

Bryant University

HONORS THESIS



Mitigating Global Supply Chain Risk in the Fashion Industry

BY DANIELLE NIKOSEY

ADVISOR • Dr. Teresa McCarthy

EDITORIAL REVIEWER • Dr. John Visich

Submitted in partial fulfillment of the requirements for graduation
with honors in the Bryant University Honors Program

MAY 2020

Mitigating Global Supply Chain Risk in the Fashion Industry

Bryant University Honors Program
Honors Thesis

Student's Name: Danielle Nikosey

Faculty Advisor: Dr. Teresa McCarthy

Editorial Reviewer: Dr. John Visich

May 2020

TABLE OF CONTENTS

ABSTRACT 2

INTRODUCTION..... 3

LITERATURE REVIEW..... 5

 Offshore Manufacturing in Fashion Supply Chain’s 5

 Manufacturing in Low-Cost Countries 6

 Current Supplier Selection Criteria for Offshoring..... 9

 Corporate Social Responsibility Practices 9

 Fast-Fashion Leader: Zara..... 12

METHODOLOGY 14

FINDINGS 16

 Offshore Manufacturing..... 16

 Risks While Offshoring..... 17

 Risk Mitigation Strategies..... 21

 Corporate Social Responsibility (CSR) and Sustainability Efforts..... 27

 Supplier Selection Criteria Framework for LCCs..... 31

RESEARCH LIMITATIONS AND FUTURE RESEARCH 33

APPENDIX..... 35

 Appendix A: Interview Protocol 35

REFERENCES 38

ABSTRACT

Purpose – Many supply chains offshore manufacturing to countries such as China to take advantage of low-cost labor, substantial capacity, and expertise. Such low-cost country strategies create supply chain complexity and therefore increase risk potential. Using the fashion industry as a context, this study examines criteria that the fashion industry considers to mitigate risk when selecting their international suppliers.

Methodology – The primary data collection for this paper consisted of an extensive literature review and in-depth qualitative interviews with supply chain professionals of fashion companies. A variety of different businesses and professionals were studied for this research.

Findings – Examples of potential sources of risks identified by informants include quality, forecast inaccuracies, international trade implications, global health and economic risk, and geographic distance. Despite the success of China as a garment manufacturing hub, fashion retailers are diversifying risk by shifting some production out of the country. Retailers prioritize corporate social responsibility practices and continuously monitor or audit their suppliers to ensure that their values are being upheld.

Research Limitations and Future Research – Findings from this research can be used as a framework to conduct additional interviews and develop and administer a survey to fashion industry professionals to gather additional quantitative data.

Originality/value – The paper identifies risk mitigation strategies and the connection to ethical manufacturing. While the context of this study is the fashion industry, findings can be broadly applied to supply chain risk mitigation in many other industries.

Keywords – Risk mitigation, Offshore, Supplier selection, CSR, Fashion

Paper type – Research Paper

INTRODUCTION

Fashion companies complex supply chains allow for organization to have upwards of twenty planned seasons per year (Perry, 2012). However, in order to ensure rapid production of garments at the lowest cost with competitive prices, businesses in the fashion industry offshore manufacturing to low-cost countries (LCCs). Offshoring occurs when organizations outsource labor to international partners (Monczka, 2011). Historically, Asia has been the epicenter for LCCs due to cheap labor and a skilled workforce (Tate, 2017). China, Bangladesh, and Vietnam are notable locations for offshore manufacturing (Emont, 2019). As supply chains begin to grow in complexity, fashion companies lose control of corporate socially responsible practices (CSR) and there are numerous sources of risk that need to be considered (Yadlapalli, 2018).

For example, after President Trump's announcement of an increase in tariffs placed upon Chinese goods in 2019, companies feared the impact it would have on their supply chain. In September 2019, 15% tariffs on clothing imported from China went into effect (Mauldin, 2019). Later in February of 2020 this increase dropped to 7.5% (Wei, 2020). According to Fung (2019), 40% of clothing and 70% of shoes sold in the U.S. are made in China. As a result, \$33 billion in apparel and accessories are subjected to the tariff increase (Fung, 2019). Given that fashion brands' production is scattered across Asia, companies are increasingly interested in diversifying production out of China (Emont, 2019).

This move from China began years before the tariff incident due to the uncertainty of potential threats emerging and impacting business (Denvath, 2019). Instead fashion brands are moving to Bangladesh, the second largest garment exporter, and Vietnam, where apparel exports have increased 12% by September 2019 (Denvath, 2019; Emont, 2019). Given the history of working conditions in Bangladesh and other LCCs, and specifically the Rana Plaza Collapse in Bangladesh, there has been an increased concern for worker standards (Emont, 2019). As growing apprehension surrounding tariffs arise, factories are being contacted by apparel companies about this crisis (Denvath, 2019).

Similar to the implications of tariff increases, the current global health and economic crisis has stimulated uncertainty for many businesses (Emont, 2020). In January 2020, COVID-19 began to

Mitigating Global Supply Chain Risk in the Fashion Industry

Honors Thesis for Danielle Nikosey

spread from the epicenter of Wuhan, China, shutting down manufacturing in the country (Emont, 2020). As the impact of COVID-19 worsened, the pandemic has caused pressure for businesses and manufacturers around the world (Emont, 2020). Specifically, supply chain managers are urgently searching for substitutes throughout their value chain due to the potential threat of shutdowns and lack of access to resources (Emont, 2020). Gallagher (2020) mentions that as a result of the widespread fear of the disease, retailers have been forced to close their storefronts. For the fashion industry, foot traffic into stores has decreased by 78.9% (Kapner, 2020).

