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INCREASING GROWTH IN CONSULTING REVENUE OF A THIRD-PARTY LOGISTICS
COMPANY

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ABSTRACT

The goal of this research, as established by the 3PL company, was to propose “future-state recommendations” for the company’s customized solutions portfolio that support the company’s goal to double solutions revenue in a three-year time period. This involved examining the current product portfolio to determine if the current value-added services are competitive and meeting customers’ needs, and if not, making conclusions as to what changes should be made.

The research was conducted by analyzing historical company data on solutions revenue by practice area, as well as the number of projects that utilize the various solutions. Additionally, interviews were conducted with sales and consulting employees for an internal point-of-view from those who interface directly with customers and receive feedback. A market landscape analysis was completed by researching two third-party logistics companies and two consulting-based companies to determine how their customized services compare to this 3PL company. This also included research on current technology trends and how they are being applied to supply chain management.

The three areas of research were synthesized in order to form comprehensive results in the form of a SWOT analysis, and ultimately a set of recommendations for the 3PL company. These recommendations include changes that can be made to the portfolio of customized solutions, alterations to internal solutions group processes, and the methodology for making continual improvements in the future.

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Chapter 1

Introduction

Even the largest and most profitable companies in the world receive consulting from external sources as to how to more efficiently run their businesses, increase profitability, and manage risk. This concept of consulting is becoming even more crucial to companies as information technology and its relationship with supply chain management becomes increasingly complex. In addition to the increased demand for updated and efficient technology, businesses constantly need to improve processes in order to compete within their industries.

This thesis will examine the current customized consulting solutions offered by a global third-party logistics (3PL) company headquartered in the United States. This company, while thought of typically as solely a transportation company, has placed stronger focus on the consulting solutions area of its business. The solutions group at this 3PL company provides consulting solutions that are tailored to individual companies' needs and goals. This group acts as the consulting side of the business in order to improve customers' business processes through the portfolio of solutions. Through both sales and implementation representatives, this 3PL company connects its customers to the resources they need to improve information technology, supply chain optimization, and more within their firms.

The 3PL company believes that there is potential for significant revenue growth within the consulting side of the business and has made it one of its company-wide goals over the next three years to double solutions revenue in this area. There is significant competition within business consulting, and keeping up with trends in terms of what businesses need can be

difficult. This research will provide the company with recommendations as to how to improve the customized solutions area of the business, position itself toward increasing consulting solutions revenue, and continue assessing and improving the customized solutions business in the future.

This research will involve reviews of company data on 2016, 2017, and 2018 realized revenue from the customized solutions group. This will include trend analysis by sales practice area, and by product. This quantitative portion of the research will provide insight into the “current state” of the revenue generated by this area of the business. The data analysis will also include analysis of utilization data. This data set provides information as to what solutions were selected and implemented for customer projects most frequently and how this changed over the three-year time period. In addition to the quantitative analysis, this research will include what are referred to as “voice of the customer” interviews with a sample of the company’s customized solutions employees. The interviews are designed to gain insight from employees who work closely with customers into the strengths and weaknesses of the customized solutions group at the 3PL company. Finally, this research will involve a market analysis of customized solutions products offered by competitors in the market as well as an analysis of current trends in technology within business.

This thesis will review the methodology of how the research in all three areas (quantitative data analysis, “voice of the customer” interviews, market analysis) will be conducted and analyzed. Next, the thesis will provide background on the company in general as well as specific to the customized solutions group and its product portfolio. This background will provide the foundation for the rest of the research. The analysis and results section of the thesis will provide a summary of the data analysis and review the research findings. The conclusions

and recommendations portion will combine the results of the three areas of research in order to perform a SWOT analysis; and ultimately form the recommendations for the company to position itself to meet its goal of doubling solutions revenue within a three-year timeframe. Additionally, it will include a methodology recommendation as to how the company can continuously assess and improve its customized solutions business.

Chapter 2

Methodology

Due to the specific company and product knowledge involved in this research, this thesis will review available information provided by the company and online sources to create a comprehensive background before proceeding with the rest of the research. This background will include necessary information on the company as a whole, as well information pertaining to the customized solutions side of the business and products within the solutions portfolio. Following the background information, the research for this thesis will be analyzed in three parts.

The first part will be a quantitative analysis of the company's customized solutions group revenue and utilization data from the past three years (2016, 2017, 2018). The goal of this portion of the research is to gain a better understanding of the portions of revenue realized from product categories and individual products. The customer utilization data provided by the company will allow insights into the volume of customer projects, and which products are most often utilized for customer projects. This quantitative analysis will be done within Microsoft Excel spreadsheets provided by the company. These data sheets include PivotTables with Slicers, which expedites comparison of various data fields (practice area, year, count of projects, revenue, etc.). This quantitative analysis will reveal which products' revenues are growing or declining over time, as well as which products make up the largest portions of the company's consulting revenue.

The second portion of the research that will be analyzed is the "voice of the customer analysis", which will include interviews with employees at the company who work

within the consulting group. The goal of this portion of the research is to gain knowledge from people who have had firsthand interactions with the customers. This section will give insights into sales training and approaches, customer feedback, products that differentiate this company from market competitors, and possible product alternatives in the market. The information gathered during this stage of the research will enhance the next portion, which is the market analysis.

The market landscape research will focus on looking outward from the company to recognize market-wide trends in the areas of information technology and supply chain optimization. The identification of market trends will be done in several ways including the use of output from the “voice of the customer” interviews, competitor research, and general market research through databases and online articles. This market landscape analysis, in conjunction with the quantitative analysis and “voice of the customer” conversations, will indicate in what customized solutions categories the 3PL company is: differentiating themselves well, providing average quality products, and providing low-quality or no products.

Chapter 3

Company Background

The third-party logistics company that this research involves is headquartered in the United States and operates globally in more than 200 countries and territories. It provides tracking, shipping, and other logistics services both to individual consumers and businesses. Available services vary depending on type of customer and their perceived needs. Individual consumers have basic options for shipping and tracking packages. This company provides similar shipping and tracking services to small businesses, as well as services that help these customers start, expand, or finance their businesses. Available shipping and tracking services become more complex for larger corporate customers – there are options available for e-commerce, international trade, and outsourcing entire supply chain networks to the 3PL company. This research focuses on the customized solutions this company provides that are tailored to businesses and build upon the base logistics services provided by the company.

The 3PL company's customized solutions, or consulting, group provides expertise to both large global enterprises and small-to-medium businesses across the United States. The consulting group at this company is made up of employees who align available products and establish contracts with customers through understanding the customer's unique needs, strategies, and processes. Employees of the 3PL company working in customer facing roles establish what are referred to as "opportunities" – projects with customers that will either be accepted or rejected by the implementation team. Once the opportunities are accepted, they are assigned a project ID and the design and implementation process begins. The employees

dedicated to solutions design and implementation tailor the products sold to individual customer needs and goals. There is also a customer relations group that is made up of advisors who manage the engagements with customers to ensure the customer is getting the best possible service and products are being implemented effectively.

PRODUCT BACKGROUND

The consulting products are broken into several different practice areas which are all aligned to specialized practice area consultants. The practice areas that this research will focus on include Engineering, Information Technology, and Supply Chain Optimization. There are over two hundred services provided across all of the practice areas. Ninety-six of these products have a charge associated with them, which is where the revenue flows from. Examples of products available include warehouse design, information management, network analysis, and transportation distribution analysis. The company has a dynamic group of products that change as trends shift in the marketplace and consumer preferences evolve.

Services in the Engineering practice area include inventory analyses, warehouse assessments, and packaging engineering. An inventory analysis as provided by this 3PL company considers inventory levels at all nodes of a supply chain and adjusts as necessary to strategically position raw materials, work-in-progress, and finished goods inventory to maximize efficiency and minimize costs. This practice area also assesses customer warehouses and distribution centers to determine points of inefficiency, and provides recommendations to the customer on how to reconfigure the warehouse for optimal picking and shipping processes. Packaging engineering is another facet of the Engineering practice area. This 3PL company has a

package design and testing lab that seeks to simulate package transportation scenarios and gather data on how the package is impacted by these factors. In this lab, the customer's packaging or shipping containers' endurance is tested against extreme conditions such as different weather conditions, impact, compression, and crushing. From the results acquired in the package lab, the 3PL company is able to make recommendations on improving customer packaging for better shipment safety and customer satisfaction.

Information Technology is a crucial practice area, as businesses constantly need to adapt to technologies and take advantage of new opportunities that arise from innovations in information technology. Products within the Information Technology practice area include Information Management, which assists customers in managing primarily shipping and tracking data for their firm. This practice area also includes a series of technology products created by the company that increase visibility and shipment tracking capability for businesses, as well as products that enable businesses to have simple and streamlined package shipping and return systems.

Supply Chain Optimization includes services to optimize logistics efficiency, cut costs within a supply chain, and analyze a customer's sustainability practices. Services provided within this practice area involve optimizing networks through analyzing transportation, facility locations, and other logistics components. The 3PL company then evaluates how to proceed with the optimization by balancing transportation, facility, and inventory costs. Another part of Supply Chain Optimization involves sustainability and assisting customers in determining and mitigating their impact. Specifically, this 3PL company provides services to understand carbon impact, select sustainable packaging, and reduce carbon footprint. This company provides a carbon impact analysis for customers to understand the impact that their processes and activities

are having on the environment and lead them to make more sustainable decisions. Additionally, the 3PL company offers a carbon neutral shipping option that allows customers to contribute to sustainability projects in order to offset carbon dioxide emissions from their shipping activities. Through this program the 3PL company calculates the emission created from the shipping, and purchases the carbon offsets. While many customized solutions products are designed with the goal of reducing costs and increasing efficiency, sustainability products are tailored more toward companies meeting business goals in a more socially responsible way.

Chapter 4

Data Analysis

The quantitative analysis portion of this research involves the customized solutions revenue data from the 3PL company from the past three years (2016, 2017, and 2018). Additionally, this section includes customer utilization data in order to understand the frequency of customer decisions to implement customized solutions products from this 3PL company. Understanding these data sets can answer many questions but also brings about many more, which is why this data analysis is largely the starting point for this research. While the scope of the research does not include overall revenue generated by all sectors of the 3PL company, these customized solutions data sets are useful in uncovering trends and potential areas of decline or growth. Insights gathered during this analysis will be used to pinpoint areas of further research, as well as to inform final recommendations.

