Let's Bring it Home: Discovering Efficiency in Re-shoring Production in the Beauty Industry

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Abstract

The beauty industry is an understudied industry that can benefit greatly from reshoring. Product developers in this industry source raw materials from Europe when creating a complex product, and from China when creating a mass-market, basic product. Many companies across the United States have begun to reshore all or parts of their manufacturing process. They have been able to benefit by cutting transportation costs and lead time, and by maximizing quality. This thesis aims to explore the reshoring trend and its viability for mass-market products in the beauty industry.

A case study was compiled to discover whether it is economically feasible to reshore the manufacturing process of mass-market beauty products. Costs associated with the production process of a basic two-ounce plastic bottle were researched. After consulting with companies in the industry, all associated costs for manufacturing a two-ounce plastic bottle in China, such as manufacturing cost per unit, transportation costs, and duty rates, were determined. Then, all associated costs for manufacturing that same two-ounce plastic bottle in the United States were compiled, after consulting with Currier Plastics, a custom molding solution company based in New York. These figures were compared after plugging them into a Landed Cost Calculator, which determined a final landed cost per unit. The results proved that a United States manufacturer could offer a lower landed cost by four cents per unit than its Chinese competitor.

It is evident that the beauty industry can benefit from the reshoring shift that many companies are taking advantage of. Companies can benefit by cutting costs through manufacturing techniques, increasing sustainability efforts, and delivering effective Made-in-the-USA marketing to their consumers. Additionally, by reshoring operations, companies will be cutting multiple levels of risk by eliminating the effects of fluctuating exchange rates and the variability of fuel costs, and by maintaining quality and environmental standards at a high level.
# Table of Contents

Abstract ........................................................................................................................................... 2

Executive Summary ......................................................................................................................... 6

Acknowledgements ......................................................................................................................... 12

Chapter I: Re-shoring the Sourcing for Raw Material in the Beauty Industry ........................................... 13

Chapter II: Re-shoring – An Overview of the Trend ........................................................................... 15

  Initiatives and Incentives ................................................................................................................ 18

  Companies that have successfully Re-shored ............................................................................. 20

  Re-shoring and the Beauty Industry ............................................................................................. 22

Chapter III: What Leads American Companies to Offshore .................................................................. 27

  Offshoring Mistakes ..................................................................................................................... 29

Chapter IV: Arguments for Re-shoring Operations .......................................................................... 32

  Sustainability ................................................................................................................................. 32

  “Made in the USA” Marketing ....................................................................................................... 34

  Increasing Labor Costs and the Impact of Fluctuating Exchange Rates in China ....................... 35

  Transportation Risks – Increasing Bunker Fuel Costs, Increasing Container Rates, Piracy, and Tensions in the South China Sea ........................................................................................................ 37

  Environmental Problems in China ................................................................................................. 43

  Eliminating Risks and the Beauty Industry ................................................................................. 46
Chapter V: Current Sourcing Processes of Raw Material in the Beauty Industry ................................................................. 50

Chapter VI: Case study: Comparing the Economics of Manufacturing in China Versus in the United States ................................................................. 52

Methods .................................................................................................................. 52

Results ..................................................................................................................... 53

Discussion ............................................................................................................. 56

Chapter VII: The Future of Sourcing Raw Materials Domestically ........... 59

Works Cited ........................................................................................................... 60
Executive Summary

In the beauty industry, it is common for developers to source the raw materials for products from Europe when they are creating a complex product, and to look to vendors in China when they are creating a basic, mass-market product. In this industry, companies rarely look to United States suppliers to source raw materials. One reason for this could be because it is an understudied industry, and businesses are accustomed to conducting business as they have always done in the past. This thesis aims to explore the reshoring trend and its viability for mass-market products in the beauty industry.

In recent years, companies across the United States from various industries have begun to reshore all or parts of their manufacturing processes. In a study done by the Boston Consulting Group of executives involving over 200 American businesses across a broad range of industries, over 50 percent of respondents with sales over $1 billion plan to, or are considering, returning some production from China to the United States, while 21 percent of respondents are currently in the process of reshoring. American businesses have realized the benefits of manufacturing at home. “The top advantages discovered in moving production back to the United States include competitive labor rates, proximity to customers, product quality, skilled labor and transportation costs” (Olson). Additionally, advantages in the form of incentives from state government have proved to
be attractive, such as tax breaks and project funding. These reshoring benefits have the potential to cut costs, eliminate risk, create efficiencies and increase profitability, and they transfer well to the beauty industry.

United States business began outsourcing processes extensively over the last four decades. The belief was that focusing on their core competencies and outsourcing the rest would keep them focused, successful, and more profitable. Companies looked to outsourcing as a quick fix for incompetence; however, often this solution is not sustainable. As economies change, costs rise, and political unrest erupts, relying on outsourcing creates even more complications and uncertainties within a business.

Reshoring operations domestically will eliminate many of the risks that are inevitable when outsourcing. Sustainability, marketing trends, increasing transportation costs, increasing labor costs, fluctuations in exchange rates, and environmental issues are factors that must be taken into account when doing business abroad.

Consumers have become increasingly interested in the sustainability of the products they are buying and the sustainability concerns of the companies that they are purchasing from. Producing a product that is made locally and sourced from recycled or natural materials can have a profound effect on business as the trend towards sustainability grows. Additionally,
“small manufacturers, craftsmen, and retailers are marketing the Made-in-USA tag to score points with consumers” (St. John). In a recent survey done by the Boston Consulting Group, over 80 percent of Americans expressed a willingness to pay more for Made-in-USA products; 93 percent of these say that it is because they want to keep jobs in the USA. Additionally, when considering similar products made in the United States versus China, the average American is willing to pay more.

China’s reputation as a manufacturing hub is changing. Increasing labor costs in China can have extreme effects on business. Chinese private-sector wages rose 14 percent in 2012. Although higher labors costs demonstrate growth and increased consumer spending for the country, they pose their own risks to the economy’s recovery, as business profitability is threatened and export competitiveness increases. It is forecast that by “2015 the cost of outsourcing manufacturing to China will be equal to the cost of manufacturing in the United States” (“New Study Finds China Manufacturing Costs”). Additionally, there has been a steadily increasing trend in bunker fuel costs and container rates in recent years. Bunker fuel prices rose 2.2 percent to an all-time high of $690 a metric ton, while container rates rose substantially on the China-to-Europe route and on the China-to-the-Mediterranean Sea route (Arnsdorf).
Furthermore, piracy and tensions in the South China Sea have the potential to cause extreme disruptions in cargo shipments. In 2013, there was a total of 264 piracy attacks; although these attacks have declined greatly since their peak of 439 reported attacks in 2011, an attack can result in violence, casualties, and loss of millions of dollars of inventory ("Somali Pirate Clampdown"). Additionally, tensions in the South China Sea between China and the Philippines over several small islands that are rich in oil, natural gas, minerals, and fish have created great turmoil in this major transportation zone ("The Scarborough Shoal Conflict").