Fashion brands and retailers must now rely on their e-commerce business as a source of revenue streams (Gallagher, 2020). Yet, experts believe that the increase in online sales will not be enough to outweigh the lost purchases from brick and mortar stores (Kapner, 2020). This is because there is uncertainty if consumers are interested in spending their money on clothing (Gallagher, 2020). Even with purchase orders, it is unclear what will happen next and it is possible that factories may temporarily shut down (Gallagher, 2020). Thus, if fashion retailers are unable to send out orders to their customers, they may have to close their businesses entirely (Gallagher, 2020).

As risk increases abroad, it is important for fashion brands and retailers to select trusted partners. When selecting international suppliers, fashion companies have numerous considerations to ensure that they are upholding their company values and mitigating potential risks that may arise. At a basic level, supplier selection criteria focus on quality and cost (Yadlapalli, 2018). Recently, concerns regarding CSR and sustainability are of increasing worry for retailers when selecting factory locations (Perry, 2014).

Due to high risk situations that have caused havoc on supply chains, professionals are forced to adapt quickly to the constant changes to mitigate crisis. Using the fashion industry as a context, this study examines criteria that the fashion industry considers to mitigate risk when selecting their international suppliers. The primary data collection for this paper consisted of an extensive literature review and in-depth qualitative interviews with supply chain professionals of fashion companies. A variety of different businesses and professionals were studied for this research. Inditex, the popular Spanish fashion company, is utilized as a benchmark against the information discovered in the interviews. Given, the popularity and success of Inditex, in terms of CSR and

supplier selection, the organization is a strong point of comparison. Propositions are developed from the results of the qualitative research to showcase the current risk mitigation and supplier selection criteria of fashion companies. Finally, limitations and further research are reviewed.

LITERATURE REVIEW

Offshore Manufacturing in Fashion Supply Chain's

In search of low-cost labor and competitive pricing, organizations have shifted their manufacturing to locations other than the U.S (Ferne, 2015). Sourcing globally is a complex process as it harmonizes processes, designs, technology, and suppliers worldwide for purchasing and operations (Monczka, 2011). The process of doing this is called offshoring (Monczka, 2011). Offshoring may include captive offshoring, relocation of business operations through foreign direct investment and having direct control on operations, or offshore outsourcing, when manufacturing is controlled by an independent supplier (Haleem, 2018).

Companies in search of lower cost typically offshore their manufacturing in low-cost countries which are heavily concentrated in Asia (Tate, 2017). To compete on price, LCCs are favorable locations due to their skilled labor, technology innovation, ease of market access, and overall performance (Haleem, 2018). Becoming a hub for offshoring also includes availability and quality of fabric, design specialization, and dyes, and other findings (e.g. buttons, zippers, etc.) (Ferne, 2015). For example, Italy is known for expertise in leather (Ferne, 2015). Thus, benefits of offshoring include: cost/prices, access to technology, quality, production capacity, foreign markets, competition to domestic sources, and understanding competitor patterns (Monczka, 2011).

Until recently, China has been a favorable market for low-cost labor (Ferne, 2015). Garment manufacturing costs have increased and thus, more companies are moving their operations to other locations in search for cheaper offshore manufacturing (Ferne, 2015). There is a greater need for shorter lead times, reduced labor costs, and greater flexibility amongst international supply chains (Ferne, 2015). Although some industries, such as call centers, are looking to reshore their operations many obstacles remain for fashion manufacturing to reshore (Ferne, 2015). An outcome of decades of offshoring manufacturing, is a lack of skilled labor force and

Mitigating Global Supply Chain Risk in the Fashion Industry

Honors Thesis for Danielle Nikosey

operational scale available for fashion manufacturing to reshore (Fernie, 2015). For example, Walmart stated that they would be buying U.S. made goods from 2013-2023, but found that lack of manufacturing skills and inexperienced laborers make this task difficult (Fernie, 2015).

Overall, a primary motive behind offshoring is to increase a firm's competitive advantage (Haleem, 2018). However, this is not done without risks. Potential issues that may arise include, geographical distance, language and cultural barriers, different business practices, legal systems, and political instability (Haleem, 2018). Additionally, there may be a lack of skilled workforce, increased supply chain risk, currency fluctuations, longer lead times, and resistance to differing practices (Monczka, 2011). As supply chains grow in their global reach, organizations begin to lose control of their manufacturing processes, especially their CSR practices (Yadlapalli, 2018). In order to balance the benefits of offshoring and mitigate the risk of the barriers, it may be necessary for organizations to implement proper training on correct practices, utilize technology to enhance communication, and measure and incentivize workers (Monczka, 2011).

Manufacturing in Low-Cost Countries

Historically, garment and accessories manufacturing occur in LCCs as organizations seek less costly manufacturing alternatives and compete on price (Perry, 2014; Xie, 2011; Fontana, 2018). This is exemplified as 59.5% of global apparel exports are from Asia, showcasing the vital role that LCCs have in fashion supply chains (Yadlapalli, 2018). These LCCs are favorable to organizations looking to reduce their spending because the average dollar price for a square meter of apparel in countries such as China, Bangladesh, and Vietnam is significantly less than the cost to produce in United States (Emont, 2019). Specifically, China's average dollar price per square meter of apparel is \$2.33, Bangladesh is \$3.49, and Vietnam is \$2.99 (Emont, 2019). From the perspective of money alone, China is the favorable location due to its lowest price.