SOLUTIONS REVENUE ANALYSIS

The practice areas that were selected as focus areas for this research – Engineering, Information Technology, and Supply Chain Optimization – have all shown solutions revenue growth over the three-year time period. Evidence of this growth is shown in Table 1, which shows growth rates for each practice area from 2016 to 2017, and also from 2017 to 2018. This

table shows all three of the highlighted practice areas have experienced steady revenue growth, with Supply Chain Optimization growing the most of the three.

Table 1. Practice Area Growth Rate

Practice Area	Growth Rate from 2016 to 2017	Growth Rate from 2017 to 2018
Engineering	9.69%	16.94%
Information Technology	9.01%	12.89%
Supply Chain Optimization	18.22%	36.64%

The warehouse design product comprises a significant portion of the Engineering practice area revenue – over half – consistently over the three-year period. Figure 1 shows the growth of this product in terms of solutions revenue compared to the growth of the Engineering practice area revenue total. This figure shows that the practice area and the top product within the portfolio of this area have been growing at similar rates.

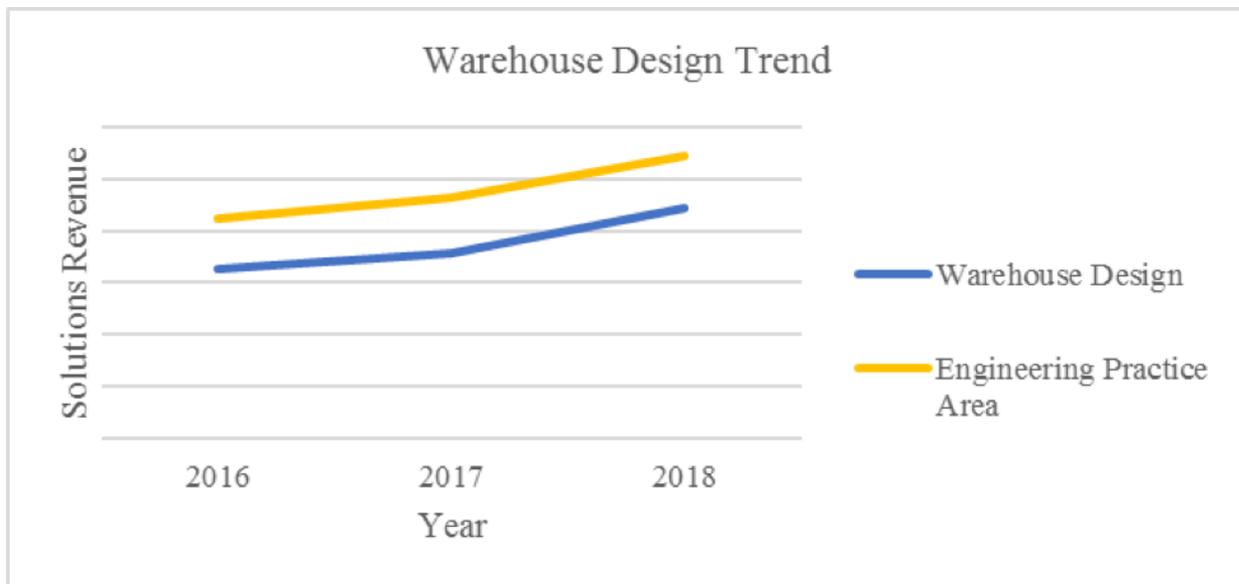


Figure 1. Warehouse Design Trend

Due to there being twenty-four products within the Information Technology portfolio, a Pareto analysis was conducted on the 2018 revenue data to determine what products make up the top eighty percent of the Information Technology revenue, with the rest comprising the long tail of twenty percent. It was found that eight products make up about eighty-two percent of the revenue, with just three products amounting to over fifty percent. These three solutions are a shipment tracking product, an automated returns product, and information management. Information management, the top product in the Information Technology portfolio, has not shown any significant growth over the three-year period, and has even declined between 2016 and 2018. In contrast, the returns and tracking products have both shown increasing revenue since 2016, as is evidenced by Table 2.

Table 2. Returns and Tracking Product Growth Rates

Product	Growth Rate from 2016 to 2017	Growth Rate from 2017 to 2018
Automated Returns	23.55%	1.61%
Shipment Tracking	25.39%	57.74%

The products that were chosen as focus areas within Supply Chain Optimization include transportation analysis, products related to sustainability, and network analysis, which includes two products. These products were chosen as focus areas based on comprising significant portions of Supply Chain Optimization solutions revenue or for being related to environmental sustainability. The transportation analysis as well as both tiers of network analysis

solutions have experienced overall growth over the three-year time period. The growth trend of all three of these products is shown in Figure 2.

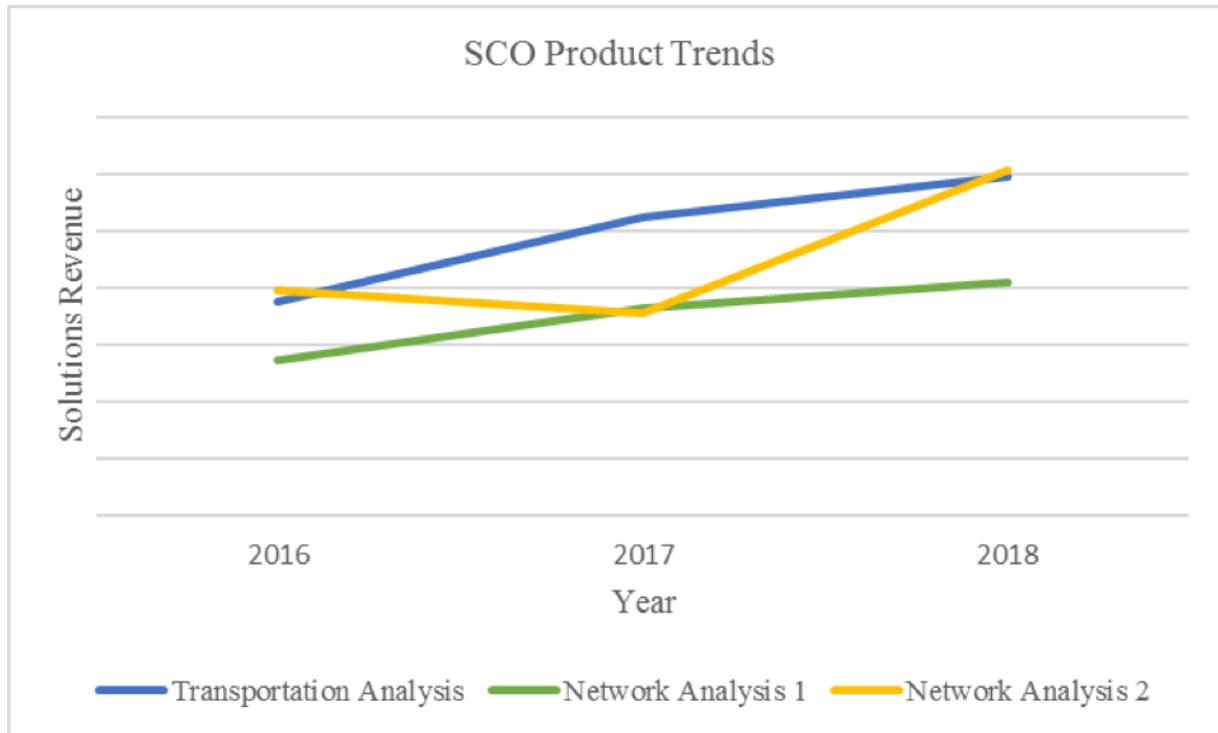


Figure 2. SCO Product Trends

The sustainability-related products, carbon impact analysis and carbon offsetting, bring in similar amounts of revenue, which has been a consistent trend from 2016 to 2018. Additionally, the carbon impact analysis has shown consistent growth since 2016. The carbon offsetting solution declined from 2016 to 2017, but increased significantly from 2017 to 2018 (Table 3).

Table 3. Sustainability Product Growth Rates

Product	Growth Rate from 2016 to 2017	Growth Rate from 2017 to 2018
Carbon Impact	24.17%	8.18%
Carbon Offsetting	-16.56%	27.63%

UTILIZATION ANALYSIS

Customer utilization, measured for this research by a count of the number of projects, is a useful measure of customer engagements per practice area and product. While revenue is important as well, that data set is dependent upon the price of the solutions, while the count of customer projects is not. This data set is useful to gauge customer interest in product categories as well as customer utilization of solutions.

The customized solutions product utilized the highest number of times within the Engineering category in 2018 is the warehouse design product, which is expected due to the high amount of solutions revenue generated from this product. The customized solution that makes up the next highest proportion of customer projects in the Engineering practice area is also related to the assessment of warehouse and distribution center functionality and design. As is shown in Table 4, the pattern of these two solutions making up a large number of customer engagements is consistent over the three-year time period.

Table 4. Percent of Total Engineering Engagements by Year

Year	Percent of Total Engineering Engagements
2016	79.22%
2017	87.91%
2018	93.59%

Within the Information Technology practice area, which has twenty-four customized solutions available, there is an interesting distribution of customer engagements. The product with the highest number of customer projects in 2018 is the automated returns system, with about four times more projects than the next highest, information management. The shipment tracking system, which was one of the top-three revenues-generating products in this practice area, has the eighth largest number of customer projects. Figure 3 shows the distribution of customer engagements across the Information Technology customized solutions.