Lastly, overseas suppliers might be working in countries that do not value the importance of environmental protection. For example, China is currently facing a plethora of environmental issues. Air and water pollution are two major risks that China’s population faces every day. American businesses must be aware of the fact that their suppliers in China might be contributing to their poor environmental conditions and must realize that contributing to the crisis is unethical and could also damage their reputation as a company.

Currently, beauty companies source raw materials for mass-market products from countries with low labor costs, like China. Chinese manufacturers are known for producing high levels of homogeneous products, allowing them to create economies of scale and offer a lower
manufacturing cost per unit to their customers. A case study was completed based on primary research data to compare the economics of manufacturing in China versus in the United States. Costs associated with the production processes of a two-ounce plastic bottle in China and in the United States were collected and compared. This information was collected by consulting with players in the beauty industry who regularly do business with China and with plastic manufacturers in the United States. The data were inputted into a Landed Cost Calculator, which calculates a final cost per unit when taking into account all of these factors.

After looking at manufacturing costs per unit, transportation costs, duty rates, and volume, the results proved that a United States manufacturer could produce at a lower landed cost per unit. China’s landed cost totaled to $0.099 per unit, while the United States’ landed cost totaled $0.058 per unit. The reason for this could be that the manufactured cost per unit quoted by the United States supplier was $0.02 cheaper and that many transportation expenses are eliminated when doing business in the United States.

In summary, sourcing raw materials domestically can lead to a more efficient supply chain. Businesses from various industries across the United States have begun to see the benefits of bringing operations back home. By not paying attention to the shift that is occurring, organizations are being constrained by the risks associated with offshoring, including increasing
labor costs and long lead times. In particular, the beauty industry would benefit greatly from reshoring their operations, as proved in this case study.
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Chapter I:

Re-shoring the Sourcing of Raw Material in the Beauty Industry

Product developers in the beauty industry source raw materials for packaging depending on the product type. If a developer is looking to create a detailed glass bottle to house a luxurious fragrance, they will commonly seek suppliers located in France or Italy, who have the technical machinery and years of experience to cater to these needs. If a developer is looking to create a small, plastic bottle with a generic shape to house a mass-market body wash, they will commonly look to suppliers located in China, who have a reputation for low cost and expertise in producing repetitive, large quantities of a single item. When do product developers in the beauty industry look to American suppliers to source their raw materials for their packaging needs? Rarely if ever.

Various industries across the United States have begun re-shoring their operations and sourcing of materials, such as Intertech Plastics, a custom injection plastic molding company, and Peerless Industries, an audio-visual mounting systems manufacturer, with the belief that re-shoring will lead to more efficient processes. However, companies in the beauty industry have yet to truly consider re-shoring their operations. Long-standing beauty companies swear by low costs in China and top quality in Europe, as has historically been done.
This thesis aims to discover if it is both economically and theoretically feasible to produce a mass-market plastic bottle for the beauty industry in the United States. The focus here is on this particular item because the existing machinery and infrastructure in the United States suggest that sourcing the components domestically would be possible. As for a detailed glass bottle, it was discovered through interviews with packaging experts in the beauty industry, that further infrastructure and specific know how would be needed, therefore, that it would probably not be feasible at this time.

Nevertheless, as we look at the risks associated with overseas business and a case study based on primary research comparing overall costs incurred when manufacturing in China versus in the United States, it should become evident that mass-market plastic bottles can be produced in the United States at a cheaper cost and with much less risk.
Chapter II:
Re-shoring – An Overview of the Trend

There has been a recent trend in re-shoring, or bringing production back to the United States from overseas. A recent study by the Boston Consulting Group reports that United States manufacturers have discovered the advantages of re-shoring. “The study includes responses from over two hundred decision makers at companies across a broad range of industries that manufacture in the United States and overseas” (Schwartz). According to the study, over half of executives at manufacturing companies with sales of over $1 billion plan to or are considering returning some of production from China to the United States. This is up from 37 percent of executives in the 2012 report. Additionally, 21 percent of respondents are currently in the process of re-shoring, compared to the 10 percent of respondents in the 2012 report (Schwartz).

“The top advantages discovered in moving production back to the United States include competitive labor rates, proximity to customers, product quality, skilled labor and transportation costs” (Olson). A surprising finding reports that savings on energy costs was the factor least cited by executives regardless of the new sources of energy discovered in the United States (Olson).
Similar results were found in a survey done by Mitch Free, *Forbes* writer, global entrepreneur, innovator and digital manufacturing expert. To discover if re-shoring was truly a trend, Free distributed a survey to job shop members of MFG.com, a global online manufacturing marketplace. “MFG.com is the largest global sourcing marketplace for manufacturers seeking custom parts, textiles, standard components and assemblies” (“Who is MFG.com?”). Free discovered that 40 percent of the companies surveyed "indicated they have won new manufacturing business this year that was previously manufactured overseas" (Free).

The survey uncovered five main factors involved in re-shoring:

1. “Companies are ordering in smaller lot sizes because they are concerned about the economy and the continuing demand for their products. Smaller quantities means less cash tied up in inventory. The companies understand that re-shoring and producing in small quantities is costly, but they rationalize the extra cost against risk mitigation and increased flexibility” (Free).

2. “The digitalization of manufacturing has matured and converged” (Free). Systems such as computer-aided design software (CAD), Computer numerically controlled machine tools (CNC), and Internet manufacturing networks have allowed for easy production of complex parts. Furthermore,
this digitization has further enabled companies to produce closer to their customers in several locations, as opposed to in a single factory. By producing close to their customers, no matter where in the world they might be, companies can save on logistics, adjust products to local preferences, and overall mitigate the risk of producing in a single factory.

3. Product life expectancy is shrinking. Companies need to react quickly to changing markets, demands for new products, and to competitive pressures. By locating production near market and engineering teams, companies gain in collaboration, which is crucial for innovation and speed-to-market. These companies are focusing on creating maximum efficiency within their supply chain. Instead of competing by being the cheapest product in the market, they are competing based on speed to market and innovation.

4. “We have become a society that likes to customize products and experiences to our tastes, and we are willing to pay a premium for it” (Free). Companies want to satisfy their customers’ desires by tailoring some aspects of a product to suit specific tastes; they also realize that customers are willing to pay extra for that customization. In order to allow for efficient product customization, companies must be located near their market, not on the other side of the world.
5. Oil prices and labor costs are increasing in traditionally low-cost countries. The weakened United States dollar has caused companies to re-shore as low cost countries develop and costs continue to rise.