China

For years, China has been the leader in the textile industry. China is known as the world's cheapest production location due to their low wages, favorable currency exchange, and minimal labor regulations (Fang, 2010). This is demonstrated with U.S. sources 40% of clothing and 70% of shoes in China (Fung, 2019) (Maidenberg, 2019). U.S. organizations have found success in China as they have the best knitted clothing production, which means that these factories are able

Mitigating Global Supply Chain Risk in the Fashion Industry

Honors Thesis for Danielle Nikosey

to produce at a higher quality (Fang, 2010). Companies are drawn to China due to the fact that they are typically safer, feature favorable infrastructure, potential for long-term relationships, have high quality and implement more CSR practices than other low-cost labor manufacturing, such as Bangladesh (Fang, 2010).

However, this is not without its disadvantages such as, long lead times and the rapid economic growth which has led to an increase in cost (Fang, 2010). Along with economic growth, China implemented China's New Labour Contract in 2008 (Fang, 2010). This looked to improve employee benefits and general CSR implementation as China wants to re-focus their manufacturing from low-cost production to highly innovative products (Fang, 2010). Studies suggest that the fashion industry is sensitive to price, so with the higher expectations of CSR and innovation, Chinese prices are beginning to rise, resulting in companies moving out of China (Fang, 2010). Yet, less than 6% of U.S. businesses in China plan to return to America and 60% have stated that they would not completely exit China (Weijian, 2019). Although, manufacturers are diversifying their risk they may not be exiting China as a whole. Additionally, the increase in tariffs from the U.S.-Chinese trade war have forced some companies to relocate to Bangladesh, Vietnam, and other Southeast Asian Countries (Emont, 2019) (Denvnath, 2019).

Vietnam

In order to diversify the location of manufacturing to prepare for potential risks or accidents occurring, fashion companies have factories in multiple countries. One increasingly attractive location for manufacturing is Vietnam. During 2019, Vietnam increased its popularity as a premier location for manufacturing fashion items as there was a 12% increase in apparel exports from January 2019 to September 2019 (Emont, 2019). The country is currently one of the fastest growing emerging markets as additional organizations seek to utilize their resources and establish presence in the country (Buchanan, 2013). The U.S. is the main importer for Vietnam's exports even though American manufacturing is not concentrated in the country (Buchanan, 2013).

Organizations are drawn to the country as factories in Vietnam have undergone extreme changes to become more favorable for fashion manufacturing (Buchanan, 2013). For example, the country established the Better Work Participation Committee in 2009, to protect factory workers

Mitigating Global Supply Chain Risk in the Fashion Industry

Honors Thesis for Danielle Nikosey

(Anner, 2018). This included a group of workers that were elected by their co-workers to act as the voice and representation of the workers (Anner, 2018). Retailers are intrigued by these improvements, and there is historical data demonstrating that apparel brands are moving to Vietnam (Buchanan, 2013). Nike is an example of this as it moved from Korea and Taiwan to China and Vietnam in order to decrease their labor costs (Buchanan, 2013). It is clear from these studies that Vietnam is a favorable location for manufacturing of apparel.

Bangladesh

An alternative location for manufacturing that companies are relocating to is Bangladesh. Although China is the largest garments exporter, Bangladesh is the world's second largest exporter of garments and accessories (Devnath, 2019). Organizations prefer to operate here due to the skilled workers, production capabilities, and low costs (Yadlapalli, 2018). Indeed, 81% of international apparel buyers have outwardly expressed interest in this location over other low-cost countries (Yadlapalli, 2018). Despite the positive aspects of the Bangladesh factories, common issues that occur include gender inequality, child labor, lack of representation, poor health, and poor safety, to name a few (Fontana, 2018). This showcases the serious issues facing manufacturers who engage in offshore manufacturing in Bangladesh. The lack of control and monitoring has become an obstacle for businesses. To work towards building more ethical work conditions in Bangladeshi factories, the Bangladesh Accord on Fire and Building Safety (ACCORD) and the Alliance for Bangladesh Worker Safety were established (Yadlapalli, 2018). Both initiatives focus on encouraging socially responsible behavior in the workplace in factories and ensuring that work conditions are followed and maintained (Yadlapalli, 2018).

Sri Lanka

Sri Lanka is also an attractive location for offshoring fashion production. Compared to Bangladesh and Vietnam, labor and manufacturing costs are higher (Perry, 2012). Sri Lanka has a higher level of education, greater average life expectancy, and higher standards of living, in comparison to its developing country counterparts (Perry, 2012). However, organizations are drawn to Sri Lanka due to its higher standards of environmental protection, social responsibility, and overall sustainability (Perry, 2012). As a result, its competitive advantage is high quality, on-

Mitigating Global Supply Chain Risk in the Fashion Industry

Honors Thesis for Danielle Nikosey

time deliveries, excellent customer service, and overall ethical commitment (Perry, 2012). It is due to these factors, that Sri Lanka is one of the top ten garment manufacturers with the U.S., accounting for 51% of apparel exports (Perry, 2012). Through this examination, ethics and CSR are becoming an important aspect of supplier selection.