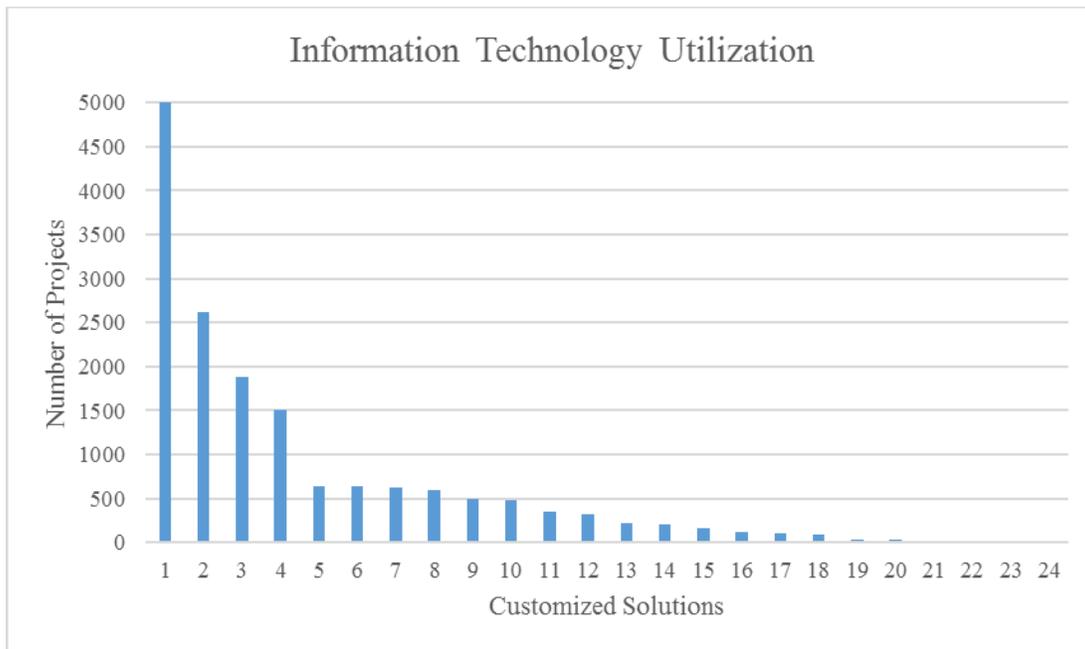


Figure 3. Information Technology Utilization

For anonymity purposes the solutions in this figure, which are shown on the horizontal axis, are numbered by their position in the list of solutions sorted by number of engagements. So, the customized solution labeled “1” is the solution with the highest number of customer projects. As mentioned previously, this solution with the highest engagement actually has about four times as many projects as the next highest, so the vertical axis has been scaled down in order to more accurately show the distribution of solutions. Many of the solutions within Information Technology have relatively similar numbers of engagements (Figure 3). This distribution is similar for the 2017 and 2016 data as well.

Within the Supply Chain Optimization practice area, many of the products with large numbers of customer projects are the same products that generate high customized solutions revenue, including the network analyses and transportation analysis products. However, the solution that, over the three-year period, consistently has the largest number of

customer projects, is carbon offsetting. This customized solution has had between two and three times more customer projects than the solution with the next highest number of projects. Figure 4 shows the carbon offsetting solution's trend over time as compared to the overall trend in Supply Chain Optimization projects over time.

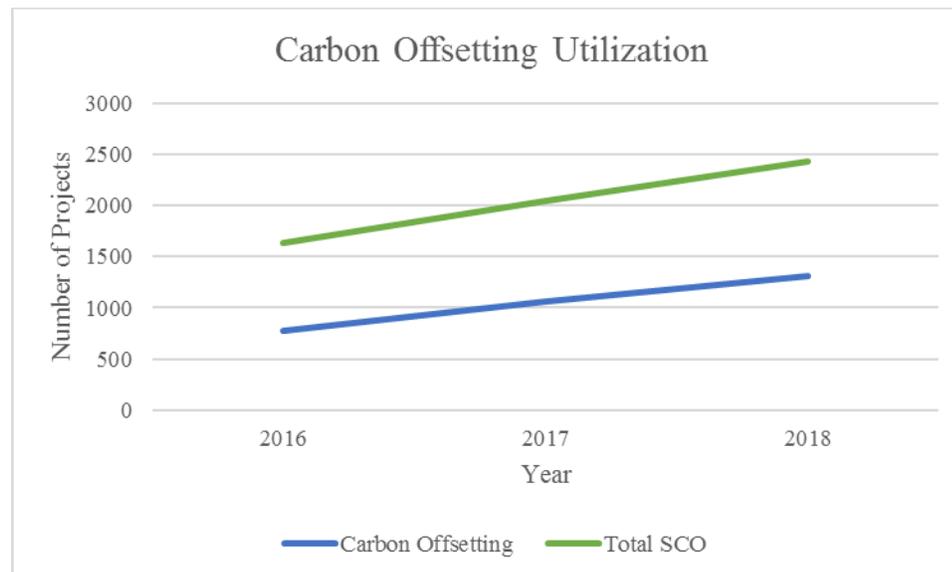


Figure 4. Carbon Offsetting Utilization

RESULTS

All three of the practice areas being focused on in this research experienced solutions revenue growth over the three-year period of 2016, 2017 and 2018. Supply Chain Optimization's solutions revenue grew the most, suggesting that this area and the types of products provided within the Supply Chain Optimization portfolio are things that customers are interested in implementing or improving for their businesses. This three-year growth is also promising for the 3PL company in that the business is not stagnant and, with improvements across the customized solutions business, could see continued growth in the coming years.

This quantitative analysis was useful in identifying the products within Engineering, Information Technology, and Supply Chain Optimization that yield the most solutions revenue for the 3PL company. These solutions are important to focus on within the other sections of research in order to see if leveraging these types of products and making improvements to them could potentially aid the 3PL company in its goal of doubling solutions revenue within the next three years. Additionally, by reviewing customer utilization data, the products that customers are choosing to engage with the most within each practice area were recognized. Points of interest from this include the amount of Information Technology products with similar numbers of customer projects, as well as the carbon offsetting solution steadily being a popular product among customers.

Chapter 5

“Voice of the Customer” Interviews

The next portion of research involves firsthand information from employees of the 3PL company. A total of three interviews were conducted, and the names of these employees have been kept anonymous for the purposes of this research. These employees have direct contact with customers who are investing in customized solutions from this 3PL company. Some interviewees are sales representatives, and others are practice area consultants who have experience working directly with customers to implement the solutions. These specific groups were selected for interviews because the differences in experience and role provide two distinct viewpoints that have the potential to supplement the quantitative and market landscape research.

CUSTOMER-FACING EMPLOYEES

The employees who participated in this interview have selling-side positions within the customized solutions group at this company. The purpose of interviewing people in these roles was to discuss training that these employees had received prior to beginning their customer-facing roles, their experiences selling customized solutions products, and what they would ideally add to the selling process at this 3PL company in the future. The questions asked during this interview can be referenced in Appendix A.

A consensus among the interviewees emerged when asked to describe training received upon entering the position. While new sales employees are provided with tools and

onboarding with help from their managers, much of the information is self-taught. They also mentioned an onsite training program that all customized solutions salespeople would attend in the past, but that has since been phased out. Most of the information that these salespeople use to sell the customized solutions has been collected on their own time and from trial-and-error situations. The newest salesperson in the interview group mentioned that they set up their own conversations with practice area consultants to discuss the product portfolios, as well as built up their own library of information to use when interfacing with customers. As it stands now, there is also a lack of brochures detailing the costs and lengths of time it would take to implement the products and services being sold, which is something that these salespeople mentioned would be extremely beneficial in their discussions with potential clients. This lack of material was also referenced as the most difficult part of selling products to customers. The selling material (i.e. brochures, guides, case studies, etc.) is not up-to-date with current products and product features. This material is not relevant or concise enough to engage customers and get them excited about the products. According to the interviewees, they do not have a satisfactory system of information, and trying to learn all they need to know to be able to effectively sell products to customers while also meeting aggressive sales goals has been a challenge for them.

The employees were asked what they would like to see in an “ideal state” scenario for their positions – what they think could benefit the 3PL company to improve upon within the next few years. The two major points that were made in this discussion were to add more training for new-hires as well as continuous training for current employees, and refreshing customized solutions that are not competitive or up-to-date with what is being offered elsewhere. The interviewee(s) stressed the importance of making new and innovative ideas come to life and adding products that “push the envelope” of what is available in the marketplace. Focusing on

what is going to make the company successful in terms of technological advancement and product relevancy is important as they are concerned about their ability to sell products that are outdated and not up to industry standard. In addition to an increased investment in product research and development, the interviewees expressed concern of how long the lead times are for getting projects started for customers, stating that it can take multiple weeks for any progress to be made.

PRACTICE AREA CONSULTANTS

This interview was conducted with employees known as practice area consultants who work to design and implement customized solutions with customers. Those selected for this interview have multiple years of experience in the position and work in Supply Chain Optimization or Information Technology. Additionally, one of the practice area consultants works in Supply Chain Optimization but is specifically focused within sustainability. This interview focused on customer feedback on the 3PL company's product portfolio, as well as potential strengths and weaknesses from the practice area consultant point-of-view. The questions asked during this discussion can be referenced in Appendix B.

PRACTICE AREA CONSULTANTS – SUPPLY CHAIN OPTIMIZATION

Within Supply Chain Optimization, the aspects of differentiation that were mentioned focused less on specific products and more on this 3PL company's approach to customer engagements. Focusing on advanced engagements as well as having background into how supply chains actually work gives this company an edge over competitors within the Supply Chain

Optimization practice area. The scope of the project, according to one of the interviewees, is what determines how much of a differentiator it is. If the project is focused on “simple solutions” it is most likely something that can be replicated by a competitor. However, more complex analysis as well as projects on an international scale may be a competitive advantage for this 3PL company. An example of a complex solution would be a site analysis, where factors such as how many sites, where they should be, what should be handled by each site, and inbound and outbound logistics are determined. This also spurred a discussion of the definition of “competition” in the context of customized solutions. Competition could mean other third-party logistics companies such as DHL or FedEx, but oftentimes the competitors within customized solutions are consulting firms such as PwC. In terms of competing with these consulting firms, this 3PL company’s practical expertise in areas such as transportation logistics and inventory-focused projects is the differentiator. The interviewee discussed that because the consulting competitors do not have direct logistics background, most of their consulting is “theoretically focused” as opposed to this 3PL company’s supply chain expertise. The interviewee who works within sustainability believes that the 3PL company’s advantage in this area is the measuring of Scope 1, Scope 2, and Scope 3 emissions, while competitors may not “have that level of transparency” and do not provide solutions involving Scope 3 emissions. Scope 1 and 2 emissions are direct and indirect emissions from sources controlled by the company. Scope 3 emissions are from sources not controlled by the company but related to company activities and the company’s supply chain (“Calculation tools,” n.d.). Additionally, this 3PL company offers carbon neutral shipping on all shipments, meaning that they offer the option of purchasing carbon offsets for both small parcel and larger shipments to improve a customer’s carbon footprint and sustainability.