(Free)

Initiatives and Incentives

At an Insourcing American Jobs Forum in January 2012, President Obama said, “I don't want America to be a nation that’s primarily known for financial speculation and racking up debt buying stuff from other nations...I want us to be known for making and selling production all over the world stamped with three proud words: Made in America” (Roth & Gross).

It is evident that the President is a strong supporter of the re-shoring initiative. To further encourage the trend, the Obama administration plans to offer new incentives for returning jobs to the United States and to omit tax deductions that currently exist for shipping job overseas. President Obama is also pushing for a two billion per year tax credit to manufacturers who invest in struggling communities by building new infrastructure and creating jobs (Roth & Gross).

States are offering various tax incentives to entice re-shoring and the creation of new jobs. “New York States offers an Investment Tax Credit that
qualifies businesses that create new jobs and make new investments in production property and equipment to tax credits of up to 10 percent of their investment. Additionally, the state offers a Lower Corporate Tax rate of 6.5 percent to Qualified New York State Manufacturers” (“Taxes & Incentives”).

The state of New Jersey also offers various tax and financing incentives to companies that reshore. New Jersey offers loans up to $1.25 million and tax-exempt bond financing for companies looking to purchase a new location, expand an existing facility, or construct a new facility in the state. For businesses seeking help in covering their operating expenses, or buying or renovating machinery and equipment, the state offers loans up to $750,000 and loans up to $1.25 million, respectively. If a business's goal is to relocate and grow their business in New Jersey, the state offers tax-incentives for the creation of at least twenty-five new jobs (“New Jersey Economic Development Authority”).

Across America, states are encouraging growth and investments by offering low-cost, long-term financing, loans, guarantees, and incentive grants. It is important that companies recognize these benefits that come along with re-shoring. These incentives, in addition to many others that will be discussed later in this thesis, can surmount the perceived benefit of outsourcing.
Companies that have Successfully Re-shored

Peerless Industries, a company that manufactures audio-visual mounting systems, recently moved production back to Illinois, where the company was incorporated. The company’s chief executive officer, Michael Capagna, claims that his main reason for re-shoring was rising labor costs. He says, “The labor costs in China are rising, even more so now than when we left. We quoted some new projects this year to double-check costs in China and we discovered that they have gone up.” Peerless Industries is able to take advantage of lower labor costs by manufacturing their products in the United States.

Intertech Plastics manufactures custom injection molded plastic products. Noel Ginsburg, president of the company, attributes the company’s re-shoring decision to the company’s doubling of revenues. Intertech Plastics grew from $20 million to $40 million between 2011 and the end of 2012. “Ginsburg says that when manufacturing in China, his customers began telling him that they would only do business with an American supplier. By re-shoring, Intertech Plastics has been able to acquire business that was directed towards suppliers that manufacture locally” (“Made in USA”).

Sleek Audio, a company that manufactures headphones, decided to re-shore to St. Petersburg, Florida for two main reasons: poor quality and the difficulty of traveling overseas. Jason Krywko, one of the company’s founders,
said that working with overseas production became very difficult and taxing. Sleek Audio is happy to be in control of the quality of the product and to not have to wait for production (“Made in USA”).

All-Clad Metalcrafters, a cookware production company, re-shored manufacturing to Canonsville, Pennsylvania. The company’s main reason for doing so came with the realization that cutting steps out of the supply chain creates a cheaper overall production process. All-Clad Metalcrafters conducted a cost-benefit analysis of overseas versus domestic manufacturing to justify the move. Trevor Dunthorne, vice president of operations, says that, “reducing the length of the supply chain reduces the cost of capital, [which] frees up cash flow that can be used in the company on other projects” (“Made in USA”).

Karen Kane, a fashion line based in California recently re-shored most of its production locally. The director of marketing, Michael Kane, found that “the cost of doing manufacturing here domestically is not that different [from the cost of doing it overseas]” (“Made in USA”). Karen Kane and clothing manufacturers alike are finding that besides providing better quality, companies that base manufacturing closer to their consumer market are better able to adjust to constantly changing fashion trends (“Made in USA”).
Re-shoring and the Beauty Industry

Re-shoring has worked for many companies in several industries as they capitalize on faster lead times, better quality, and overall savings. These benefits can transfer just as effectively to the beauty industry; however, this understudied industry has fallen behind on the trend. The five reasons discussed above by Forbes writer, Mitch Free, can be translated to benefits in the beauty industry.

The first factor that Free touches upon is the fact that companies in general are ordering in smaller quantities due to demand volatility and inventory holding costs. Beauty companies in the United States often order as many bottles as possible in order to avoid the long lead times incurred by ocean shipments when working with overseas suppliers. In an interview with Christin Meizinger, logistics manager at SGB Packaging Group, Inc., she stated that clients would request to fill a 40-foot ocean container with merchandise even if they did not necessarily need all of the merchandise in one shipment. Clients would pay the premium for the 40-foot container instead of a 20-foot container in order to capture all potential demand and avoid long lead times if demand were to unexpectedly increase.

However, inventory holding costs can be very costly. Christin said that warehouse holding fees could total $10,000 for the storage of about 200,000 units of bottles. Customers understand that inventory holding costs are very
costly; however, they would rather hold the units in stock instead of losing potential sales in the case of a demand spike. Ordering additional units from China due to an unexpected increase in demand can have a 90-day-lead time. In contrast, a local domestic manufacturer has the potential to dramatically reduce the lead-time for this product. By re-shoring processes to the United States, beauty companies would no longer need to order as many units as possible in order to avoid the long lead times incurred with ocean shipments.

The second point that Free makes is that companies are re-shoring to take advantage of digitized manufacturing and the ability to produce in various locations that are closer to their consumer markets. “Digital manufacturing is the use of an integrated, computer-based system comprised of simulation, three-dimensional visualization, analytics and various collaboration tools to create product and manufacturing process definitions simultaneously” (“Digital Manufacturing”). This factor could prove to be extremely beneficial for companies if this type of manufacturing were to be implemented across the beauty industry.

Currier Plastics, a domestic plastic manufacturer based in New York who will be discussed in greater detail later in this thesis, has taken advantage of this innovation and is able to “print” a three dimensional prototype of a bottle based on a customer’s requests. This enables customers to actually see what the bottle will look like before the company creates a
mold for production. This innovative technique eliminates errors, readjustments and ensures that beauty companies are producing exactly what customers want. Figure 1 and Figure 2 demonstrates a three-dimensional printer and a three-dimensional printed two-ounce bottle.