Current Supplier Selection Criteria for Offshoring

In order to select the most appropriate manufacturing location, organizations consider various criteria. To grasp a better understanding of why LCCs have dominated the fashion industry, research has focused on organizations' supplier selection criteria. At the basic level, fashion organizations are looking for the highest quality supplier, that is able to deliver on their performance, and priced accordingly (Yadlapalli, 2018). Additionally, supplier selection criteria include lead time, technological resources, manufacturer reputation and relationships (Xie, 2011). Closeness to proper and quality fabric also plays a large role in selecting suppliers, as well as their specialization and expertise (Ferne, 2015). Offshore manufacturing may also lead to currency fluctuations, lack of quality, trade regulation, lack of quality inspections, among other cultural barriers, and thus is often times considered in this decision making (Xie, 2011). Similarly, a nation's cultural norms and behaviors can be reflected in their business practices and may influence the decision of determining suppliers (Perry, 2012). Included in cultural behavior is how ethics and CSR are valued in certain cultures (Perry, 2012).

Until recently, CSR practices were not fundamental for fashion companies. Simply, social responsibility as a factor of supplier selection was not well-known in the past (Yadlapalli, 2018). As companies move into the "global arena" their internal ethical practices and CSR actions must also align overseas (Fang, 2010). Yet, terms such as "Purchasing Social Responsibility" are becoming part of the lingo in the fashion industry as CSR and brand morals and values are imperative in this current global competitive environment (Fang, 2010). By practicing social responsibility and seeking the same expectations from their suppliers, companies are in search of making connections with value-added suppliers (Fang, 2010).

Corporate Social Responsibility Practices

The majority of low-cost labor countries lack a perfect system of monitoring and upholding corporate social responsibility practices. After the Rana Plaza collapse, an increased focus on the

Mitigating Global Supply Chain Risk in the Fashion Industry

Honors Thesis for Danielle Nikosey

CSR implications of fashion supply chains emerged (Perry, 2014; Fontana, 2018). The magnitude and severity of the Rana Plaza Collapse has made it the most notorious disaster in the fashion industry. On April 24, 2013, a clothing factory collapsed in Dhaka, Bangladesh (International Labor Organization, 2017). Inside, thousands of laborers hurried to escape as over 1,000 people were killed and more than 2,500 were harmed (International Labor Organization, 2017). This disaster shocked the world and heightened the questions surrounding labor conditions in garment factories (International Labor Organization, 2017). Deaths from fire incidents and collapses are common among the industry as most factories do not meet the necessary regulations of safety (International Labor Organization, 2017) The Rana Plaza collapse showcases elements of offshoring manufacturing that can be dangerous and lack corporate social responsibility. The story provides an understanding of the potential level of severity of issues facing companies in the fashion industry that produce products in LCC. It is important to understand this because issues like this are often overlooked.

Limited research has been conducted on CSR in the fashion industry, leaving numerous gaps and areas to investigate (Fontana, 2018). Despite the lack of information, an interview conducted with executives in the footwear and apparel industry in Vietnam revealed that all professionals expressed a concern with manufacturing companies not taking care of their factory workers (Buchanan, 2013). An informant of this research stated that only a small portion of employers in low-cost countries are concerned with CSR, since it is considered to be a luxury (Buchanan, 2013).

CSR implementation has been a difficult task for supply chains because they typically are global in nature, and thus making it difficult to maintain control (Perry, 2014) (Buchanan, 2013). Without proper examination, workers are exploited and forced to work under inhumane conditions (Perry, 2014; Buchanan, 2013). The lack of national enforcement through laws and working standards in LCCs sometimes can lead to CSR practices being overlooked (Anner, 2018). Weak government enforcement could mean that they are unwilling to enforce CSR (Perry, 2012). For example, China and Vietnam have laws and regulations that restrict unionization and other institutional regulations that restrict CSR practices from being

Mitigating Global Supply Chain Risk in the Fashion Industry

Honors Thesis for Danielle Nikosey

implemented to its fullest ability (Anner, 2018). This has led to Bangladesh and other countries in Asia having a reputation of not practicing ethical behavior (Emont, 2019).

Similarly, different cultural norms and behaviors can influence the level of CSR commitment (Perry, 2012). Hofstede's cultural dimensions have a direct correlation between supplier selection and the influence on LCCs culture (Perry, 2012). For example, countries that were highly collectivist and low power distance reflected stronger CSR management values (Perry, 2012). An example of a country with these Hofstede dimension qualities is the United States (Compare Countries).

Research states that CSR enforcement is derived from external pressures, which include various stakeholders and customer interest (Fontana, 2018). The increase in awareness and pressure is partly due to the more innovative technology being implemented in fashion supply chains (Perry, 2012). As stakeholders become more educated CSR has held a higher value in the industry. Thus, offshoring practices are increasingly monitored due to the organizations desire to increase its value (Xie, 2011). Typically, monitoring of factory conditions and regulations is upheld through a supplier code of conduct, which are written descriptions of policies, rules, commitments, etc. that reflect the values of the company and the expectations that they have on how their suppliers operate (Fang, 2010). The main objective is to force suppliers to adopt socially responsible practices throughout their operations and ensure that their suppliers values align with that of their own (Fang, 2010). Enforcement of CSR is reported to be an opportunity for companies to gain a competitive advantage by increasing their reputation and brand value (Fang, 2010).