The practice area consultants were asked if they were aware of any product categories that may be missing from this company's product portfolio. This question was asked with the idea that because these employees consult directly with customers about their product implementation, customers may have expressed that the company does not have certain capabilities. The Supply Chain Optimization practice area consultant mentioned that the company is missing a data analytics offering. The company has the capability to complete simple queries and analysis upon customer request, but there are no specific supply chain analytics offerings. The queries and analysis that the 3PL company is able to complete for customers at this time are rudimentary and focused on package data from the company's shipments. Additionally, an area that was mentioned as a possible addition to Supply Chain Optimization is a benchmarking product. This category has no products, and the 3PL company fails to compete with outside consulting firms such as PwC. It was mentioned that this 3PL company is more inclined to focus on just a company's supply chain as opposed to the whole business, and may even be hesitant or reserved when criticizing a customer's business in fear of jeopardizing the relationship. In contrast, consulting firms that perform benchmarking for their customers are willing to dissect the customer's business practices to find strengths and weaknesses. Within Sustainability, the product portfolio is limited and the practice area consultant feels that customers are interested and know that sustainability is important, but are unwilling to pay for many sustainability-related initiatives.

The 3PL company has the opportunity to make significant changes within five years, or even sooner based on its goal of doubling solutions revenue within three years. The interviewees were asked what they would like to see change within this timeframe. Within Supply Chain Optimization, the addition of new solutions and improving the company's business

acumen were mentioned as ideal ways to foster this solutions revenue growth. The sustainability-focused consultant said that they would like to see a more detailed carbon impact analysis product added to the portfolio. Ideally, this product would be able to give the customer at the least a “directional” carbon impact number to let them know how their decisions are impacting their carbon footprint. This practice area consultant said that the company should be able to provide the customer with this directional carbon number at any time, and that the carbon emissions should be able to be displayed along with basic information such as transit times for shipment tracking. By providing the customer with carbon emissions at this transactional level, the customer can immediately see the carbon associated with their shipments and the decisions that they are making.

PRACTICE AREA CONSULTANTS – INFORMATION TECHNOLOGY

Within Information Technology, the differentiation from competitors is yet to come. The 3PL company has what was referred to as a “one-off approach” that pulls funding toward specific projects as opposed to building a better portfolio of products for future projects, and this interviewee feels that this development process is hindering the company’s ability to build new solutions. They believe that new value would come from “consolidating the Information Technology structure” and finding harmony between the requirements of the customer and the company’s capabilities. For some technology requirements that fall outside of the company’s portfolio of solutions, the 3PL company has partnered with technology vendors to satisfy customer demand. Product feedback within Information Technology is highly dependent on what customers truly need and what they are doing with their business. The practice area consultant

within Information Technology said that customers often explain what they believe they want, which may be different from what they actually need. The 3PL company has what they call “whiteboarding sessions” – sessions where the goal is to understand the customer as they explain where they are struggling and need solutions to help their business. No solutions are proposed to the customer at this stage until the practice area consultants have assessed what solutions they feel could be beneficial to the customer. Some proposed solutions may be products that the customer was not aware of, or they could be fixing issues that the customer was not focused on, causing them to rethink their business. The interviewee feels that if this process of exposing needs to the customer could be done more effectively, it would be a differentiator from competitors.

While there are certainly areas within Information Technology that are lacking product offerings, the practice area consultant feels that the product offerings that would differentiate the company from competitors are not currently feasible. Despite not mentioning any specific areas in which there are product portfolio gaps, they did say that there is often debate over whether they should invest the time and money into things that are asked of the company by customers that are not readily available. Additionally, there are internal obstacles keeping them from developing new Information Technology solutions. This interviewee said that they believe if the company were able to overcome these internal obstacles, they could be a complete differentiator in the marketplace.

It was asked if the consultants feel that there are redundancies in the Information Technology product portfolio that could be condensed into fewer products. This question was asked due to the realization during the data analysis portion of the research that there are many products within Information Technology with similar titles and seemingly similar functions. The

practice area consultant's response to this question was a confident "no doubt". They explained that these products were built for purposes in the past, and as time went on the company continued to add more products to the portfolio based on specific projects instead of consolidating them into already-existing similar offerings. This consultant feels that it would be simple to condense these products, especially tools that provide visibility and tracking within the supply chain. This led to a discussion of the 3PL company's need for a "product rationalization process" to determine what products are bringing in sales and where there is opportunity for improvement or consolidation.

The Information Technology consultant was also asked what they would like to see change in their practice area and within the customized solutions group in general within the next five years. The answer to this question makes sense based on the previous discussion about the company's current inability to differentiate itself within Information Technology: invest more into this practice area ahead of time instead of waiting for customer funding for specific projects. Additionally, the consultant discussed "roadmaps", which are visions of what the product portfolio could look like in the future. Funding is then allocated to concepts on the roadmap to get the company closer to its future goals. This 3PL company currently does not have this roadmap of anticipated future capabilities and is instead funding based on identified demand and available money from customers. The interviewee believes that the Information Technology practice area would benefit by switching from this reactive product development funded by customers to internally funding the enhancements in a proactive timeframe.

RESULTS

While information gathered from interviews can be perceived as subjective, having a sample size of multiple employees with similar opinions adds credibility and emphasizes the points being made in the discussion. The three interviews conducted for this research provided understanding into what employees with the most direct customer interaction believe to be areas of strength and weakness for this 3PL company. By interviewing sales employees and practice area consultants, this section of analysis revealed multiple interesting areas of both praise and concern that could prove to be useful for the company moving forward.

The expertise that this 3PL company has within supply chain is a differentiator from competitor companies that are primarily consulting firms. This allows the 3PL company to harness a competitive advantage through more complex customized solutions within the Supply Chain Optimization practice area. Within sustainability, the 3PL company provides analysis of Scope 3 emissions in addition to Scope 1 and Scope 2, allowing customers a more comprehensive view of their environmental impact. Within Information Technology, differentiating solutions were not mentioned, however the 3PL company does have partnerships with external vendors to provide products that they are not able to provide internally.

These interviews highlighted many areas of potential improvement for the 3PL company. Within the sales side of the business, training and having adequate informational material were the major issues discussed. The employees discussed a lack of supervised training, and that they were mostly left to learn about the portfolio of customized solutions on their own. Additionally, they mentioned that they currently do not have up-to-date brochures or guides detailing the products available in order to explain and sell the products to customers. What they

do have is out-of-date and does not detail useful facts such as cost or how long the product will take to implement.

Potential areas of improvement vary by practice area. Within Supply Chain Optimization, advanced data analysis and a willingness to critique a customer's total business (benchmarking) were discussed as areas lacking in the product portfolio. Within sustainability, there are limited products, but the practice area consultant believes that customers may not be willing to pay for additional products in this category. The Information Technology practice area consultant acknowledged that there are redundancies within the customized solutions portfolio that could be condensed into fewer offerings. Another weakness mentioned within Information Technology is the process of developing new and innovative solutions, including the way that funding is procured for creating these solutions. Currently, funding for new solutions comes directly from customers who want to have these solutions implemented, instead of proactively creating the solutions through investment in research and development.

While there are certainly obstacles to obtaining it, the "ideal state" of customized solutions from an employee point-of-view is important to consider. This sheds light onto what they believe could help them sell more solutions, or more effectively implement the best solutions for the customers. Table 5 shows a summary of the "ideal state" recommendations within the next three to five years, organized by type of employee.

Table 5. “Voice of the Customer” Ideal State Recommendations

Area of Business	“Ideal State” Recommendations
Customized Solutions Sales	<ul style="list-style-type: none"> • More training for both new hires and current employees • Updating outdated solutions • Shortening lead times of product implementation
Supply Chain Optimization	<ul style="list-style-type: none"> • New solutions (data analytics, benchmarking, etc.) and improved business acumen
Sustainability	<ul style="list-style-type: none"> • Increased detail in carbon impact analysis • Ability to show “directional” carbon impact of individual decisions • Display carbon emissions of individual shipments along with cost and transit times
Information Technology	<ul style="list-style-type: none"> • Proactive funding and research • Future state “roadmaps” • Refocus on “whiteboarding sessions” in order to expose needs to customers

Chapter 6

Market Landscape

The firms that are considered competitors of this 3PL company can vary from other third-party logistics companies to those that primarily focus on consulting services. This section of the research aims to identify some top competitors in both of these categories and identify the customized solutions and services that these companies provide to their customers. The companies chosen for this competitive analysis were selected per information from the 3PL company, as well as per discussion with a company contact. This research will supplement the final results and recommendations by identifying what products are available from the 3PL company's competitors and what trends are emerging in the marketplace.

FedEx

FedEx is a third-party logistics company that operates globally and provides many of the same basic services, such as shipping and tracking, as the 3PL company that is the focus of this research ("FedEx – Tracking," n.d.). FedEx provides services to individuals as well as small businesses and enterprise customers across various industries including retail, technology, healthcare, customer goods, and industrial ("FedEx supply chain," n.d.). For the purposes of this research, the focus will be on consulting and business-augmenting solutions products that FedEx provides to small and enterprise businesses.

FedEx has a series of Supply Chain Solutions products that customers can integrate into their existing activities. Due to the company's base services being shipping and tracking, FedEx has a competitive advantage in terms of supply chain knowledge and experience. FedEx breaks down their Supply Chain Solutions portfolio into the subcategories of supply chain engineering, warehouse operations and distribution, supply chain technology, and packaging, kitting, and value-added services ("Supply chain solutions," n.d.). Supply chain engineering includes products that optimize the supply chain through warehouse locations, transportation modes, shipment consolidation, and overall analysis of supply chain functions. Warehouse operations and distribution focuses on selecting, designing, and managing warehouses. This includes the option for customers to outsource warehouse operations to be completely handled by FedEx. The supply chain technology category includes the design, implementation, and optimization of warehouse management systems (WMS), tracking and visibility systems, labor management systems, and warehouse automation and emerging technologies. According to FedEx's website, the company develops some technology, but for warehouse management systems (WMS) they focus on implementation and optimization of outside software for their customers. The fourth Supply Chain Solutions category, packaging, kitting and value-added services, includes services that enhance the value of customer products. This category includes packaging of products, customized bundling of products, kitting and assembly, building point-of-sale displays, and configuring and packaging electronics.

Another category of FedEx's customized solutions portfolio is Commerce Enablement – integrated solutions provided by FedEx “to optimize the entire ecosystem of your product, drive efficiencies in your retail and e-commerce logistics, and minimize touchpoints” (“Commerce enablement,” n.d.). Some of the services advertised in this section of FedEx's

website are the same as within Supply Chain Solutions, including warehouse optimization and the services within packaging and kitting. Commerce Enablement includes the integration of distribution channels, e-commerce logistics, inventory visibility and control, omnichannel delivery, and distributed order management (DOM), which involves forecasts of where inventory should be across the supply chain using an “expert analysis of inventory distribution across your network” (“Commerce enablement,” n.d.). Additionally, this includes FedEx Fulfillment – a series of services designed for smaller businesses that encompasses flexible warehousing and fulfillment, transportation options, and reverse logistics.

