been in operation at least at a base level throughout the company. Given the relative newness of company employees, all having two years or less time within Pilot Express, this process is being communicated at some level. Contributing to its effectiveness is the high degree of intuitive thinking involved in linking the steps taken.

Based on information from the CEO and COO, the drivers are not provided with a company phone or a recommended courier software to be installed in their existing devices. Under the current conditions, drivers tend to bring their own personal device to work to use for navigation and company communication. According to the CEO, this non-standardized approach has resulted in complications in acknowledgement of pickup and drop-off times and locations. There is no means of automatic tracking of the personal devices that drivers are using and no means through which the company can enforce the use of specialized software on personal phones without even knowing the platforms these personal devices are operating from.

Training drivers on the parcel delivery process is crucial since it ensures that each package gets delivered to the customers in quality condition. Among the drivers, though, 75% answered that the company's training program is primarily based on learning on-the-job (see Figure 7).
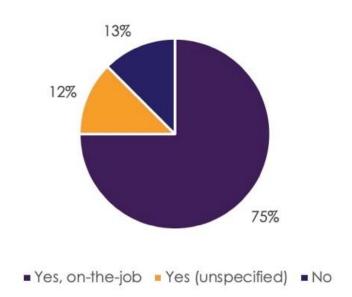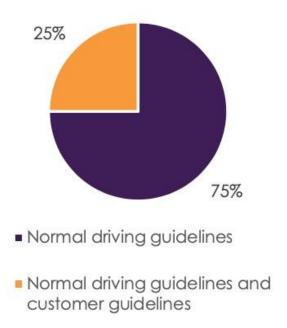
13%

12%

75%

■ Yes, on-the-job   ■ Yes (unspecified)   ■ No

Pie chart showing the existence of training program based on drivers' feedback

Drivers were also asked if there were business rules that must be learned in order to conduct business effectively (see Figure 8). All the drivers believed normal driving guidelines were the only rules-based knowledge needed for the job. A follow-up question as to what these 'normal driving guidelines' entailed listed having a valid driver's license while on the road (no need for it to be the more specialized CDL license for commercial-grade delivery), following the legal posted speed limits, and having basic liability insurance on any vehicles driven.

Additionally, 25% of the drivers reported other than normal driving rules on the road, they believed following any known customer guidelines should also be performed, such as dock or delivery safety guidelines at delivery locations. None of the drivers mentioned any other business protocols being taught on new-hire or followed while performing the job.

25%

75%

■ Normal driving guidelines

■ Normal driving guidelines and
customer guidelines

Pie chart showing the mandatory business rules followed based on drivers' feedback

The drivers were also asked about how much the CEO and COO are involved in day-to-day operations of the company (see Figure 9). All the drivers believe that the CEO and COO are involved in daily operations to some degree, but they disagreed on just how much. Half of the respondents answered simply yes, the CEO and COO are involved in daily operations and the remaining 50% responded they are only involved sometimes. One of the respondents indicated the CEO and COO used to be more actively involved in daily events, but now they have both started delegating responsibilities and are not as actively involved. Another respondent indicated there had been times when the COO had to make deliveries himself in order to have goods delivered on time. This event came about due to inconsistencies in the workforce and scheduling.

Figure 9: Active Involvement of CEO and COO

■ Yes   ■ Sometimes

Pie chart showing whether CEO and COO are actively involved in day-to-day operations based on drivers' feedback

Drivers were also asked whether there is enough understanding, autonomy, and authority for them to act independently on business rules, trigger points, or events. All the drivers answered no. This answer highlighted the lack of leadership and empowerment in everyday employees feeling properly equipped to perform their job.

Lastly, the drivers were asked if the day-to-day operations they are engaged in are logged in any way. None of the drivers answered that logging operations is mandatory, a troubling situation in itself. Most of the drivers, 88%, claimed reporting was sometimes performed, while 12% claimed logging was not performed at all (see Figure 10). One of the drivers claimed operations are just being reported to the CEO through phone, while another driver claimed operations are not logged at all. His impression of the lack of reporting was informed by a recurring problem he is been dealing with that has not been addressed despite his efforts.