Organizations and committees have been formed over the past years in order to increase companies' values. For example, the Bangladesh Knit Manufacturers and Exporters Association (BKMEA) and Garments Without Guilt are campaigns that promote ethics in fashion manufacturing (Perry 2012; Fontana, 2018). Issues that are being examined are working conditions, child labor, forced labor, discrimination, sweatshop practices and any other aspects related to CSR that have been issues in the past (Perry, 2012). These committees are established to address CSR practices and give the workers a voice that was previously silenced (Anner,

Mitigating Global Supply Chain Risk in the Fashion Industry

Honors Thesis for Danielle Nikosey

2018). Supply chain conditions are evaluated based on transparency, policies, and monitoring and training (Ferne, 2015).

Fast-Fashion Leader: Zara

Background on Inditex

Inditex or Industria de Diseño Textil is a notable Spanish fashion company founded by Amanacio Ortega that operates under multiple retail chain names, including the most well-known, Zara (Ghemawat, 2016). Particularly, Inditex designs, manufactures, and sells clothing, accessories, and footwear for women, men, and children (Ghemawat, 2016). Inditex is a global specialty retailer, rooted in its establishment in A Coruña, Spain. This is located in Galicia, which is the third poorest region in Spain (Ghemawat, 2016). Yet, the success of the company is rooted in the history of apparel in Galicia, a hub for tailors and garment workshops during the Renaissance (Ghemawat, 2016). Now, the company has operations in 202 markets with 7,490 stores (Inditex Annual Report, 2018).

Background on Zara

Although, Inditex operates under multiple brand names, Zara is the largest and most internationalized (Ghemawat, 2016). Zara is a fast fashion retailer that specializes in targeting the mass market (Aftab, 2018). The popular Spanish brand is known for their unique business model and offering their customers the latest fashion trends (Aftab, 2018; Ghemawat, 2016). The company is an example of a fast fashion retailers as they operate on a rapid basis and are constantly introducing the new clothing (Aftab, 2018). Zara is able to have a responsive supply chain by producing in small batches, utilizing its vertically integrated supply chain, and manufacturing “fashion sensitive” garments internally (Ghemawat, 2016). In-house production also includes dying and weaving, which helps to minimize outsourcing products of labor-intensive jobs (sewing and tailoring) to third party contractors (Ferne, 2015). As a result, Zara is able to consistently produce garments that showcase unique styles, figures, fabrics, and colors, which are priced accordingly (Aftab, 2018). More distinctively, Zara’s turnover from product design to store shelves is three weeks, unlike the industry standard of five to six months (Inditex Annual Report, 2017). With an increase in competition in the global arena, Zara has begun to increase their manufacturing offshore (Ferne, 2015).

Mitigating Global Supply Chain Risk in the Fashion Industry

Honors Thesis for Danielle Nikosey

Sustainability Awards and Acknowledgment

Inditex has recently been acknowledged for their commitment to ethical and sustainable practices throughout their company. For example, the Sustainability Yearbook (2020) awarded Inditex with a gold medal for recognition of their efforts. Additionally, in 2018 the Dow Jones Sustainability Index identified Inditex as the most sustainable company in retail. Inditex also stated in Inditex Annual Report (2018), that they have pledged to the New Plastics Global Economy Commitment. This a commitment to reduce their plastic use and overall sustainability activities (Inditex Annual Report, 2018).

Understanding Inditex's Supply Chain

Inditex's supply chain is modelled around a corporate culture that is imbedded on endeavors towards sustainability at each tier of their value chain. To help achieve this the organization has included this commitment in their Right to Wear Philosophy. The company desires to become, "fully digital, fully integrated, and fully sustainable". One way the company upholds these values is by implementing a proximity manufacturing model. Specifically, 57% Inditex's 1,866 suppliers and 7,235 factories are located in Spain, Portugal, Morocco, or Turkey. This allows for greater flexibility and higher quality when changes are rapid and altering on a day to day basis. Specifically, clothing lines are rejuvenated twice during the week, based on customer information at point of sale.

Inditex ensures that their supply chain partners are operating ethically and upholding their company values through an extensive Code of Conduct for all Manufacturers and Suppliers. The Code of Conduct creates transparency throughout Inditex operations from sourcing raw materials to their final consumer. Included in the Code of Conduct is workers' rights, labor conditions, sustainable efforts, and corporate social practices.

Inditex's Sustainability and CSR Plans

Considering that Inditex is recognized for its commitment to CSR and sustainability it is necessary to highlight a few of their most notable programs and initiatives. Workers at the Centre Strategy is the epicenter of the social sustainability initiatives for the Inditex's supply chain management. The strategy targets the maximation of social impact. Inditex ensures that worker rights are upheld (no child, forced, or unfair labor), providing proper wages to workers,

Mitigating Global Supply Chain Risk in the Fashion Industry

Honors Thesis for Danielle Nikosey

implementing ethical purchases, promoting gender equality, safe and hygienic working conditions, protecting diversity in the work place, and ensuring that proper training is available. Additionally, the fashion brand collaborates with suppliers, union, government, Non-Governmental Organizations (NGOs) and international organizations. This helps to promote human rights and ethical practices.

Similarly, Inditex upholds progressive sustainability plans. Using recycled fabrics and protection of the environment from water and chemical pollution, Inditex is supporting its local environment. The corporations 2015-2020 Environmental Sustainability Plan focuses on the implementation of the Closing the Loop Program. Across, 24 markets and 1,382 stores, Inditex has been recycling used garments for future uses. In 2017, the company rolled out a program that picks up used clothing at the home of consumers in Beijing and Shanghai. This occurs at the time of delivery to the same home. Since 2016, Inditex has reused 34,158 tons of clothing.