Transportation, another subset of FedEx’s services, expands upon the company’s base shipping and tracking capabilities. Customers can choose to outsource all of their transportation needs to FedEx including management of inbound/outbound transportation and the application of a transportation management system (TMS) (“Transportation – FedEx,” n.d.). Customers also gain access to an online portal for shipment visibility, and have the ability to choose between various freight options to meet their products’ needs. If customers do not choose to outsource all of their transportation to FedEx, the company also provides transportation procurement services in order to match customers with reputable freight providers that meet their shipping needs.

FedEx also provides returns and reverse logistics services. Customers can choose to integrate their current systems with FedEx Returns Technology, which provides a platform for reverse logistics visibility, simplified returns, and operational reporting and analytics (“Reverse logistics,” n.d.). FedEx can also manage returns processing including the operation of return centers, processing returned inventory back into stock, overseeing return-to-vendor programs, sorting of returned inventory, and processing of hazardous materials. Other services provided

within reverse logistics include making products suitable for resale, repackaging returned goods, recycling parts and raw materials, and redeploying products. For returned products that are not able to be resold, FedEx provides analysis and damage research as well as benchmarking of unsaleable goods against industry averages, intermediating discussions with trading partners, and consultation on reimbursement policies. Additionally, FedEx consults with companies on proper protocol for recall management in order to “maintain customer satisfaction and protect your brand’s reputation” through managing large numbers of customer returns, handling of reimbursements, testing and disposal of goods, and secure destruction of any regulated goods (“Reverse logistics”, n.d.).

DHL

DHL is a globally operating third-party logistics company that has similar base capabilities to both the 3PL company that this thesis is focused on and FedEx. DHL also provides supply chain solutions in addition to their shipping and tracking services (“DHL | global,” n.d.). The available solutions are separated into small or medium enterprises, which are companies with less than 250 people, and large enterprises, which includes companies with more than 250 people (“Logistics solutions,” n.d.). The service categories available to large enterprises are as follows: warehousing and fulfillment, transportation and distribution, integrated freight logistics, integrated contract logistics, consulting and management services, green logistics, and customs, security, and shipment value protection. The solutions available to small businesses are scaled down, and the categories include warehousing and fulfillment, transportation and

distribution, integrated logistics, green logistics, and customers, security, and shipment value protection. For clarity, this research will focus on the large enterprise solutions.

Warehousing and logistics solutions offered by DHL include warehouse design, in-transit warehousing, packaging services, manufacturing plant logistics, and product kitting and assembly. Among the warehousing options are shared or dedicated facilities, facility design, and site selection (“Warehousing solutions,” n.d.). Within the transportation and distribution category of services, DHL provides options for both domestic and intercontinental multimodal transportation (“Logistics Solutions,” n.d.). This category of products expands upon DHL’s domestic shipping and tracking capabilities with a variety of value-added services including real-time visibility, data analytics, and freight optimization (“Transport solutions,” n.d.). For international shipments, DHL has options for intercontinental freight as well as for various modes of transportation (“Transport solutions | DHL global,” n.d.). Integrated Freight Logistics solutions include transportation services that are tailored to specific company and product needs. DHL provides specialized solutions for oversized cargo, perishable products, products that require temperature control, and more (“Logistics solutions,” n.d.).

Under the category of Integrated Contract Solutions, customers can choose to use DHL as a “Lead Logistics Partner”, which involves DHL assisting with optimization of transport and supply chain processes, sourcing of logistics providers, supplier management, supply chain operations, and continuous improvement of the processes with a “Total Logistics Cost Management” system (“Integrated solutions,” n.d.). Products within this category also involve inventory optimization, network design, and “DHL Envirosolutions”. This sustainability-focused product includes recycling, waste management, product disposal, and environmental compliance.

Other services within Integrated Contract Solutions include logistics specific to passenger-focused businesses, direct-to-customer healthcare delivery, and clinical trials.

Within consulting and management services, DHL provides logistics consulting, procurement services, recall services, and a business support center. The logistics consulting services include supply chain benchmarking, strategic network design, process analysis, lean transformation, and expertise in greener supply chains (“Logistics consulting,” n.d.). DHL also provides procurement services, which includes services such as global procurement strategy development, supplier sourcing and performance management, ethical supply chain management, and inventory management activities (“Management services,” n.d.). Similar to FedEx, DHL provides recall management services to customers in the event that one of their products is recalled. The DHL Business Support Center is a service that manages client’s customer service activities. For customers who ship internationally, DHL provides customs consulting in order to “enhance customs activities, optimize duties, identify potential risk areas and optimize internal controls and procedures to maximize internal compliance” (“Customs brokerage,” n.d.). Additionally, DHL provides services for shipment value protection and risk analysis for warehousing and transportation (“Cargo insurance,” n.d.).

DHL offers a product to business customers called DHL Resilience 360. This is a supply chain risk management platform that “helps businesses to predict, assess, and mitigate the risk of supply chain disruptions” in order to maintain reliable and fast service to their customers (“Supply chain risk,” n.d.). The supply chain visualization feature includes an interactive map that allows customers to visualize their network from end-to-end and analyze their supply chain in very detailed ways, such as per shipment, product, or bill of materials (“Supply chain network,” n.d.). This software assesses risk using “DHL’s unique Supply Chain Risk Exposure

Index methodology” (“Supply chain risk,” n.d.). This risk assessment identifies areas of potential risk, such as inventory or sourcing issues, and recommends possible mitigations. Another feature included in this software automatically alerts companies of potential disruptions within their supply chain, and allows companies to mitigate the risk as soon as possible to limit impact (“Supply chain incident,” n.d.). Resilience360’s “Supply Watch” option uses Machine Learning and Natural Language Processing to allow companies to monitor suppliers through various data sources and use this information to defend their operations against potential supplier issues or disruptions (“Supply watch,” n.d.). Figure 5 shows an example of the Resilience360 interface from a client point-of-view.

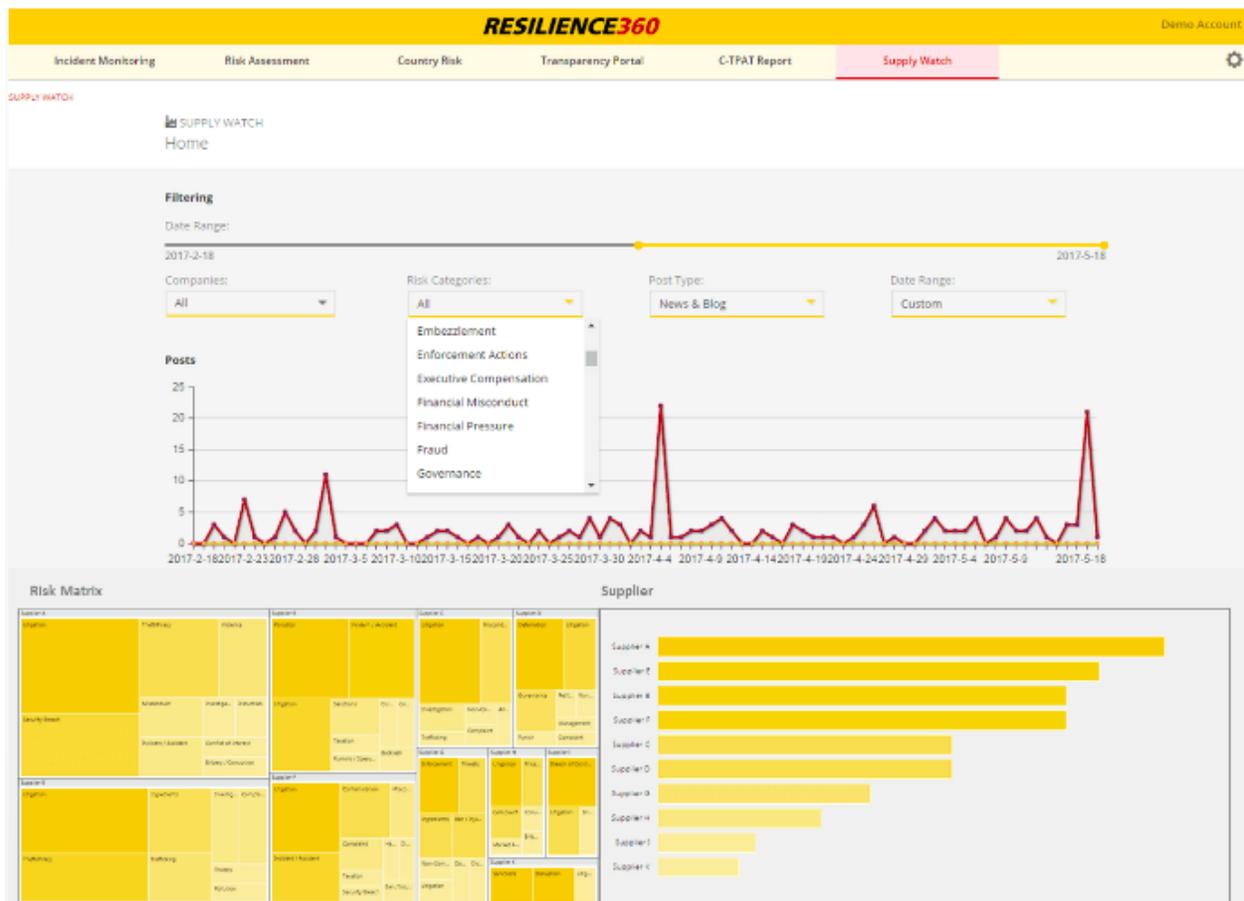


Figure 5. Resilience360

Green Logistics Solutions, DHL's sustainability-based solutions, include carbon emission reporting, optimizing environmental footprints, and carbon offsetting for both parcel and freight shipments ("Logistics solutions," n.d.). The carbon emissions reporting products include a carbon calculator used to track transport-related emissions, a carbon report used to track greenhouse gas emissions and identify efficiency potential, a "quick scan" to compare clients' carbon efficiency to sector benchmarks, and a "carbon dashboard" ("GoGreen solutions," n.d.). This DHL Carbon Dashboard encompasses end-to-end visibility of the supply chain, reporting and analysis for transport emissions, and the ability to "explore various levers to reduce carbon emissions". These reports are integrated into "web-based graphical modeling of your supply chain", making it simple for customers to view their information. DHL solutions for optimizing a customer's environmental footprint include carbon-efficient ocean freight, green warehousing technologies, and greener transport using innovative technology and alternative fuels ("Logistics solutions," n.d.).