Pie chart showing whether day-to-day operations are logged based on drivers' feedback

Research Question 2. What are the bottlenecks or problems that are blocking the effectiveness of these processes?

By only employing unformalized operations processes on an ad hoc basis, Pilot Express has experienced costly communication gaps and minimally effective IT integrations. This was recognized by the CEO during our interview. To understand how operations look from the driver's perspective, drivers were each asked about the top three challenges keeping them from being more useful, valuable, or efficient while performing their job. Communication was among the most-identified challenges, with 50% of the drivers claiming it in their list (see Figure 11).
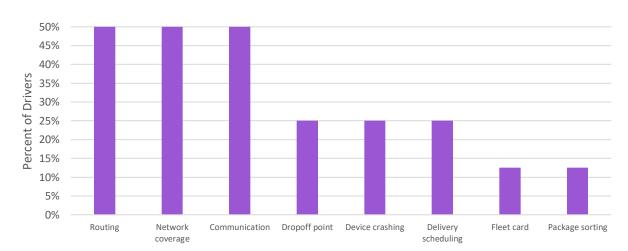
Figure 11: Challenges in Becoming a More Useful, Valuable, or Efficient Driver

Having minimal IT integration was another constant concern mentioned among the top three challenges for drivers. Indicating these issues were factors such as routing problems (50% of the drivers reported), poor network coverage in remote areas (50% of the drivers reported), personal device crashing (25% of the drivers listed), unrealistic delivery scheduling times (25% of the drivers reported), and package sorting (13% drivers listed). These IT integration issues stem from the reality that the drivers are not equipped with updated communications devices (e.g., uniform smart phone devices) or uniform software applications such as a dedicated warehouse management system or a real-time dedicated navigation GPS system.

Other challenges reported in the job had to do with inefficient customer relations. In this category, 25% of drivers indicated they had difficulties locating the expected drop-off point and/or an absence of a dock in delivery points where one would normally be anticipated. Lastly, a lack of fleet card was also mentioned as a challenge among 13% of the drivers, as this may impact delivery and access to delivery areas.

Related to their top challenges to job performance, drivers were asked about the most difficult task they face on a regular basis. The top answer was delivery in remote locations, which was reported by 37% of the drivers. The problem with delivering to remote locations is due to the lack of broadband network coverage, hence hampering the navigation capabilities of at least some of the personal devices drivers used in their own lives.

One-fourth (25%) of the drivers identified 'tricky' drop-off locations are their most difficult task. To define this term more fully, these drivers indicated some drop-off locations are not fit for big deliveries and/or are physically difficult to locate, but this is not necessarily information drivers are given prior to arriving at the location to experience it first-hand on the fly. Another quarter (25%) of the drivers suggested carrying packages, either carrying them up flights of stairs or loading the packages in a logistical manner (from last drop-off to the first one) was a problem. The remaining 13% answered that locating packages in a logistical order is a problem (see Figure 12).

Pie chart showing what drivers identify as their most difficult regular task

Managing the administration and human resources aspect of the company is another big challenge. Currently, the CEO and COO are sharing this kind of administrative work. The CEO and COO identified the following challenges in their respective roles:

1. Hiring talent in the company is currently performed through an informal and unstructured hiring process, as per the COO and CEO. As such, choosing the right talent is a challenge since it is currently performed through phone interview only with no structured guidelines or rubric in place.
2. Another hurdle in the hiring process is validating the quality of the drivers. Although the cost to get driving records is $25, as the COO says, the records are not always indicative of the quality of the driver.
3. Payroll accuracy is another challenge as well due to having minimal processes in place.
4. Lastly, the CEO mentions insurance verification for drivers is an issue, since it is required to have coverage while driving on the road but can be a process to obtain proof.

Overall, answers to this group of questions reveal the lack of creating a business process roadmap is costing the company growth and efficiency and may threaten its survival.

Question 3. What processes should be designed to create alignment with the organization's strategic goals to start implementing business process reengineering?