Overall, Inditex upholds the United Nations Sustainable Development Goals (UN SDG). The UN has developed seventeen parameters for organizations to follow and encourages a more sustainable future. Included in the UN SDGs is no poverty, zero hunger, good health and well-being, quality education, gender equality, clean water and sanitation, affordable and clean energy, decent work and economic growth, industry, innovation and infrastructure, reduced inequalities, sustainable cities and communities, responsible consumption and production, climate action, life below water, life on land, peace, justice and strong institutions, and partnerships for the goals. Inditex promises to uphold all seventeen of the UN SDGs.

Inditex's Annual Report 2018 also reports on the Global Reporting Initiative (GRI), an international non-profit organization that aids businesses in showcasing their social impact. GRI systems challenge organizations to report on economic, environment, labor practices, human rights, product responsibility, and society. For each section of the report, Inditex states their procedures that reflect socially responsible and ethical behaviors.

METHODOLOGY

The primary data collection for this paper consisted of an extensive literature review and four in-depth qualitative interviews with supply chain professionals across four fashion companies. A

Mitigating Global Supply Chain Risk in the Fashion Industry

Honors Thesis for Danielle Nikosey

range of different types of companies and professionals were studied for this research (see Table 1). All companies were American based with global operations. Factors that differentiate the informants include: company specialty, date of the interview, and role of interviewee.

Interview questions were developed from the literature to guide the interview. The objective of the questions for the interviews was to gain a better understanding of how fashion supply chains mitigate supply chain risk when outsourcing production. Given the extensive knowledge from the literature view, the primary researcher developed an interview protocol (see the Appendix) to guide the interview, and asked follow-up and clarifying questions to ensure that information gathered was thorough and in-depth.

The interviews ranged from 45 minutes to 90 minutes in length and were recorded and transcribed verbatim with permission of the informants. Confidentiality and anonymity of the interviewees were promised to ensure that discussions were candid and straightforward. Three of the interviews were conducted face to face and onsite to ensure the highest level of open communication. The fourth interview was conducted during the COVID-19 government issues physical distancing guidelines and thus was conducted over the phone.

To supplement the literature review and interviews, Zara is used as point of comparison throughout the findings. As discussed in the literature Zara is a notable example for a fashion company that is outwardly taking action on sustainability and corporate social responsibility. Thus, for the purpose of this paper Zara is used as a benchmark against the other companies to determine the similarities and differences amongst other organizations in the industry.

Mitigating Global Supply Chain Risk in the Fashion Industry
Honors Thesis for Danielle Nikosey

Table 1 Overview of Research Participants

Summary of Interviews		
<i>Company</i>	<i>Date of Interview</i>	<i>Title/Role of Participant</i>
Accessories & Jewelry Speciality Manufacturer	December 2019	Senior Vice President and Chief Operations Officer
Women's Clothing Brand	January 2019	Director of Product Development and Technical Design
Women's Speciality Retailer	January 2019	Senior Vice President of Supply Chain
Global Speciality Retailer	March 2019	Director of Global Reputation

FINDINGS

Offshore Manufacturing

The literature suggests that fashion companies produce their garments and accessories in LCCs and specifically in China, Vietnam, and Bangladesh (Emont, 2019). China is known as the epicenter for apparel manufacturing (Fung, 2019). In addition, the literature also mentions that companies are slowly shifting some manufacturing out of the country, but do not plan to completely leave (Fang, 2010).

Results from the interviews indicate that China, Vietnam, and Bangladesh are favorable locations for offshoring manufacturing. Similarly, Inditex as the benchmark company, also has factories located in each aforementioned country. All companies that participated in the interviews have operations in China and Vietnam, and half have production in Bangladesh. Based on insight from the informants, Vietnam seemingly is the favorable location for businesses to build international suppliers. This aligns with the literature indicating the country experienced 12% increase in the apparel exports from January 2019 to September 2019 (Emont, 2019).

Interestingly, there was an increasing disinterest in manufacturing in China. All organizations expressed concern about operations in China and were working to shift some production out of the country. It was noted by an informant that they would be interested in not operating in China, but still have operations in the country. Two organizations have worked to decrease their percentage of manufacturing in the country. However, the interviews revealed that it is difficult

Mitigating Global Supply Chain Risk in the Fashion Industry

Honors Thesis for Danielle Nikosey

to transfer operations from China to other locations due to the lack of capabilities and resources available to produce specific products. The burden of leaving the country seemingly does not outweigh the potential risks of operating in China. Further discussion of moving manufacturing out of China is cited in findings regarding risk mitigation. This provides more insight into why fashion manufacturing is departing the country.

Benchmark to Inditex

To further understand how other companies in the industry align with leaders, a comparison of Inditex was completed from information included in Inditex's Annual Report 2018 and Inditex.com. First, Inditex offshores their production to LCCs, similar to that of the companies that were interviewed for this research. However, Inditex's "proximity sourcing" strategy indicated approximately 57% of suppliers must be located near their La Coruña headquarters (e.g. Spain, Portugal, Morocco, and Turkey) with the remaining suppliers in LCCs. Specifically, Inditex has factories located in China, Vietnam, and Bangladesh. Second, Vietnam was found to be a popular location for garment manufacturing. Inditex does have operations in the country with only 145 factories, which is less than 2% of their factories indicating there is not a heavy reliance on the country. Third, a disinterest in China was found amongst participants of the research. It is difficult to determine Inditex's desire to operate in China, however, the company does have 1,645 factories in the country. This is considering that Inditex has over 7,000 factories, with approximately 3,000 in LLCs, and thus does not solely rely on China. Inditex is a leader in the fashion industry and their lack of reliance on China provides insight into the thought process and decision making of fashion companies.