The third factor discussed is that product life expectancy is shrinking. By working with suppliers that are closer to consumer markets, companies in the beauty industry will be better able to respond to changing consumer preferences as quickly as possible. Creating a centralized business allows for better collaboration among all the departments involved, which is absolutely essential when launching a product. Re-shoring operations has the potential for marketing, packaging, product development and supply chain teams to solve problems faster, innovate better, and increase the speed-to-market, in order deliver products to consumers when they want it (Free).
Free’s fourth factor is that re-shoring allows for efficient product customization. Consumers are willing to pay a premium for products that are customized to their personal tastes and preferences. This benefit would transfers to the beauty industry because companies could adjust their distribution based on the preferences of each region. Companies could gather information about consumer preferences on scents and textures across regions and adjust their distribution or tweak the product composition accordingly.

Additionally, beauty companies could utilize online distribution more effectively. They could create a system whereby consumers could purchase their beauty products online and customize the packaging to their liking, such as by adding a monogram or changing the packaging colors. Online customization of products would be an unrealistic when working with overseas suppliers, due to long lead times, extremely high costs, and the complexity of the task. By re-shoring operations, the beauty industry could also take advantage of breakthroughs in customization that have been made in other industries, such as retail.

The last point that Free talks about is that labor costs and oil prices are beginning to increase in traditionally low-cost countries like China. This could have a major impact on the beauty industry. “Chinese private-sector wages rose 14 percent in 2012 and are forecast to continue increasing as the
country’s economy grows and strengthens” (Orlik). “By 2015, the labor cost of manufacturing products in China will be equal to the labor costs in the United States” (“New Study Finds China Manufacturing Costs”). Transportation costs are major components of off shoring activities; by re-shoring operations, beauty companies would be paying substantially less for transportation and just as much for the cost of labor as if they were producing in China.
Chapter III:

What Leads American Companies to Offshore

“The practice of outsourcing is as old as business itself. A 19th-century manufacturing company might have had its own machines but not its own fleet of horses to distribute its merchandise” (“Herd Instinct”). Over the last four decades firms have been outsourcing more and more of their operations. The belief is that focusing on their core competencies and outsourcing the rest will keep them focused, successful, and more profitable.

“A combination of outsourcing and offshoring sent thousands – if not millions – of manufacturing jobs overseas” (“Made in USA”). Offshoring occurred in the 1990’s and 2000’s for reasons that led manufacturers to determine that business would be less costly overseas. “The cost of labor, raw goods, increased taxes, expensive land, machinery and equipment, and favorable oil prices all conspired to support offshoring” (Rittner). Additionally, the global market started to become more competitive for most manufacturers, which lead to moving jobs, plants, and business processes overseas (Rittner). In the past ten years some of the largest companies in the United States, such as General Electric, Microsoft, and Chevron, cut their workforces by 2.9 million people, while hiring over 2.4 million people overseas (Jilani).
Flatworld Solutions, an outsourcing service provider, lists the following objectives as the top ten reasons for companies to outsource:

1. Among the primary reasons why companies choose to outsource are lower operational and labor costs. When properly executed, outsourcing has a definite impact on a company’s revenue recognition and can deliver significant savings.

2. Companies also choose to outsource or offshore so that they may continue focusing on their core business processes while delegating mundane time-consuming processes to external agencies.

3. Outsourcing and offshoring enable companies to tap into and leverage a global knowledge base, giving them access to world-class capabilities.

4. Freeing up internal resources that could be put into effective use for other purposes is also one of the primary benefits realized when companies outsource or offshore.

5. Many times, faced with internal resource crunches, many world-class enterprises outsource to gain access to resources not available internally.

6. Outsourcing is often undertaken to save costs and provide a buffer capital fund to companies that could be leveraged in a manner that best profits the company.

7. By delegating responsibilities to external agencies companies can wash their hands of functions that are difficult to manage and control.
while still realizing their benefits.

8. Another primary reason that companies outsource, and especially offshore, is that it helps companies mitigate risk and is also among the primary reasons embarked upon.

9. Outsourcing also enables companies to realize the benefits of re-engineering.

10. Some companies outsource to help them expand and gain access to new market areas, by taking the point of production or service delivery closer to their end-users.

("The Top 10 Reasons To Outsource")

Companies look to outsourcing as a quick fix. However, often their immediate solution of outsourcing is not sustainable overtime. As economies change and political unrest erupts in low-cost manufacturing countries, companies are faced with even more complications and uncertainties within their businesses (“Herd Instinct”).

**Offshoring Mistakes**

Businesses often do not make decisions about offshoring systematically. *Getting Offshoring Right*, a Harvard Business Review article by Ravi Aron and Jitendra V. Singh, talks about how business often make one of the following three fundamental mistakes when offshoring.
First, while most businesses will focus efforts into choosing countries, cities, vendors to offshore too and on negotiating prices, they will not spend enough time evaluating which processes need to be offshored and which should stay at home. “Without a standard methodology for differentiating processes, most executives find it tough to distinguish among core processes that they must control, critical processes that they might buy from best-in-class vendors, and commodity processes that they can outsource” (Aron & Singh). Often times, the wrong choices are made and processes that have been offshored need to be brought back in-house (Aron & Singh).

The second mistake is that most organizations do not take into account all of the risks that come along with offshoring. For example, “executives use a simple cost/benefits analyses without realizing that once processes are transferred, vendors will gain the upper hand” (Aron & Singh). At that point, vendors can often demand price increase, which will erode the savings originally expected from offshoring (Aron & Singh).

The last fundamental mistake that businesses fall into when offshoring is that they fail to consider all the options that are available to them. “Offshoring is no longer an all-or-nothing choice” (Aron & Singh). Aside from outsourcing processes to vendor, companies can buy services from local provides, enter into joint ventures, or set up captive centers overseas (Aron & Singh). By not examining all the options available, companies can be
making choices that are inappropriate or not as beneficial for the future of their business (Aron & Singh).
Chapter IV:

Arguments for Re-shoring Operations

Re-shoring operations domestically will eliminate many of the risks that are inevitable when outsourcing operations. Domestic manufacturing allows for better sustainability measures and enables companies to take advantage of “Made in the USA” marketing trends. Other factors that must be taken into account when doing business overseas are, increasing labor costs, the impact of fluctuating exchange rates in China, transportation risks such as increasing bunker fuel costs, increasing container rates, piracy, and tensions in the South China Sea, and environmental problems in China. The subsections below explain the impacts of these factors and how re-shoring operations in the beauty industry will eliminate these risks and increase efficiencies.