The CEO and COO both believe redesigned processes put in place within the company would naturally morph into a more structured process for the company. The COO mentioned concerns that the redesigned processes must have a defined purpose, should be measured (or have metrics attached), will involve market research, and must meet minimum federal guidelines.

In terms of operations, both the CEO and COO expressed that having a safety program is a must, given their difficult and often unpredictable operating conditions. They both felt automating the routing system of the drivers in such a way that would incorporate real-time traffic conditions synched with GPS systems as something to be implemented as quickly as possible.

Drivers were asked what one improvement would make the biggest impact on their day-to-day activities. Having a navigation device garnered the most responses, with 37% believing it will make their jobs more efficient. A fourth of the drivers (25%) believed optimizing the routes would make the biggest difference, since efficient routing will save time and required resources to service the same amount of deliveries. Another 25% of drivers believed having a package sorting system was highest priority, while 13% believed an on-call assistance service will provide the biggest improvement since this will improve communication and support (see Figure 13).
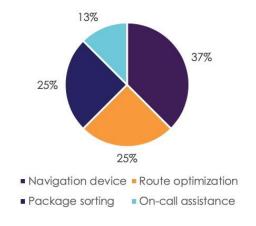
Figure 13: Biggest Improvement Factors Rated by Drivers

Pie chart showing the biggest improvement in day-to-day operations based on drivers' feedback

The CEO and COO both believe having a dedicated warehouse management system will improve the company's operations through the following means:

1. Faster delivery
2. Real-time tracking
3. Locating inventory
4. Streamlined operations
5. Improved productivity
6. Minimized errors
7. Timely customer communication

It came as no surprise that all the drivers believe having a warehouse management system and a dedicated navigation system will make day-to-day operations more efficient.

Having IT integration among all operations will definitely improve operations as all drivers would be operating from the same system, making support services a possibility. Currently, the company has the following information which would be improved if all these pieces were housed inside a dedicated and dispersed IT structure:

1. Driver information and performance
2. Accident reporting and tracking
3. Safety Inspections
4. Fuel Mileage
5. Driver Payroll

With regards to needed administrative processes, the CEO believes there should be standardized processes in:

1. Personnel recruitment
2. Driver insurance verification
3. Payroll Systems

7   Recommendations

To formulate recommendations for Pilot Express, I completed the following key activities:

- Interviewed eight drivers, as well as the Chief Executive Officer (CEO) and the Chief Operating Officer (COO)
- Documented current state findings, observations, and applicable process flows
- Identified opportunities for improvement and developed actionable recommendations for Pilot Express considerations

7.1   The Approach

In my approach to recommending preliminaries before implementing business process reengineering at Pilot Express, I incorporated four elements of an organization, each of which are critical to the business's overall effectiveness and efficiency (see Figure 14).

Figure 14: Elements of an Organization

Organization: Are structures aligned with goals? Are span of control and reporting relationships clear? How does the culture impact service delivery?

Recommendations

Create a mission statement that clearly outlines Pilot Express' strategic mission, purpose, and the role it plays within the courier industry

Review and optimize the list of activities and services provided by Pilot Express and identify the purpose of each activity

Identify crucial activities that have not been performed, and place these as priority as they impact financial reporting and budget reconciliation accuracy

Develop an organizational model supporting Pilot Express' mission and strategic initiatives

Pilot Express needs a strong and seasoned leader with a solid financial background and management experience to serve as an Office Manager to collaborate and communicate effectively with the CEO, COO, drivers, and customer base within Pilot Express

Clear and effective working and communication channels need to be established at the leadership level to best support future state success

Postpone adding additional employees until the administrative office settles into a more stable business mode after various changes, e.g., automated routes, GPS, warehousing software, etc., and a more realistic workload for the drivers can be further assessed

People: Do we have subject matter experts to enable business processes?