Establish

Establish is a firm that provides supply chain consulting to companies in a variety of industries ("Establish Inc.," n.d.). They provide consulting to firms within the following industries: apparel, automotive, consumer goods, building material, electronics, food, industrial, medical equipment, and pharmaceutical. This company's goal is to "improve service performance and efficiency, one supply chain at a time", and does so through a variety of consulting services in the areas of supply chain strategy, transportation, warehousing, and supply chain audits and analytics.

Supply chain strategy encompasses services that optimize logistics, including “where to source, what to store, where to distribute, [and] how to distribute in order to reduce costs and improve service” (“All service,” n.d.). This category includes supply chain network design, which includes “optimization of sourcing locations, manufacturing and warehouses/distribution centers, or footprint and flows of physical goods” (“Supply chain network,” n.d.). There are various objectives associated with this network optimization, including reduced costs, increased service levels, and reducing a customer’s carbon footprint. Figure 6 shows “The Establish Way”, a trademarked methodology that Establish uses for its consulting and implementation services.

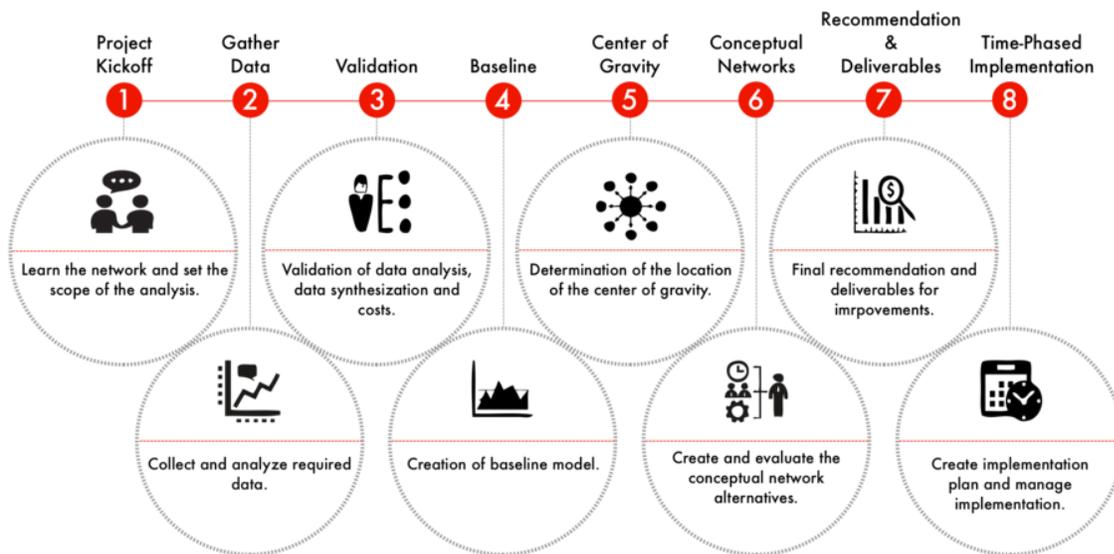


Figure 6. The Establish Way

Establish provides a distribution network design service that determines the optimal locations for distribution facilities, as well as a site selection service which includes the “identification of the best location for a new geographical site” (“Supply chain strategy,” n.d.).

Additionally, Establish assists clients in choosing supply chain support systems including Warehouse Management Systems, Transportation Management Systems, Inventory Management Systems, bar coding and RFID (radio-frequency identification). Establish does not develop these systems in-house and instead assists customers in selecting the most beneficial systems for their businesses.

Establish's Transportation Consulting Services can design or improve transportation systems, negotiate and benchmark freight rates, and assist with transportation system implementation ("All service," n.d.). This includes a carrier selection and negotiation service, as well as benchmarking costs and improving the structure of clients' dedicated fleets ("Transportation consulting," n.d.). Additionally, Establish provides ongoing Transportation Management support, which includes all transportation activities "except driving the trucks".

The warehousing-related services provided by Establish include optimizing warehouse design and improving operating processes in order to "maximize service and minimize cost" ("All service," n.d.). The warehouse design service includes the physical layout of the facility to meet a company's specific needs, as well as an "operations manual to ensure the best possible utilization" of the layout ("Warehouse design & improvement," n.d.). Establish can assist customers in optimizing current warehousing operations or creating a new design. These designs are created with goals such as maximizing capacity, improving productivity, reducing operating costs, and optimizing product flows ("Warehouse design & layout," n.d.). The warehousing services also include helping customers select and implement new third party-logistics providers in order to outsource warehousing services ("Warehousing design & improvement," n.d.).

Establish's service portfolio also includes a variety of supply chain analytics tools used in order to assess and improve customers' processes ("Supply chain audits," n.d.). These services include a profitability analysis, supply chain audits in order to evaluate performance, and supply chain analytics used to identify opportunities and the most important supply chain functions for a firm. Benchmarking services are a part of some offerings, but the portfolio also includes the "Establish Davis Logistics Cost and Service Database" as well as customized benchmarking services. The Establish Davis database is an annual survey that manufacturers, distributors, and retailers participate in in order to receive benchmarking reports ("Establish Davis," n.d.). Companies are able to participate free of charge and confidentially in order to gain useful information on potential areas of improvement in comparison to similar firms. Additionally, Establish provides a customized benchmarking service in which metrics are chosen specifically for the client and benchmarked against direct competitors as well as the industry as a whole ("Customized benchmarks," n.d.). For this service, Establish collects benchmarking data on Key Performance Indicators (KPIs) from relevant companies and makes it confidential in order to use the data for client reports. The methodology for this service includes five levels of comparisons: general industry characteristics (which is provided free of charge), specific industries, competitors and similar companies (customizable), additional metrics, and an industry-wide comparison.

PricewaterhouseCoopers (PwC)

PricewaterhouseCoopers (PwC) is an accounting firm that operates in the U.S. as well as globally. In addition to accounting services, PwC provides audit and assurance, tax, and

consulting services (PwC: Business Services, n.d.). The consulting services provided by PwC span many categories including finance, cybersecurity, and risk and regulatory (“Consulting advisory,” n.d.). For the purposes of this research, the services that will be focused on include those that are unique to PwC, as well as services that fall within operations and technology consulting.

PwC organizes their supply chain and operations consulting solutions into specific subcategories including sourcing and procurement, manufacturing, supply chain, and enterprise performance improvement (“Performance improvement,” n.d.). Services provided within sourcing and procurement include supplier relationship management, sourcing analytics, strategic sourcing. The procurement and sourcing consulting solutions are intended to “help clients build a supply base with a highly competitive cost and service profile”, as well as leverage their procurement activities to be a strategic capability. Manufacturing services provided include digital manufacturing, global manufacturing strategy and footprint design, and manufacturing operations improvement. The services that fall into PwC’s subcategory of supply chain include transportation, logistics, inventory, and reverse logistics consulting. Within enterprise performance improvement, PwC provides “operations excellence capability development and Lean/Six Sigma”, among several other services. PwC’s operations consulting services cover a wide breadth of categories end-to-end within supply chain management.

PwC provides consulting services within both technology and data analytics. PwC provides clients with “industry-specific technological expertise” along with business advice in the categories of strategy and enterprise architecture, security, privacy and risk, information management, IT infrastructure and business applications (“Capitalizing on,” n.d.). Data analytics encompasses other technology-based services including benchmarking, digital analytics, and

artificial intelligence. PwC assists customers in assessing their current state, developing a data foundation, monetizing the data, and using the power of the information to optimize performance and seize business opportunities (“Data and analytics,” n.d.). PwC can also assist business customers who are considering implementing blockchain technology in understanding the technology, and then deciding whether it is the right choice for their business (“Blockchain: PwC,” n.d.).

PwC provides benchmarking services to customers in order to “provide companies with data on how they measure up against their peers in key performance metrics” in a variety of areas including operational excellence, product innovation, and information technology (“PwC benchmarking,” n.d.). In addition to the areas they have prescribed benchmarking services for, PwC also can provide custom benchmarking to clients based on metrics that fit the needs of specific customers. Through “applying analytics technologies, tools, techniques and talent to rich benchmark data”, PwC is able to use customer-provided data to gather “strategic insights that solve complex business problems”.

The Predictable Value approach is a method that PwC uses to identify potential outcomes that their customers could see from implementing various solutions (“Introducing supply,” n.d.). In coordination with Oracle Cloud technology, the Predictable Value approach aims to demonstrate desired outcomes to customers depending on their broad business goals, including value, speed, focus, and agility. As part of this approach, PwC provides frameworks and technical roadmaps to support the client’s goals through a variety of supply chain solutions powered by Oracle Cloud. Among these offerings powered by the Cloud include lean manufacturing designs, transportation optimization, supply chain risk and scenario modeling, and efficient warehouse management configurations. The goal of this approach is to support

clients’ envisioned business transformation through “PwC’s technology experience, industry knowledge, proprietary tools and solutions” (“Introducing PwC’s,” n.d.). Figure 7 shows a visualization of the client’s end-to-end Predictable Value approach journey.



Figure 7. PwC Predictable Value Approach

INFORMATION TECHNOLOGY AND THE SUPPLY CHAIN

Technology and supply chain are constantly evolving as new trends and innovations appear within the market. This research will explore two rising trends in the market for technology within supply chain. This information is valuable to this thesis and to the 3PL company, as business customers need the latest knowledge and tools to stay competitive in their respective industries.