**Sustainability**

Consumers have become increasingly interested in the sustainability of the products they are buying and the sustainability concerns of the companies that they are purchasing from. An article by PricewaterhouseCoopers, Green Products: Using sustainable attributes to drive growth and value, discusses how “consumers have increasingly high expectations that the products they buy do not cause significant environmental harm” (“Green Products”). These expectations have risen to a
point where consumers are actively seeking out “how products are made, what they are made from, how far they travel, and how they are packaged” (“Green Products”). The article states that the main challenge for business is to respond to this new customer mindset. Businesses need to innovate their products so that they are environmentally friendly, free of additives, and manufactured sustainably in order to heed this new customer trend. (“Green Products”)

A sustainability study done by Harris Interactive in May 2013 found that 78 percent of respondents currently buy green products and services; this is up 11 percent from last year’s results. The study surveyed 2,068 American adults over the age of eighteen. Businesses have become aware of the fact that consumers are buying more sustainable products and have begun to make appropriate changes in production. In a Global Chief Operations Officer Survey done by PricewaterhouseCoopers, 81 percent of respondents said that “they expect to adjust their strategies in response to the change in consumer behaviors...towards environmentally and socially responsible practices” (“Green Products”).

Sustainability benefits can have a major impact on what consumers are purchasing and from whom. In any industry, producing a product that is made locally and sourced from recycled or natural materials can have a profound effect on business as the trend towards sustainability grows.
“Made in the USA” Marketing

“Made in the USA” has made a comeback. “Small manufacturers, craftsmen, and retailers are marketing the “Made in the USA” tag to score points with consumers” (St. John). According to a recent survey by the Boston Consulting Group, over 80 percent of Americans are willing to pay more for United States-made products, 93 percent of whom say that it is because they want to keep jobs in the United States. Additionally, when considering similar products made in the United States versus China, the average American is willing to pay more for a product made in the United States. The survey found that “the average American would pay 60 percent more for wooden baby toys made in the United States, 30 percent more for mobile phones and 19 percent more for gas ranges” (St. John).

Shoppers, especially those over thirty-five, say that they want to help the economy by buying United States-made goods. However, the main motivating factor actually is quality and safety. Consumers are beginning to pay more attention to products that are ingested, like food, medicine, and personal care products, but less to electronics, office supplies, and appliances (Olson).
Increasing Labor Costs and the Impact of Fluctuating Exchange Rates in China

Businesses entered China in masses in the 1990’s to take advantage of low-cost manufacturing. With a steady increase in business over the past decade, China has flourished financially. This has naturally led to an increase in labor costs and a stronger currency. Chinese private sector wages rose 14 percent in 2012 (Orlik). Although higher labour costs demonstrate growth and increased consumer spending for China, they pose their own risks to China's economic recovery. Higher labor costs can hurt Chinese business profitability and export competitiveness as companies look to outsourcing alternatives for low cost manufacturing, such as Bangladesh, India, and Vietnam (Orlik).

As depicted in Figure 3, yearly manufacturing wages in China rose from 36,494 CNY in January 2012 to 41,650 CNY in December of that same year; this equates to $5,894 to $6,727, respectively. This is an approximately 14 percent increase in wages. In December of 1978, yearly wages in China were at an all-time low of 597 CNY, or approximately $96. The 2012 manufacturing wages are at an all-time high for China’s historically low labor costs (“China Average Yearly Wages”).
A study done by the consulting firm AlixPartners forecast that by “2015 the cost of outsourcing manufacturing to China will be equal to the cost of manufacturing in the United States. The Chinese manufacturing cost advantage has eroded dramatically in the last few years. [In] 2005, it was common for landed costs from China to be 25-30 percent less than the cost of manufacturing in the United States. Based on analysis done by AlixPartners, two-thirds of that gap has closed” (“New Study Finds China Manufacturing Costs”).

An undervalued Chinese Yuan caused many United States companies to outsource their production. The value of the Yuan held steady for the decade from 1994 to 2004; this created tremendous momentum for China’s export sector, as overseas companies were able to manufacture many units at a much lower cost than they could at home. However, the United States
and other nations complained about China’s artificially suppressing the value of its currency to boost their exports, and since then, the country has slowly begun to allow the Yuan to appreciate (Orlik).

Currency fluctuations are a natural outcome of the floating exchange rate system. If China were to truly allow the market to dictate their exchange rate and currency strength, then their export business would not be as strong as it is today. American companies are becoming more aware of these potential risks and the effect it can have on business. Chinese manufacturing companies will raise unit costs as labor costs increase. If manufacturing elsewhere is equally or more cost-effective, then businesses will start to restructure their supply chains (“The Effects Of Currency Fluctuations”).

**Transportation Risks – Increasing Bunker Fuel Costs, Increasing Container Rates, Piracy, and Tensions in the South China Sea**

Companies can spend between five to ten percent of their material costs on transportation (Terry). In recent years, there has been a steadily increasing trend in bunker fuel and container rates. As the cost of these essential transportation elements rises, the cost of transportation rises.

In 2013 world trade was forecast to grow 4.5 percent. With this increase, the demand for bunker fuel rose to 2.2 percent, or 3.37 million barrels a day. Prices rose by the same amount, to an all-time high of $690 a
metric ton. Customers have had to compensate for this price increase in order for shipping companies to remain profitable (Arnsdorf).

Similarly, container rates on the China-to-Europe route rose 39 percent from last year and 55 percent from last year on the China-to-the-Mediterranean Sea route. The United States-to-China container rate rose 1 percent from last year, but dropped 18 percent on the China-to-West Coast route. Companies distributing to the European and Mediterranean regions are sure to hurt financially with such an extreme incline in pricing. (So)

Bunker fuel is typically sourced from North Africa and the Middle East; given the political unrest that can erupt in these regions, bunker fuel prices are expected to remain volatile. Figure 4 below depicts crude oil prices from February 2013 to February 2014. At their peak, fuel prices increased about $20 from June 2013 to August 2013 (Arnsdorf).
Derik Andreoli, senior analyst at Mercator International LLC and Logistics Management’s “Oil & Fuel” columnist, says that forecasting fuel rates has never been more difficult. Logistics managers need to assess both global issues as well as global supply and demand in order to calculate future bunker fuel costs. Andreoli states, “we need to watch what’s going on in Iraq and Iran, wonder if shale gas drilling rates and natural gas production and consumption will remain stable, and ask if drilling rates and production of shale oil increase even as oil wells disappear” (Burnson).

Companies who source their product overseas have felt the impact of rising bunker fuel costs. In an interview, Evan Jacobson, a product developer at Macy’s Merchandising Group who sources all of his garments from overseas suppliers, mentioned that, “rising fuel costs have exponentially increased the cost of freight. This has resulted in an overall higher cost to
land goods in the United States.” Contrarily, companies that do not rely on overseas transportation are not affected negatively by rising fuel costs.