<u>Recommendations</u>

Separate the strategic activities involved in running the company such as budget planning, tracking and reconciliations, and management report generation from the transactional tasks to maintain Pilot Express's focus and priorities

Along with the proposed organization structure change, allocate activities and responsibilities based on task categories and align with the CEO, COO, and Office Manager's skillsets and competencies to quickly develop subject matter expertise and efficiency without compromising customer service level

All Pilot Express Drivers should reach proficiency/expertise level knowledge of existing systems supporting business processes, particularly for the processes applicable to their roles/responsibilities and possess sufficient federal guidelines (as applicable) skillsets.

Schedule team or individual training for all existing and new-hire employees and hold individuals accountable to proficiency after training

Schedule periodic, for example annual, refresher/reinforcement trainings to keep driver's skillsets fresh and relevant

Develop a detailed performance evaluation document that clearly specifies the driver's roles, responsibilities, expectations, and any other metrics they will be assessed against

Ensure each driver not only understands their individual responsibilities, but also how they are expected to work as a team, and how their individual and collective team efforts contribute to the entire operation

Conduct a formal performance review with each driver on a quarterly basis; fewer formal check-ins can take place more frequently to ensure the individual understands the expectations and is performing as part of a team

Technology: Is technology appropriately enabling business processes and, if not, what technology is needed?

<u>Recommendations</u>

Create a Pilot Express website to include information such as the mission and purpose of the company as well as a list of services Pilot Express provides and who at Pilot Express to contact for what level of support services

All relevant forms and documents that end users and customers might need should be posted to the website where they can be easily located, downloaded, completed, and submitted/emailed in electronic format to facilitate the reduction of paper/manual workload and processes

Purchase a dedicated GPS system (e.g., One Step GPS, Verizon, ATBS) and Warehouse Management System (e.g., 3PL Warehouse Manager Software, Fishbowl Inventory, WISE), and solicit necessary training and support to install and implement company wide.

Business Process: What is the best way to perform tasks in serving end-users and customers?

Document all processes currently in use (officially or 'naturally') and identify all existing variations, paper/manual steps involved, and any other relevant related material

Going forward, the CEO, COO, and Office Manager should work collaboratively to clearly and accurately document and track operating costs, fulfill Pilot Express' fiduciary duties, and bring more transparency and support to the next annual budget cycle

Optimize or leverage technologies as much as possible and ensure all employees have an appropriate level of system access/role assignment to perform their duties efficiently

Critically review all existing manual steps and paper records-keeping for duplication, and, when possible, convert paper forms to electronic forms and route for review/approvals via email for workflow effectiveness

Collaborate to review and streamline, standardize, and document all future key processes in process flow charts, clearly identifying who is responsible for each step of the process. Future state processes should consider recently implemented and/or soon-to-change technology solutions supporting the process

Communicate and educate the standardized and documented future state process flows and ensure these processes are followed with no variations/deviations going forward

7.2   Current State vs Future Targets (Gap Analysis)

In Figure 15 below, observations from data analyzed and interviews conducted are contrasted against an ideal future-state. Recommendations for improvement focus on how Pilot Express can bridge the existing gap.

Figure 15: Gap Analysis

7.3   Key Observations

There are 12 key observations from the four categories discussed above that emerge after review and analysis of the information obtained through interviews. They are listed in Figure 16 below, organized by categories.

Figure 16: Key Observations

Group	Key Observations
Organization	Pilot Express currently does not have a clearly defined strategic plan, mission or vision statement
	Current organization and reporting structure is not strategically aligned to support function and operation without an Office Manager
People	Roles, responsibilities, and tasks can be more strategically assigned to ensure sustainable efficiencies and effectiveness
	Lack of structured and adequate training hinders drivers' ability to perform their job duties at a satisfactory level
	Interviews indicated that competencies critical to drivers' functions are moderate
	Some drivers are not performing all their individual duties nor operating as a cohesive team when taking care of trucks
	There is no established performance expectations, feedback, or metrics in place to measure productivity
Technology	Homegrown solutions do not adequately support functions and operations
	There is no website which makes it difficult for customers or prospective customers to find helpful information
Processes	Due to a combination of paper-based processes, inadequate systems, lack of resources and capabilities, there has been limited financial accountabilities
	Key business processes are not documented from beginning to end leading to variations, missed steps, and inefficiencies
	Processes are manual, creating duplicated activities, room for error, and overall inefficiencies

7.4   Recommendations Grouping

Figure 17 below organizes the 12 key observations/recommendations identified for Pilot Express structured into the four groups: Organization, People, Technology, and Business Processes. The list of recommendations is illustrated in more detail to follow.