Within technology, there are many innovations companies are beginning to take notice of and implement in their business practices, including within their supply chains. These

include autonomous things and blockchain technology. Autonomous things include robotics, vehicles, drones, and appliances that are designed to automate functions previously performed by humans using artificial intelligence (AI) technology (Cearley, 2018). Autonomous things range from industrial equipment to self-driving vehicles, are capable of operating without much intervention from humans, and can seamlessly perform many routine tasks within a business. There are aspects of most businesses that are already automated, but as this technology progresses it will impact a variety of industries even more through increased automation, process altering, and increased efficiency. Areas of supply chain that have significant potential to be transformed by autonomous things and artificial intelligence technology include transportation and warehousing. An emerging innovation is the transportation of goods throughout a supply chain via autonomous vehicles (trucks) or via autonomous ships, both of which offer improved safety due to the reduction in human error (Burke, 2019). Additionally, there is potential for self-driving delivery robots, as well as drones, to complete last-mile deliveries. Autonomous things are also impacting warehousing through automating picking and packing processes through smart robots, which can be “trained” to complete tasks through movements, and autonomous mobile robots (AMRs), which are robots that move materials around warehouses to supplement human tasks (Burke, 2019). Both of these types of autonomous robots are able to operate independently and/or in coordination with human workers through advanced sensory capabilities.

A blockchain is a distributed digital ledger, meaning that it is a chronologically-ordered list of unalterable transaction records (Cearley, 2018). The records within a blockchain are shared with all participants in a network and encrypted with digital signatures and timestamps, making it easy to track transactions and movement within the network. This

technology increases trust and transparency within an organization, which allows for unique applications in a variety of industries. For example, companies within the food industry can use the transparent tracking capabilities of blockchain to trace sources across the supply chain in order to know where each product was sourced from and when, which lowers risk and allows for companies to quickly identify issues (Marr, 2018). Other applications of blockchain technology include tracking parts in the event of a product recall and programming the system to trigger specific actions, such as automatically releasing payment when goods are received at the correct location (Cearley, 2018).

RESULTS

Analyzing two third-party logistics companies as well as two consulting companies provided a thorough background into both types of competition that this 3PL company faces in the marketplace and which customized solutions are provided by each (Table 6). The third-party logistics companies chosen for this research, FedEx and DHL, have similar strengths and competitive advantages to the 3PL company, as well as similar weaknesses. These strengths include warehousing, transportation, and network optimization. The companies have backgrounds in shipping, tracking, and distributing, making it difficult for one third-party logistics company to differentiate themselves from the others in these categories. However, DHL does have a unique product that separates it from the 3PL company as well as from FedEx: Resilience360. This software platform provides supply chain risk management and visualization to customers that allows them to have sophisticated insights into their value chain. Having a

product such as Resilience360 that differentiates DHL from competitors gives the company an advantage in the marketplace.

The consulting companies analyzed in this research, Establish and PwC, have a wide variety of customized solutions that span some of the same areas as the third-party logistics companies, and some that differ. Establish is primarily a supply chain consulting company, so this company has strengths within most of the same areas as the third-party logistics companies (transportation, warehousing, etc.) as well as within supply chain analytics. One area that Establish does not have solutions within is sustainability. PwC provides consulting across many areas of a business and does not specifically specialize in supply chain, so they have less “real-world experience” to apply to their consulting. However, PwC has strengths that differentiate them from competitors, including the 3PL company, in the areas of supply chain analytics and benchmarking. Additionally, they have what is known as the Predictable Value approach, which is a technique exclusive to PwC used to demonstrate the outcomes and value that customers could see from employing customized solutions from the company.

The 3PL company provides information technology services to its customers, and outsources solutions to other companies when it does not have the capabilities to provide them in-house. Technology is constantly innovating, and keeping up with trends in order to best service customers and compete in the marketplace is crucial. Two technology trends that have compelling applications within business, specifically within supply chain, are autonomous things and blockchain technology. These technologies can be used within transportation, warehousing, and maintaining visibility within supply chains.

Table 6. Product Offerings Comparison

	3PL	FedEx	DHL	Establish	PwC
Warehouse Design/Optimization	✓	✓	✓	✓	
Network Optimization	✓	✓	✓	✓	✓
Benchmarking				✓	✓
Advanced Supply Chain Analytics			✓	✓	✓
Transportation Management/Consulting	✓	✓	✓	✓	✓
Carbon Impact Analysis/Sustainability Consulting	✓		✓		✓

Chapter 7

Recommendations and Conclusion

The three sections of analysis completed for this thesis have provided understanding into the advantages of the 3PL company, as well as areas of weaknesses. Synthesizing this knowledge and using it to make informed judgments has produced recommendations as to how the company can move forward with its goal of doubling solutions revenue in the next three years. This involves analyzing the strengths and weaknesses of the company's current practices through a SWOT analysis, making actionable recommendations on how to improve the customized solutions area of the business, and identifying a methodology for the 3PL company to continue establishing new market opportunities in the future.

SWOT ANALYSIS

Strengths that this 3PL company has internally include having a strong portfolio of customized solutions in areas that expand upon its core third-party logistics and supply chain business practices. As was mentioned in the "voice of the customer" interviews, the 3PL company has expertise in these areas, which is what differentiates them from consulting-specific competitors in the market. Many of these products are the top revenue-grossing within their respective practice areas, including warehouse design within Engineering and the network and transportation analyses available within Supply Chain Optimization. The network optimization tools that this 3PL company provides are in-depth analyses involving inventory, transportation, and site locations. These solutions are growing over time, and are comparable or more robust

than competitor options. The Supply Chain Optimization practice area solutions revenue has grown considerably since 2016, which is a strength for this company as it shows the business is not stagnant and with continual improvements to the portfolio of services, should continue to perform well for the business. Additionally, the 3PL company has two sustainability-related solutions, carbon impact analysis and carbon offsetting, which are comparable or stronger than offerings by the companies analyzed in the market analysis section of research. The company also measures Scope 3 emissions for companies, which are emissions that are not controlled by the company but are related to the company's supply chain ("Calculation tools," n.d.). According to the practice area consultant within sustainability, this is a step further in measuring emissions than competitors provide. By expanding upon these sustainability offerings, this product category could become a significant differentiator for the 3PL company. The strategic partnerships that this 3PL company has with outside vendors to provide certain services within Information Technology is also a strength. These partnerships were mentioned in company information and discussions, as well as within the "voice of the customer" interviews. While it may be ideal to be able to meet all customer demand with in-house products and customized solutions, it may not be practical in a reasonable timeframe to be able to develop highly technical solutions. For this reason, having these partnerships to be able to still satisfy customers when there is not harmony between company capabilities and customer needs is a strength.

Internal weaknesses that were discovered within this research of the customized solutions group include training and sales resources available. This was the focus of much of the "voice of the customer" interview(s) with salespeople in the customized solutions group. The employees discussed that the training they received was minimal, with limited guidance from managers and longer-term employees. This led to the employees learning necessary information

about the products through their own research as well as through setting up meetings with practice area consultants, trial-and-error situations, and on-the-job learning. Additionally, there is a lack of useful product brochures, guides, and case studies that detail product information such as cost and lengths of time that it takes to implement the products. This lack of relevant material makes it difficult for the salespeople to engage with customers. Another area of weakness for this 3PL company is the complexity of the Information Technology customized solutions portfolio. There are approximately twenty-four customized solutions offered in this practice area at this time, many of which seem to have similar functions that relate to the shipping, tracking, and returns of packages. The practice area consultant stated that this portfolio has redundancies due to the company developing solutions for specific projects instead of adding on to already-existing solutions within the portfolio. Within this practice area, another weakness is the company's current funding process of reactively creating customized solutions offerings based on customer need and funding, instead of anticipating demand and proactively researching and developing competitive products.

An opportunity for the 3PL company is the rising trend of the importance of sustainability initiatives. The market analysis portion of this research discovered that the direct competition is weak on sustainability-related services. These consulting services, especially for large corporations, are increasingly important due to global and market demands for more environmentally-sustainable practices. Issues such as the climate crisis, consumer demand for sustainable products, and efforts to save ecosystems are current trends that businesses must be conscious of in order to maintain their licenses to operate (“SustainAbility trends”, n.d.). Currently, the 3PL company provides both carbon impact analysis and carbon offsetting solutions to business customers. The aforementioned market trend of demand for businesses to

become more sustainable is an opportunity for this 3PL company to take advantage of the market landscape and add to their sustainability-related product portfolio to establish a competitive advantage.

The external threats to the company are focused on product areas that the company lacks offerings within as well as an environment of quickly-evolving trends. The research into the market landscape and competitors' product offerings revealed that the product areas that this 3PL company is not competing in include benchmarking and advanced data analytics. These were mentioned as areas that the company is lacking within by the "voice of the customer" interviews as well. These threats could be protected against by focusing time and funding on improving current analytics solutions, creating a benchmarking process, or partnering with a company that does have these capabilities in order to not miss out completely on this market share. An additional threat is that the third-party logistics companies, FedEx and DHL, researched in the market analysis have similar product portfolios to the 3PL company. This lack of differentiation makes it difficult to aggressively compete with these companies. DHL has an element of differentiation with its product Resilience360, the platform that manages supply chain risk and allows companies superior visibility into their supply chains. The 3PL company could defend against this threat of too much similarity by finding a way to consistently differentiate itself either through product offerings or value-added services. Quickly evolving market trends, especially within technology, are also a threat to this 3PL company. This is a threat because as previously mentioned, the company does not proactively invest in research and development to create new information technology solutions. While they are involved in strategic partnerships with technology providers, being proactive in knowing how to consult with companies on implementing technology such as blockchain or autonomous things would be a substantial way

to protect the company from this threat. Additionally, there are a variety of organizations in the market that provide solely sustainability and corporate social responsibility consulting services, including BSR and Context. BSR is a global nonprofit that provides sustainability consulting services, and has expertise in a variety of areas including supply chain sustainability. Services provided to BSR's clients involve sustainability assessments, stakeholder engagement, creation of a sustainability strategy, implementation support for sustainability initiatives, and sustainability reporting ("Sustainability consulting," n.d.). BSR also has a strategic foresight approach to sustainability, known as the Sustainable Futures Lab ("Sustainable futures," n.d.). This lab is designed to assist clients in creating a forward-thinking approach to their business in order to prepare strategic and sustainable plans that take into consideration "profound and accelerating changes, such as climate disruption, artificial intelligence, and automation". Context is another advisory firm that provides sustainability-related strategy services ("Our services," n.d.). This company uses tools such as a material issues assessment, risk forecasting and management, and sector and best practice benchmarking to assist clients in "future-proofing" their businesses with sustainability strategies. Additionally, they aid customers in communicating with stakeholders in order to promote their sustainability initiatives and acquire support. These sustainability-based companies are a threat to the 3PL company's market share in sustainability consulting services, but the threat can be defended against by further investment in creating more robust sustainability solutions.