Other risks involved in overseas transportation are piracy at sea and tensions among countries over territories, such as current tensions in the South China Sea. Piracy has reached its lowest rate in the past six years, dropping 40 percent since it peaked in 2011 at 439 attacks. The International Maritime Bureau reports 264 piracy attacks in 2013. “Over 300 people were taken hostage at sea and 221 were injured. A total of 12 vessels were hijacked, 202 were boarded, 22 were fired upon, and 29 were reported as attempted attacks” (“Somali Pirate Clampdown”). There has been a reported drop in Somali piracy due to an international naval vessel deployed near the coast of Somalia, tougher security measures aboard ships, the use of armed guards, and improvements in the political stability of Somalia. However, piracy off of West Africa has been on the rise due to the surge of Nigerian gangs. Figure 5 demonstrates a piracy and armed robbery map produced by the International Maritime Bureau depicting attacks across the South Atlantic Sea and the Indian Ocean (“Global Piracy Hits Lowest Level Since 2007” & “Somali Pirate Clampdown”).
There has been increased tension between several ASEAN member states in the past year over territorial claims of several small islands in the South China Sea. These tensions arose when China made territorial claims in this region; Cambodia, Vietnam, and the Philippines pressed China’s claims with claims of their own. This turmoil in a major transportation zone can cause problems for ocean carriers as the battle for territory threatens to become violent (“Global Piracy Hits Lowest Level Since 2007”).
The Scarborough Shoal is the main island that has caused recent tensions between China and the Philippines. “This island is uninhabitable, but is rich with oil, natural gas, minerals, and fish. China claims the entire region as its own based on historical explorations, while the Philippines claims that parts of the Scarborough Shoal fall into its EEZ and under UNCLOS these areas are considered their sovereign waters” (“The Scarborough Shoal Conflict”). The tensions between the two countries have become violet; a Chinese vessel fired a water cannon at Filipino fishermen at the Scarborough Shoal in January 2014 (“China Accused of Firing Water Cannon”).

These conflicts can cause issues for ocean carriers coming from China that need to pass through this body of water. Each year, $5.3 trillion dollars of trade passes through the South China Sea; United States trade accounts for $1.2 trillion of this total. “Should a crisis occur, the diversion of cargo ships to other route would harm regional economies as a result of an increase in insurance rates and longer transits” (Glaser). Figure 6 below displays a map of the region in dispute.
Environmental Problems in China

Environmental crises in China are on the rise. Air and water pollution are only two of the extreme environmental problems that this country is facing today. Domestic companies need to be aware of these issues and should understand how the factories they work with are operating. It is unethical to do business with a Chinese supplier who contaminates the water and pollutes the air with waste.

According to the Environmental Protection Agency’s Air Quality Scale, “any pollution rating above 300 means that the air is unsafe to breathe. (“China Accused of Firing Water Cannon”)
Under these conditions, people should stay indoors with an air purifier running and remain as motionless as possible, according to the United States Embassy Beijing guidelines” (Lallanilla). In the month of January 2013 alone, there were 19 days when the air quality index in Beijing surpassed the 300 threshold. Readings above 500 are not unusual; on January 12, 2013 the air quality index read 886, which is “comparable to living inside a smoking lounge” (Lallanilla). The horrendous air quality in Beijing and other area of China can be attributed to manufacturing industries, coal-burning electrical plants, and the billions of cars (Lallanilla).

According to a paper published in January 2014 in the *American Science Journal*, “filthy emissions from China's export industries are carried across the Pacific Ocean and are contributing to air pollution in the Western United States” (Wong). Westerlies, powerful global winds, are able to carry pollutants from China across the Pacific Ocean within days, leading to dangerous spikes in contaminants in other countries. “Outsourcing production to China does not always relieve consumers in the United States – or for that matter many countries in the Northern Hemisphere – from the environmental impacts of air pollution” (Wong).

Water pollution is of similar crisis proportions in China. “Reports from China's ministry of environmental protection indicate that less than half of China's water can be treated to the point where it is safe for human
consumption. Another quarter of surface water is so polluted that it is considered unfit for even industrial use” (Songjiang). The Strait Times, an English newspaper based in Singapore, reported in February 2013 that 90 percent of the groundwater in Chinese cities is polluted to some degree; 60 percent of China’s groundwater is considered “severely polluted” (Songjiang).

China is constantly designing plans to clean up the environment, although it will take hundreds of years to fix the damage that has already been done. In November 2013, China announced that it would be establishing a “system that would lead to more compensation for environmental damage” (Ma & Spegele). This system would consist of a tax for the use of almost every natural resource and fees for those who exploit, damage and pollute these natural resources. The program aims to hold people “criminally responsible” for causing environmental damage (Ma & Spegele).

In March 2014, the country passed a plan to tackle soil pollution as concerns rise about food contamination. About eight million acres of China’s farmland is too polluted for crops, contaminated by poisonous metal discharge seeping into the soil and water after decades of industrial development. The plan aims to keep contaminated crops from entering the food chain (“China Draws Up Plan”).
As the economic situation in China changes, the country is faced with a plethora of environmental problems. R. Edward Grumbine, senior international scientist in the Key Lab Biodiversity and Biogeography Department at the Kunming Institute of Botany wrote in *Yale360* that “China’s economy has slowed, and the country is confronting the cumulative consequences of its three-decade focus on economic expansion with little attention paid to mounting ecological and social costs” (“Phillips”). China’s 1.35 billion residents are becoming more vocal about their environmental rights as the country’s middle class grows. Domestic businesses have also begun to establish testing protocol with their Chinese suppliers in order to avoid any legal issues and to maintain a positive brand reputation (“Phillips”).

**Eliminating Risks and the Beauty Industry**

The beauty industry is exposed to many risks when doing business abroad. As labor costs continue to rise in China, the industry will no longer be able to find the low-cost benefits that they once appreciated. The current changes occurring for China’s economy create more uncertainty in the country, which is something that businesses should avoid.

Furthermore, transportation risks are on the rise. The cost of bunker fuel and container rates are increasing, which makes it increasingly more expensive for ocean shipments to make their way to the United States. Other risks
involved in transportation are piracy and conflicts between countries over
territory. Piracy has reached its lowest rate yet; however, the possibility of
an attack could mean the loss of merchandise, which translates to a loss of
million of dollars in sales. The current conflict among the countries
surrounding the South China Sea has created tensions so great that they can
disrupt the routes of ocean carriers and tag on additional, unexpected costs.

Furthermore, countries like China do not have the same
environmental regulations as the United States has. Areas of China are so
polluted that the air is not safe to breath and the water is not safe to drink.
Beauty companies are feeding into this environmental crisis by doing
business with overseas partners who are not regulated by the government to
protect the environment.