Figure 17: Recommendations Grouping

Organization	Process
Create a clear strategic plan, mission and vision statement Develop an organizational structure that supports the mission and strategic initiative & recruit and Office Manager to head it up Review current activities; identify critical tasks that have not been performed and complete those priorities	Document all current processes, utilizing technology to support processes wherever possible Optimize technology and reduce manual steps as much as possible Standardize and streamline future processes and ensure compliance
Continue to evaluate vendor for solutions for GPS/Warehouse Management Collaborate with IT professionals to ensure that technologies meet functional and business needs Create website to include most up-to-date information	Align tasks with skillsets and competencies Separate the strategic activities from the transactional tasks Provide training for all drivers Create job descriptions and future state structure
Technology	**People**

7.5   Recommendations and Prioritization

I prioritized a list of the 26 recommendations and created a realistic timeline for Pilot Express to consider (see Figures 18 and 19 below).

Figure 18: Recommendations Prioritization

Roadmap	Rec. #	Recommendation
0 - 3 Months	3	Identify crucial activities that have not been performed, complete them as priority as they impact financial accuracy
	7	Consider immediately hiring an Office Manager to settle into a more stable mode for near future changes
	8	Separate strategic activities from the transactional tasks to maintain focus, priorities, and develop expertise
	9	Allocate tasks and activities based on categories and align skillsets and competencies
	10	Complete needed training, hold individuals accountable to proficiency
	22	Document all processes in current state and identify all existing variations, paper/manual steps, etc.
	23	Purchase technologies; ensure all employees have appropriate access and training
	24	Review all manual steps and paper records; remove redundancies, convert to electronic files where possible
	25	Redesign, streamline, and document future state processes, incorporating leading practices where possible
4 - 6 Months	26	Communicate and educate employees on the standardized future state process flows, ensure compliance
	1	Create a mission statement that clearly outlines strategic purpose and the role it places within operations
	2	Review and optimize the list of services provided by Pilot Express and identify the purpose of each activity
	4	Develop an organizational model that supports the mission and strategic initiatives
	5	Recruit a seasoned individual with strong financial background and experience in the courier sector
	6	Establish clear and effective communication channels at the leadership level
	12	Update job descriptions in accordance with proposed future state organizational structure
7 - 9 Months	13	Develop detailed driver performance evaluation document, clearly specify expectations and metrics
	14	Ensures that drivers understand responsibilities and their obligations to be part of the team
	18	Create website to include mission, purpose, and who to contact for services
	19	Post all relevant information for possible customers
	20	Establish standardized process to make available
	21	Document operating cost to increase financial transparency and accountability
9 Months+	11	Schedule periodic refresher / reinforcement trainings to keep skillsets fresh and relevant
	15	Conduct formal performance review on a quarterly basis to ensure satisfactory individual and team performance
	16	Continue the evaluation of outside solutions for GPS and warehouse management
	17	Communicate with all employees to ensure future solutions meet business needs and are well implemented