Risks While Offshoring

According to the literature, potential offshoring risks include, geographical distance, language and cultural barriers, different business practices, legal systems, and political instability (Haleem, 2018). Additionally, there may be a lack of skilled workforce, increased supply chain risk, currency fluctuations, longer lead times, and resistance to differing practices (Monczka, 2011). Insights and trends from the interviews found that international trade implications, global health and economic crisis, geographic distance, forecast inaccuracies, and quality are concerning risks for international operations. Each risk is summarized in Table 2.

Mitigating Global Supply Chain Risk in the Fashion Industry

Honors Thesis for Danielle Nikosey

The time of the interview played an important role into the level of severity and threat of the offshore risks. For example, risks that were identified as Global Health and Economic Crisis were not applicable for the first interview as the COVID-19 pandemic had not yet emerged as a serious global issue. At the time of the first interview, December 2019, there were no known cases of COVID-19. However, during the second two interviews in January 2020, COVID-19 was acknowledged as being an issue in China. This caused concern for all supply chains and international trade, including fashion manufacturers and retailers.

Examples of potential threats for fashion supply chain professionals included: the extension of Chinese New Year (CNY), threat of delayed factory openings after CNY, factory shutdowns, and delay of shipments. As this disease continued to spread in China, CNY was extended to reduce the threat and spread of the illness. Informants expressed concern that there was a lack of confidence that lead times and demand were going to be met. Considering that China was the epicenter of the disease, and also the hub for garment manufacturing and consumer purchases, there was uncertainty regarding both demand and supply of apparel and accessories.

Lastly, at the time of the last interview in March 2020, COVID-19 had spread to the entire world. As a result, there was uncertainty regarding factory and brick-and-mortar retail shutdowns, lack of consumer interest in making purchases, and a need for extra health precautions. Thus, the level of risk effects the approach for fashion companies' risk mitigation strategies.

Additionally, the interviews revealed that offshore risks are connected and have the ability to affect each other. For example, International Trade Implication and Global Health and Economic Crisis can cause more issues of geographic distance depending on where the risks are centralized. Forecast inaccuracies can also increase as a risk if other threats emerge as it is difficult to accurately determine the necessary supply given the potential fluctuations in both domestic and global demand due to consumer interest.

Overall, when selecting international suppliers, companies consider the level of potential offshore risk. Emergence of new risks also plays a large role in this process, as supply chain obstacles are constantly evolving and changing. Thus:

Mitigating Global Supply Chain Risk in the Fashion Industry
Honors Thesis for Danielle Nikosey

PI: Offshore risk is considered by fashion companies during supplier selection depending on the company's priorities and their ability to utilize risk mitigation strategies.

It is necessary for supply chains to recognize threats that may arise and ensure that proper strategies and plans are in place to reduce the impact on the organization. By deliberately selecting strong factories and suppliers, companies can reduce potential risks that may emerge. However, quality is a major priority for fashion companies. When selecting suppliers, they want to guarantee that their ability to produce at a specific level of quality aligns with their expectations. Hence:

PIA: Quality is the primary consideration of fashion companies when selecting suppliers and thus they implement strategies to emphasize this risk

Strategies to ensure that risks are mitigated are discussed in the next section. Based on findings from the interview's different strategies and crisis management plans are used by different companies.

Mitigating Global Supply Chain Risk in the Fashion Industry
Honors Thesis for Danielle Nikosey

Table 2 Offshore Manufacturing Risks

Offshore Manufacturing Risks		
	Definition	Insights from Interview
<i>International Trade Implications</i>	Exchange of goods and services across international borders. Foreign trade transactions may inflict quotas or tariffs as they leave or exit a country.	Informants expressed discern regarding increase in cost of goods sold due to implications of the U.S.-China Trade War. Products are subjected to 7.5% tariff on Chinese imported garments.
<i>Global Health and Economic Crisis</i>	Health and economic concerns that affects the community of several geographic areas. Typically, these challenges encompass the global community.	The outbreak of COVID-19 that began in December 2019 has impacted supply chain management. Depending on the time of the interview, the pandemic influenced decision making at various degrees.
<i>Increase in Lead Time</i>	This is the amount of time that passes between the placement of an order and the delivery of the final product.	Geographical distance of offshore production causes variation in transportation times. Lack of urgency amongst other cultures also plays a role in this risk. Unforeseen circumstances, such as port congestion, social unrest, and weather may alter the expected time of transportation.
<i>Quality</i>	Damaged, defective, or products that do not uphold the expected standards.	Quality is an important variable for each informant. There is the potential for quality to vary across suppliers and products. An intensity of inspections and audits could influence this risk as well. Companies benchmark their quality against the other businesses operating in the same factories.
<i>Inaccurate Forecasts</i>	Errors in predicting demand of specific products, which may cause surpluses or shortages in inventory.	Unforeseen circumstances may change the demand and supply of garments. COVID-19 has impacted supply chains as there is a threat of factory shutdowns and excess inventory due to a lack of interest of purchasing apparel.