Additionally, players in the beauty industry would benefit by
providing products that are produced domestically, as consumers seek to
purchase sustainable products. For example, Currier Plastics, a plastic
molding manufacturer located in Auburn, New York produces plastic bottles
from recycled materials. Currier Plastics was founded in 1982 and specializes
in blow molding, injection molding, and tooling. The company serves an
array of markets from electronics, plastic packaging and plastic components
in various industries such as electronics and medical.
Plastic products are created from a material called resin, or pellets. Currier Plastics buys approximately 2 percent of their recycled pellets from UltrePet, LLC located in Albany, New York, and from KW Plastics Recycling in Troy, Alabama. Janet Williams, senior buyer at Currier Plastics says that, “using recycled pellets represents a positive viewpoint supporting a “green strategy” and protecting our environment by embracing a re-use and recycling concept which has become a way of life. It is perceived as a favorable marketing concept which customers have focused on as a selling point to the consumer”. As the trend towards sustainability grows, the market for products made from recycled materials will too.

Currier Plastics is able to inscribe on its bottles that they are made from all recycled materials, which is an added
positive benefit in the consumer’s eyes as well as an environmentally ethical thing to do. Figure 7 depicts the bags of pellets that Currier Plastics orders and Figure 8 depicts what the pellets look like.

Furthermore, the “Made in the USA” trend has the potential to create a big impact on the beauty industry. Consumers are more likely to trust a product that has been made at home and has not traveled for months overseas. Especially with mass-market products, the power of “Made in the USA” marketing could have a tremendous effect. This market is saturated with options; having a genuine “Made in the USA” tag can cause consumers to choose one brand over another and even pay a premium.
Chapter V:

Current Sourcing Processes for Raw Material in the Beauty Industry

Mass-market beauty products are priced at a lower price point and target a different market than specialty products. Due to the high level of competition in this industry and the general nature of mass-market beauty products, beauty companies have historically chosen where to manufacturer these products based on price. Manufacturing sites in Asia, such as in Shanghai, China, are commonly chosen to produce these types of products.

These suppliers are best known for their ability to produce high quantities of a repetitive item. By creating an economy of scale, a beauty company is able to save as their Asian counterpart produces large quantities of a product. Even with transportation and tariff costs, the manufacturing cost per unit is historically lower than what it would be if these products were to be produced in the United States.

However, with the recent wave of companies from all different industries re-shoring it is evident that, pricing aside, there are crucial benefits to manufacturing in the United States. After interviewing veterans of the industry to discover their personal struggles when dealing with overseas manufacturing companies it was learned that the main issues were (1) quality, (2) communication, and (3) difficulty with adapting with unexpected
change. For example, even with distinct directions on what a bottle should look like, beauty companies based in the United States often had to request many samples until approval was finalized. Even with final approval, these bottles were not always top quality and would have to be readjusted, especially after going through testing protocol.

Furthermore, some Asian manufacturers become so accustomed to the mass production that they simply do not stop or slow down production when requested beauty companies. This miscommunication often creates losses in dollars and an excess of inventory. While the actual manufacturing cost per unit might be low, the cost of dealing with overseas suppliers can lead to mistakes, a damper on innovation, and unavoidable stress. Nevertheless, in the world of mass-market products – price is one of the most important things. Part VII of this thesis takes a deeper look into the economics of manufacturing overseas versus manufacturing in the United States.
Chapter VI:

Case study: Comparing the Economics of Manufacturing in China Versus in the United States

To determine if it is economically feasible to re-shore the manufacturing process of mass-market beauty products, the costs associated with the manufacturing processes of a two-ounce plastic bottle were gathered. Figure 9 shows an image of this two-ounce bottle. This type of bottle was chosen for this study because of its basic shape, normal quality, and small size and because it is a common type of bottle produced overseas in large quantities. This bottle will serve as an example of the supply chain of mass-market beauty products in the beauty industry.

Methods

Primary research was completed to discover the cost of manufacturing and transporting a two-ounce plastic bottle from China to the United States. The data were gathered by consulting with two players in the beauty industry; Inter Parfums Inc., a fragrance and cosmetics manufacturer and distributor based in France, with offices in Manhattan, New York, and
SGB Packaging Group Inc., a fragrance and cosmetics packaging company based in Hackensack, New Jersey. After consulting with several employees at these companies, a picture of the supply chain for sourcing the raw materials for a two-ounce mass-market product in China was created. Similarly, primary research was gathered to discover the costs associated with producing the same two-ounce bottle in the United States. In consultation with Currier Plastics, costs were determined for the same process in the United States.

In order to calculate the total cost of producing a two-ounce plastic bottle overseas versus producing that same bottle in the United States a Landed Cost Calculator was used. The Landed Cost Calculator takes all aspects of production into account before determining a final cost, such as the manufactured cost per unit, the duty rate, and brokerage fees. All figures entered into the respective Landed Cost Calculators. The information was evaluated and compared in order to discover the cost differential between producing in China and producing in the United States.

**Results**

In China, the manufactured cost per two-ounce plastic bottle was quoted at $0.08. A beauty company based in the United States would purchase approximately 306,102 units each month from China. This quantity incorporates a 2 percent scrap rate. The total ocean freight cost accounts for $3,800. An additional $150 is added for brokerage fees and another $150 is
added as a fuel surcharge. Destination drayage costs $500, which consists of moving the goods from the New York City port to Holmdell, New Jersey, where the bottles are filled and distributed.

An extra $200 is charged for insurance and $150 for any miscellaneous fees during transportation. The two-ounce plastic bottle used in this study has a Harmonized Tariff Schedule Number (HTS) of 3923.30.00, which equates to a 3 percent duty, or $734.64 in duty. When taking into account all associated costs listed above, the final landed cost per unit is $0.099. Table 1 below visualizes this information.