Figure 19: Detailed findings and recommendations

Group	Recommendation
Organization	Create a mission statement that clearly outlines PE's strategic purpose
	Review and optimize the list of services provided by the Pilot Express and identify the purpose of each activity
	Identify crucial activities that have not been performed, complete them as priority as they impact financial accuracy
	Develop an organizational model that supports the mission and strategic initiatives
	Recruit a seasoned individual with strong financial background and experience in the courier sector
	Establish clear and effective communication channels at the leadership level
	Consider immediately hiring an Office Manager to settle into a more stable mode for near future changes
People	Separate strategic activities from the transactional tasks to maintain focus, priorities, and develop expertise
	Allocate tasks and activities based on categories and align skillsets and competencies
	Complete needed training, hold individuals accountable to proficiency
	Schedule periodic refresher / reinforcement trainings to keep skillsets fresh and relevant
	Update job descriptions in accordance with proposed future state organizational structure
	Develop detailed driver performance evaluation document, clearly specify expectations and metrics
	Ensures that drivers understand responsibilities and their obligations to be part of the team
	Conduct formal performance review on a quarterly basis to ensure satisfactory individual and team performance
Tech.	Continue the evaluation of outside solutions for GPS and warehouse management
	Communicate with all employees to ensure future solutions meet business needs and are well implemented
	Create website to include mission, purpose, and who to contact for services
	Post all relevant information for possible customers
Processes	Establish standardized process to make available
	Document operating cost to increase financial transparency and accountability
	Document all processes in current state and identify all existing variations, paper/manual steps, etc.
	Purchase technologies; ensure all employees have appropriate access and training
	Review all manual steps and paper records; remove redundancies, convert to electronic files where possible
	Redesign, streamline, and document future state processes, incorporating leading practices where possible
	Communicate and educate employees on the standardized future state process flows, ensure compliance

8   Conclusion

Business process reengineering (BPR) is a management strategy appropriate for the leadership at Pilot Express to use to meet the demands of reshaping and improving the way they run their operations. Through careful planning for the use of BPR techniques, Pilot Express will be able to achieve the radical and fundamental improvement in their business processes that are required to be competitive and meet its mission. To accomplish this objective, there are preliminaries that need to take place prior to Pilot Express implementing BPR.

This study utilized observations and interviews to evaluate what those preliminaries are and how BPR techniques can be utilized in Pilot Express' efforts to bring more efficiency and consistency to their company. The responses uncovered preliminary insights essential to improving the effectiveness of operations.

Both the conceptual framework and the research analysis support the idea that a combination of factors is needed before implementing BPR, such as organizational strategic goals and information technology. The paper offers evidence that organizations like Pilot Express should cautiously determine

which business processes are key processes within their operations, which business processes should be standardized, and where there may be some flexibility.

Organizational strategic goals and information technology/enterprise resource planning systems are crucial for the business processes at Pilot Express to move out of the pre-phase of business process reengineering to implementing business process reengineering. In doing so, it is probable they can achieve operational effectiveness and efficiency, consequently attaining competitive advantage.

References

This is the last section of the report, prior to any appendices. The references should not be double-spaced, but single-spaced. For a technical report, use the CSE style.

5 Business Process Questions to Ask Yourself. (2016, November 09). Retrieved July 27, 2020, from https://lithyem.net/5-business-process-questions-ask/

5 Types of Services Provided by Courier Companies. (2014, August 13). Retrieved July 8, 2020, from https://www.useucs.com/archives/blog/5-types-of-services-provided-by-courier-companies

Aladwani, A. M. (2001). Change management strategies for successful ERP implementation. *Business Process Management Journal, 7*(3), 266-275.

Babbie, E. R. (2011). *The basics of social research*. Belmont, CA: Wadsworth / Cengage Learning.

Barrett, J. L. (1994). Process Visualization: getting the vision right is key. *Information System Management*, *11*(2), 14-23.

Bibiano, L. H., Mayol, E., & Pastor, J. A. (2007). Role and importance of business processes in the implementation of CRM systems. *Actas de los Talleres de JISBD, 1*(2). 10-17.

Brock Jr, J. L., Finedore, J. P., & Davis, D. A. (1997). *Business Process Reengineering Assessment Guide.* Diane Publishing.

Cheng, X., Liao, S., & Hua, Z. (2017). A policy of picking up parcels for express courier service in dynamic environments. *International Journal of Production Research, 55*(9), 2470–2488. https://doi.org/10.1080/00207543.2016.1231431

Commercial Driver License. (n.d.). Retrieved from https://www.tn.gov/safety/driver-services/commercial-driver-license.html

Corkery, L. (2019, August 27). Change Management Glossary. Retrieved July 29, 2020, from https://financeandbusiness.ucdavis.edu/obt/services/change-mgmt/toolkit/glossary

Elzinga, D. J., Horak, T., Lee, C. Y., & Bruner, C. (1995). Business process management: survey and methodology. *IEEE transactions on engineering management*, *42*(2), 119-128.