RECOMMENDATIONS

Recommendations that have been developed for the 3PL company to position itself to meet its goal of doubling solutions revenue in a three-year timeframe include improving internal processes within the customized solutions group and altering the current product portfolio. The 3PL company can benefit from leveraging current strengths including its supply chain expertise and sustainability offerings, but also must recognize weaknesses within the business and potential external threats within the market.

Sustainability is an area of potential growth for the 3PL company. The company already has competitive offerings within the market, and the carbon offsetting solution is the most utilized service within the Supply Chain Optimization practice area. As referenced in the “voice of the customer” interview(s) by the practice area consultant within sustainability, customers have shown interest in more sustainability-related measurement and mitigation products, but were generally hesitant to invest in additional services that had costs associated. While this may be true, further improvements and additions to the current sustainability solutions would be a substantial differentiator from direct competitors in the marketplace. Ideas for these improvements provided by the sustainability practice area consultant include additional transparency and accessibility through being able to provide on-demand directional carbon impact information, as well as having the capability to show carbon emission data alongside basic information, such as transit times and cost, for each shipment. These additions will help to advance the 3PL company’s competitive advantage within sustainability, but with significant company investment more could be done to poise the sustainability service portfolio to bring in more customers and thus more solutions revenue. As was mentioned in the SWOT analysis, there

are companies in the market that focus heavily on sustainability consulting, but these companies do not have the legitimate supply chain background and expertise that the 3PL company has. The recommendation within sustainability is for the 3PL company to leverage its expertise in its core business and invest in developing customized solutions that assist customers in creating sustainability strategies for all parts of their supply chains. Providing sustainability assessments of operations and using these assessments to augment current warehouse redesign and network optimization tools could position the 3PL company to take a more substantial advantage over its competitors and bring it closer to meeting revenue targets.

There are several recommendations to be made within the Information Technology practice area. This product portfolio would benefit from what was referred to by the practice area consultant(s) as a product rationalization process. The need for this is due to the redundancies in the shipping, tracking, and returns products within the portfolio. This leads to confusion and makes it necessary for customers to invest in multiple products to get all of the features that they need for their company. This product rationalization process would seek to identify which services within the Information Technology portfolio could realistically be condensed, which is outside the scope of these recommendations. Ideally, the products within Information Technology that provide shipping, tracking, and returns services could be condensed into one all-inclusive platform, similar in form to DHL's Resilience360 product. This would allow customers to have access to the platform, and opt-in to features based on their business needs. This issue of redundancies in the product portfolio, according to the "voice of the customer" interview(s), came about because of the 3PL company's current product development process of adding additional solutions to the portfolio based on specific customer projects instead of making improvements or additions to existing products. This leads into the next

recommendation, which is to alter this product development process from being based on external funding from customer projects, to being funded by proactive research and development. This would require significant investment from the 3PL company, but funding based on a “roadmap” of future goals would position the company to compete more effectively in the technology consulting and product space. While it may not be practical for the company to develop state-of-the-art technology, they can form new and utilize current partnerships with external vendors as well as develop solutions to assist customers with the implementation of emerging technologies such as autonomous things and blockchain. It was discovered during the research that this 3PL company only has simple supply chain analytics and querying capabilities, and does not have a customized solution available in the portfolio for these tasks. This is an area that the 3PL company fails to differentiate itself with in the marketplace. The company should either utilize partnerships with external technology firms to provide these services, or develop the services in-house to augment the current available tools. Lastly, the consulting firms researched within the market analysis provide benchmarking services to their customers to enable clients to understand their performance on a variety of Key Performance Indicators (KPIs) in comparison to their industries and competitors. It would take considerable time and funding investment to develop a process for collecting benchmarking data to use for customized solutions, but being able to provide this service to clients would differentiate the 3PL company from other third-party logistics companies in the market.

Additional recommendations for the 3PL company center around internal processes that could benefit from modifications or additions. Fixing the issue of a lack of training and information for new-hire and current sales employees could lead to improved customer service, dissemination of product features and information, and ultimately, increased product

utilization and number of client opportunities. It was disclosed during the “voice of the customer” interview(s) that in the past there was an onsite training program that customized solutions salespeople would attend to learn about the sales and implementation process and product offerings, but this no longer exists. There are over 200 product offerings in the customized solutions portfolio, and currently it seems that sales employees are expected to research and be able to sell these products to business clients with very little training. By having a structured program to guide new employees and refresh current employees’ knowledge, the 3PL company would ensure that the sales employees are interfacing properly with customers and providing accurate information on available services. It was also mentioned that there is a lack of up-to-date and relevant brochures, guides, and case studies detailing information such as current product features, costs, and times to implement the solutions. It is recommended that the 3PL company invest in creating a comprehensive and up-to-date collection of sales materials for sales employees to use when discussing customized solutions with potential and returning clients. Enabling employees to have these tools and knowledge will allow for more effective customer service and communication of the benefits of the customized solutions, which will in turn position the 3PL company to have increased product utilization and potentially, solutions revenue, across the practice areas.

CONCLUSION

Implementing these future-state recommendations will ideally position the 3PL company closer to its goal of doubling solutions revenue in a three-year period. This is an ambitious target, but by continually making improvements and additions to the portfolio of solutions and internal

processes, the 3PL company will have the capabilities to meet this goal. To continue working toward these customized solutions revenue and transformational goals, the 3PL company will need to continually evaluate its current state and identify new market opportunities.

The methodology for this company to identify new market opportunities is similar to the layout of this research. The 3PL company should begin by analyzing past data to identify top products in each practice area based on solutions revenue as well as by number of projects. This allows the company to see where its strengths are, as well as if these strengths are continuing to perform well or declining. Additionally, the company should review internal data that is outside the scope of this research, such as costs to provide the services, to determine which products the company is gaining the most profit from.

The sales employees and practice area consultants are extremely valuable resources for this company. These interviews were referred to as “voice of the customer” interviews in this research due to these employees having considerable direct contact with customers. These employees know what aspects of the sales and implementation process are the most effective and where there are opportunities for improvement. Additionally, the practice area consultants are well versed in the product portfolios and receive direct customer feedback on the customized solutions available. When this research is being completed internally by the 3PL company, there will be more opportunity for a greater sample size of employees, which allows for more complete information and more insights.

The 3PL company can also perform market landscape analyses on the companies that they recognize as direct competitors, as well as research on general market trends that relate to areas of its product portfolio and core business. The research completed for this thesis found it useful to analyze samples of both third-party logistics companies, FedEx and DHL, as well as

consulting companies, PwC and Establish. A wider array of companies could be chosen for this research, but the process would remain the same: researching what consulting services the companies have available and comparing the features of these services to those currently provided by the 3PL company. The 3PL company can use both internal company insights on upcoming trends as well as reviewing insights provided publicly by research companies such as Gartner. Finally, performing regular SWOT analyses will give the company a substantial understanding of its position in the market and what changes could be made to optimize its business.

This research methodology will assist the 3PL company in routinely transforming its customized solutions and being innovative in the business consulting market. Currently, the company provides a strong portfolio of value-added solutions that complement its core business activities of shipping and tracking. However, maintaining stagnant and not continually refreshed offerings is not conducive to growth. The company will need to make recommended changes to both the product portfolio and internal solutions processes, as well as periodically repeat this process to identify new opportunities. Through constant improvement and investment in change, the 3PL company's goal of doubling solutions revenue within a three-year period is realistic and attainable.

Appendix A

Interview Guide #1 – Customer-Facing Employees

- a. Can you describe the training that you received prior to beginning to sell the products/services?
- b. Coming out of training, did you feel prepared to adequately discuss and sell the products?
- c. What have you found to be the most difficult part of selling products to customers and beginning engagements?
- d. If you could make one recommendation to improve the customized solutions sales, what would it be?

Appendix B

Interview Guide #2 – Practice Area Consultants

- a. Supply Chain Optimization
 - a. What products in this category do you feel differentiate this company from competitors?
 - b. Do you think that there are areas within SCO that this company is missing products within?
 - c. Do you feel that customers are interested in having more sustainability-focused products?
 - d. What would you ideally like to see change within the next five years?
- b. Information Technology
 - a. What products in this category do you feel differentiate this company from competitors?
 - b. Do you think that there are areas within Information Technology that this company is missing products within?
 - c. Do you feel that there are redundancies in the IT product portfolio that could be condensed into fewer product offerings?
 - d. What would you ideally like to see change within the next five years?

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Education

The Pennsylvania State University, Smeal College of Business University Park, PA
Schreyer Honors College
Bachelor of Science: Supply Chain and Information Systems *Class of: May 2019*
Minor: Information Systems Management

Relevant Experience

DICK'S Sporting Goods Pittsburgh, PA
Corporate Merchandising Intern – Buying May 2018 – August 2018

- Identified recommendations to increase premium eyewear sales by upwards of \$5 million
- Analyzed sales, inventory, and turn data in order to make decisions regarding future assortments
- Reviewed key performance indicators to analyze performance of the business
- Presented summer project of growth opportunities to merchandising leadership

Cigna Pittsburgh, PA
Knowledge Network Intern May 2017 – August 2017

- Assisted in the coordination of training logistics across all Cigna locations
- Maintained training capacity Excel file to reflect supply and demand of training resources

PetSmart, Inc. Monaca, PA
Associate May 2016 – August 2016

- Processed customer transactions and assisted customers with online orders
- Provided superb customer service to create a positive shopping experience for customers

Campus Involvement

Penn State Homecoming Captain University Park, PA
Distribution Management Timeline Logistics Captain February 2018 – November 2018
Distribution Management Admin Captain February 2017 – November 2017

- Created timelines of Homecoming events for captain shifts and coordination of supplies
- Organized and distributed supplies to committees for Homecoming events
- Generated a complete inventory sheet of Homecoming supplies

THON Merchandise Committee University Park, PA
Committee Member October 2017 – February 2018

- Maintained and organized storage of THON merchandise
- Assisted in keeping accurate inventory of THON merchandise in storage

Springfield FTK – THON Organization University Park, PA
Member September 2015 – present

- Raised funds for the Four Diamonds Fund and Penn State THON
- Organized and participated in community events benefiting THON
- Participated in THON, a dance marathon benefiting families affected by pediatric cancer

Skills, Achievements & Interests

- *Skills* – Microsoft Excel, Tableau, Microsoft Access, Microstrategy, Gephi
- *Achievements* – Phi Kappa Phi Honor Society member, Penn State University Dean's List, Joseph B. Wharton Jr. Scholarship Recipient (2018)