Table 1. Landed Cost Calculator - China

<table>
<thead>
<tr>
<th>Item Expense</th>
<th>Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufactured Cost per Unit</td>
<td>$0.080</td>
</tr>
<tr>
<td>Number of Units Purchased</td>
<td>306,102</td>
</tr>
<tr>
<td>Total Purchase Cost</td>
<td>$24,488.16</td>
</tr>
<tr>
<td>Ocean Freight Cost</td>
<td>$3,800.00</td>
</tr>
<tr>
<td>Destination Drayage (to Inland whse.)</td>
<td>$500.00</td>
</tr>
<tr>
<td>Inland Freight Costs at Origin</td>
<td>$0.00</td>
</tr>
<tr>
<td>Insurance Cost</td>
<td>$200.00</td>
</tr>
<tr>
<td>Misc. Bunker/Fuel Surcharge</td>
<td>$150.00</td>
</tr>
<tr>
<td>Brokerage Fees</td>
<td>$150.00</td>
</tr>
<tr>
<td>Duty Rate</td>
<td>0.03</td>
</tr>
<tr>
<td>Duty</td>
<td>$734.64</td>
</tr>
<tr>
<td>Misc. Fees</td>
<td>$150.00</td>
</tr>
<tr>
<td>Misc. Expense due to expedite</td>
<td>$0.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$30,172.80</strong></td>
</tr>
<tr>
<td><strong>VAT Rate</strong></td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Total Landed Cost Per Container</strong></td>
<td><strong>$30,172.80</strong></td>
</tr>
<tr>
<td><strong>Ocean Landed Cost Per Unit</strong></td>
<td><strong>0.099</strong></td>
</tr>
</tbody>
</table>
In the United States, the manufactured cost for the same two-ounce plastic bottle was quoted at $0.055. A United States beauty company would purchase 301,000 units a month. A scrap rate is not needed due to improved quality. The cost to ship a truckload of bottles from the manufacturing site in Auburn, New York, to the filling and distribution center in Holmdel, New Jersey costs $750, plus an additional $140 for fuel surcharge, for a total cost of $890. There are far fewer costs associated with a domestic purchase than there are with an international purchase. The final landed cost per unit is $0.058. Table 2 presents the relevant information.

Table 2. Landed Cost Calculator – United States

<table>
<thead>
<tr>
<th>Item Expense</th>
<th>Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufactured Cost per Unit</td>
<td>$0.055</td>
</tr>
<tr>
<td>Number of Units Purchased</td>
<td>301,000</td>
</tr>
<tr>
<td>Total Purchase Cost</td>
<td>$16,555.00</td>
</tr>
<tr>
<td>Ocean Freight Cost</td>
<td>$0.00</td>
</tr>
<tr>
<td>Destination Drayage (to Inland whse.)</td>
<td>$0.00</td>
</tr>
<tr>
<td>Inland freight Costs</td>
<td>$890.00</td>
</tr>
<tr>
<td>Insurance Cost</td>
<td>$0.00</td>
</tr>
<tr>
<td>Misc. Bunker/Fuel Surcharge</td>
<td>$0.00</td>
</tr>
<tr>
<td>Brokerage Fees</td>
<td>$0.00</td>
</tr>
<tr>
<td>Duty Rate</td>
<td>0.00</td>
</tr>
<tr>
<td>Duty</td>
<td>$0.00</td>
</tr>
<tr>
<td>Misc. Fees</td>
<td>$0.00</td>
</tr>
<tr>
<td>Misc. Expense due to expedite</td>
<td>$0.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$17,445.00</strong></td>
</tr>
<tr>
<td><strong>VAT Rate</strong></td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Total Landed Cost Per Container</strong></td>
<td><strong>$17,445.00</strong></td>
</tr>
<tr>
<td><strong>Landed Cost Per Unit</strong></td>
<td><strong>$0.058</strong></td>
</tr>
</tbody>
</table>
Discussion

The final landed cost when manufactured by the United States supplier is approximately $0.04 per unit less than when manufactured by the Chinese supplier. What stood out the most was that the manufactured cost per unit in China was quoted at $0.08 and the manufactured cost per unit in the United States was quoted at $0.055. There are several possible reasons for this $0.02 difference, which can make a major impact when one is producing millions of units.

First, Currier Plastics might be more willing to accept a smaller margin for this business because it is a great opportunity for them to enter the market. Additionally, they have about twenty automated machines that can produce thousands of units, in a short period of time. This allows them to capitalize on economies of scale by producing a larger number of units, at a faster rate, and at a cheaper cost. Furthermore, the United States government has launched incentives for United States manufacturing companies. Currier Plastics might be able to take a smaller margin on this product because the company would be saving on government taxes by gaining this business.

On the other hand, the Chinese economy is in a state of uncertainty. It is getting harder to find cheap labor and businesses must account for this in their pricing quotes to their American customers. Additionally, transportation and fuel rates are increasingly volatile. These factors have
severely impacted the final landed cost by adding an additional $0.019 per unit to the final price.

When using a Chinese supplier, the customer is told to maximize volume by shipping as many units as possible, which is 306,102 units a month in this case. On the other hand, with the United States supplier, customers can make more frequent shipments and utilize just-in-time production by receiving the exact number of units that they need, when they need it. Just-in-time production eliminates high inventory holding costs incurred when demand is not present.

Currier Plastics can send up to 900,000 units a week on a full truckload. A 57-foot trailer fits 30 pallets, 25 boxes fit on a pallet, and 12,000 units fit in a box for a total of 900,000 units. When using a domestic supplier, customers have the flexibility of ordering more or less as demand fluctuates. Additionally, ordering this many units allows customers to capitalize on economies of scale as it will effectively lower the manufactured cost per unit even further. To keep the comparison the same, the volume of an ocean container, approximately 300,000 units, was compared to a truck shipment. In reality, Currier Plastics can send three times the quantity of the Chinese manufacturer in one shipment.
When executing a comparable comparison with 900,000 units, approximately $.02 cents would be added to a Chinese supplier landed cost, for a total of approximately $0.12 per unit. This is because the transportation would cost total $17,053.92 for three individual ocean shipments of 300,000 units. Additionally, Currier Plastics could easily supply a spike in demand by filling the quantity of units needed in a less-than-truckload (LTL) shipment, and producing and delivering them in two weeks or less. On the other hand, although it is possible to fill a less-than-container-load (LCL) with a smaller quantity and at a lower cost than a full container, customers would still incur significant ocean freight, long lead-times, and associated risks. There is no speed benefit gained when using a less-than-container-load ocean shipment, which is the whole point of holding inventory.
Chapter VII:
The Future of Sourcing Raw Materials Domestically

Sourcing raw materials domestically can lead to a more efficient supply chain. Businesses from various industries across the United States have begun to see the benefits of bringing operations back home. By not paying attention to the shift that is occurring, organizations are being constrained by the risks associated with offshoring, including increasing labor costs and long lead times.

In particular, the beauty industry would benefit greatly from re-shoring their operations. In this case study researching the comparative cost efficiencies of producing a two-ounce, mass-market plastic bottle in China, where it is normally produced, and in the United States, the findings proved that it is more cost-effective to produce the bottle in the United States. Without transportation costs, such as duty rates, insurance, and drayage, the overall cost is dramatically lower. Additionally, by producing this product in the United States, companies would benefit from considerably shorter lead times, better quality, and just-in-time production and delivery capabilities. Taking advantage of re-shoring would create a more profitable business for companies in the beauty industry.
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