Francis, A., & MacIntosh, R. (1997). The market, technological and industry context of business process re-engineering in the UK. *International Journal of Operations & Production Management*.

Grover, V. (1999). From business reengineering to business process change management: a

longitudinal study of trends and practices. *IEEE Transactions on Engineering Management*, *46*(1), 36–46

Guimaraes, T. (1997). Empirically testing the antecedents of BPR success. *International Journal of Production Economics*, *50*(2-3), 199-210.

Hammer, M. (1990). *Reengineering work: don't automate, obliterate*. *68*(4), 104.

Hammer, M., & Champy, J. (2006). *Reengineering the corporation, a manifesto for business revolution*. New York, NY: Harper Business.

Holland, D., & Kumar, S. (1995). Getting past the obstacles to successful reengineering.

Business Horizons, *38*(3), 79–85.

Industry Market Research, Reports, and Statistics. (n.d.). Retrieved July 10, 2020, from https://www.ibisworld.com/industry-statistics/number-of-businesses/couriers-local-delivery-services-united-states

Kennedy, C., (1994). Re-engineering: the human costs and benefits. *Long Range Planning* 27 (5), 64–72.

Kim, C., & Perreault, H. (1997) Preparing for a change: A planning framework for business process reengineering, *Journal of International Information Management*: *6* (2), 51-58

Logistics and Courier Services. (2019, September 09). Eurosender. Retrieved July 1, 2020, from https://www.eurosender.com/blog/en/logistics-and-courier-services/

Motwani, J., Kumar, A., Jiang, J., & Youssef, M. (1998). Business process reengineering A theoretical framework and an integrated model. *International Journal of Operations & Production Management, 18*(9), 964-977.

Smith, B. (1995). Process reengineering: The toughest challenge. *Hr Focus*, *72*(2), 24-24.

What is pallet delivery? (2015, February 20). Retrieved July 8, 2020, from https://www.deliveryquotecompare.com/news/what-pallet-delivery/

Workflow. (2020, April 18). Retrieved from https://en.wikipedia.org/wiki/Workflow

Yu, B., & Wright, D. T. (1997). Software tools supporting business process analysis and modelling. *Business process management Journal*.

Appendix A: Definition of Terms

The following are key terms and concepts used in this study:

1. **As-is state:** This is the current situation in the organization, i.e. the pre-change people, processes, technology, structure, strategy, culture, etc. (Corkery, 2019)

2. **Business Processes:** A set of linked activities that create value by transforming an input into a more valuable output. (Bibiano, 2007, p. 58).

3. **Business Process Reengineering (BPR):** A systematic, disciplined improvement approach that critically examines, rethinks, and redesigns mission-delivery processes in order to achieve dramatic improvements in performance in areas important to customers and stakeholders. (Brock Jr. et al., 1997, p. 65).

4. **Change Management:** The management of the multiple facets of process change—including the technology, people, change, and strategy, along with planning, structuring, and evaluation of business processes (Grover, 1999 p.38)

5. **Commercial Driver's License (CDL):** A driver's license that is required of operators of large, heavy, complex, or placarded hazardous material vehicles in commerce (Commercial Driver License).

6. **Enterprise Resource Planning System:** An integrated set of programs that provide support for core organizational activities such as manufacturing and logistics, finance and accounting, sales and marketing, and human resources. An Enterprise Resource Planning system helps different parts of the organization share data and knowledge, reduce costs, and improve management of business processes (Aladwani, 2001, p. 266).

7. **Hotshot Driver:** A hotshot driver is a truck driver whose responsibilities are to haul and deliver time-sensitive freight to customers; they are essentially the minutemen of trucking.

8. **Overnight Courier Services:** Services that are contracted that guarantee overnight delivery of packages (Logistics and Courier Services, 2019).

9. **Pallet Courier Services:** Services that deliver bulk or large-scale goods packaged on pallets for shipping efficiency (What is pallet delivery, 2015).

10. **Standard Courier Services:** Services contracted to pick up and deliver goods from one location to another; while general timeframes may be estimated, there is not necessarily any guarantee of delivery by a specific time or date (Logistics and Courier Services, 2019).

11. **To-be state:** This is the desired future situation in the organization, i.e., the post-change people, processes, technology, structure, strategy, culture, etc.

12. **Warehousing Services:** Services contracted in which the company provides storage of goods for some period of time while it is in transit from one location to another (5 Types of Services Provided by Courier Companies, 2014)

Appendix B: Authorization Letters of Cooperation

VANDERBILT
PEABODY COLLEGE

July 22, 2019

Dear Mr.

I am contacting you on behalf of Peabody College, Vanderbilt University to ask if you would agree have you and your company be a part of my doctoral capstone study. I would like to request your permission to assess your business for process re-engineering and the operational performance of your company.

Should you grant me permission to use your company, the first step in business process analysis is understanding how you do business today which will require me to ask questions to map out the steps in your core business processes. The questions around existing processes should uncover bottlenecks and lend itself opportunities for improvement. Once we get an understanding of your current processes, we can then start the reengineering process which will simplify and streamline your business.

All information will be treated strictly as confidential and purely for academic purposes only. I hope you will choose to participate in this important academic study, and I am looking forward to your favorable response.

Thank you.

Shenika Thomas
Doctoral Candidate
Shenika.d.thomas@vanderbilt.edu
Vanderbilt University

07/22/2019

RE: Permission to conduct research

Dear Shenika Thomas (Principal Investigator / Vanderbilt Researcher),

Via this letter, I grant permission for you to come into my organization and assess my business processes in understanding how I do business today. I am more than happy to answer whatever questions you may have or put you in contact with the right person that can answer your questions.

Sincerely,

_____

Chief Executive Officer

Appendix C: Interview Questions

CEO & COO Interview Questions

The following questions represent the data to be collected from the CEO and COO. Questionnaires will be used in the data collection process. These will be administered through interviews and phone calls with the CEO and COO.

1. Is there a strategic plan, mission statement, or vision statement in place and are your drivers aware of it?

2. What is your "as is" environment?

3. Who are your process owners?

4. What complicating factors should we consider?

5. Is global position systems (GPS) technology installed on the trucks of the drivers?

6. How could a warehouse management system help your operations?

7. What organization do you compare your business to that is doing it better?

8. What do you think your redesigned processes look like?

9. Do you know how much to budget for customizations and is your company financially stable to make those customizations?

10. Which processes do you think would be best to automate first?

11. What kind of data do you have, and what do you want to do with it?

12. How much do you spend on employees doing administrative work that could be reengineered? And do you think you will be able to do more if it was automated?

13. What is the lack of creating a business process roadmap costing you? And what could it save if you had a roadmap in place?

Drivers Interview Questions

The data from the study to be collected from the sample population that operates the vehicle fleet (drivers) is represented in the questions framed below. Questionnaires will be used in the data collection process. These will be administered through interviews and phone calls with the drivers.

1. How long have you worked at Pilot Express?

2. What is your highest level of education?

3. What is your age?

4. Do you have your Commercial Driver License (CDL)?

5.   Is this your first-time driving trucks and/or delivery items?

6. How many years have you been performing this work?

7. Are you aware of the strategic plan, mission statement, or vision statement for Pilot
    Express?

8. Is there a formal training program in place or is it mostly on the job training?

9. Tell me how your day is started and how you received your work for the day.

10. What is the most difficult task you must perform?

11. What do you wish could be improved or what is the biggest opportunity for improvement?

12. Who are the top three customers that you regularly deliver products to?

13. What are the top three challenges keeping your job from being more useful, valuable, or
    efficient?

14. Is the CEO and COO actively involved in the day to day operation?

15. Are there any business rules you must know to be able to perform your duties effectively?

16. Do you have enough understanding, autonomy, and authority to act independently on business rules, trigger points, or events?

17. Are issues with your day-to-day operations logged and addressed in a systematic way?