Mitigating Global Supply Chain Risk in the Fashion Industry

Honors Thesis for Danielle Nikosey

Risk Mitigation Strategies

To supplement discussion of offshore risks during the interviews, informants were questioned about the supply chain strategies their company utilized to mitigate risks as they emerge. Trends and patterns were identified across all interviews. As a result, four risk mitigation strategies were revealed to categorize the similar actions taken by each fashion company. Strategies were named: Supplier Management, Factory Diversification, International Trade Implications, Global Health and Economic Crisis.

Supplier Management

Strategies to reduce day-to-day or general risks that emerge throughout fashion supply chains were identified as Supplier Management. Included in this strategy are actions that companies take to protect each partner of their supply chain and implement daily. First, execution of a Code of Conduct is used to standardize and communicate expectations, rules, and standards for all suppliers to uphold and practice. Typically, Codes of Conduct that are used by the informants outlined rules including: no discrimination, no child labor, standard of work conditions, wages and hours, and environment. Worker wages and hours was an interesting takeaway from the interviews. It was discussed by multiple informants that factory workers were paid on an hourly basis, instead of on per garment/product basis. This helps to ensure that workers are not over-worked and do not attempt to be incentivized by this historical way of paying. As a result, Codes of Conduct are used to hold each supplier, especially factory owners, accountable for their actions, while avoiding potential human rights violations as they protect each worker.

To ensure that Codes of Conduct are continuously upheld at factories, each participant revealed that they conduct factory audits. This can be executed by third parties (e.g. agents or contract auditors), retail customers of the fashion manufacturers, or internal company audits. When audits occur, specific criteria are being monitored and examined to identify any discrepancies in working conditions and rights that do not align with the company values. For example, if the quantity of output does not align with the wages paid, an alert is raised indicating laborers are not being paid overtime. If auditors discover failures of the required procedure, informants stated that corrective action plans (CAPs) are implemented. CAPs are used to outline what needs to be altered to make the factory acceptable. The severity of CAPs can range from moving a box that

Mitigating Global Supply Chain Risk in the Fashion Industry

Honors Thesis for Danielle Nikosey

is blocking an exit to failure of structural support. As the threat of failures increase, it is more likely for fashion companies to cease operations within the factory.

The last strategy actions are having constant communication with the factories and ensuring that trusted relationships are built and maintained. Interview participants stated that it is necessary to collaborate with factories to better understand what is occurring on a day-to-day basis. When risks arise, the factories and the fashion company must communicate to help respond and determine the correct resolution in order to implement proper crisis management strategies. Additionally, informants ensured that trust in suppliers was essential to avoid violations in factories. Since operations occur internationally it is necessary to have trust in those that work daily in the factories.

Supplier Management risk mitigation strategies were identified as being a necessity of all fashion companies that partook in the research. Since, all informants mentioned that they uphold Supplier Management strategies, it is likely that these strategies are a requirement in the industry. Therefore:

P2: Supply chains implement Supplier Management risk mitigation strategies to alleviate concern of all offshore risk. Practices included in this strategy are an industry standard for fashion companies as it is the minimum expectation to protect workers.

Guaranteeing the protection of factory workers is a simple task that is practiced by all fashion companies. If the expectations outlined in this strategy are not met, it is unlikely that the fashion company would be able to operate in the industry against those that do have the necessary practices.

Factory Diversification

As a result of the interviews, it was revealed that fashion companies take various approaches on how they spread out their risk across a few or multiple factory locations. Thus, informants mentioned various levels of factory diversification as a tool to alleviate offshore risks, while strategically deciding the geographic location of their factories. Informants either took an extreme diversification approach or a limited diversification approach.

Mitigating Global Supply Chain Risk in the Fashion Industry

Honors Thesis for Danielle Nikosey

Extreme diversification is classified as companies that have operations in many countries. This approach was taken by two companies or 50% of the participants. Both companies had factories located in ten or more countries. One informant mentioned that their company did not have more than 20% of operation in one location. Additionally, these companies did not have a reliance on China as less than 10% of their production occurs in the country. This differs from what the literature suggests as China is the location of most garment production. Overall, companies that take this approach are looking for ways to diversify their risks. If an issue arises in one country, they can rely on a factory in another country.

Limited diversification is classified as companies that have operations in few countries. Similar to the extreme diversified companies, this approach was taken by two companies or 50% of the participants. A similar practice of these companies is that they are located in two or three countries. Primarily, China and Vietnam are the locations. In terms of reliance on China, both companies have 75% or more of garment production in the country. Overall, companies that take this approach have simple supply chains that allow for more control and greater accessibility.

International Trade Implications

The threat of a U.S.-China trade war caused havoc for many supply chains, especially those in the fashion industry. As mentioned in the offshore risks section, Chinese imported garments were subjected to a 7.5% tariff. Thus, fashion companies feared an increase in their cost of goods sold and searched for ways of offsetting or reducing costs. As a result, all informants expressed taking either a reactive or a proactive approach to the implementation of Chinese tariffs.

Reactive organizations delayed crisis management strategies until the start of the tariff whereas the proactive organizations acted quickly upon the first mention of a tariff and organized a crisis management plan. All participants explored shifting production out of China due to the tariffs.

Specifically, many of the informants mentioned that their Chinese factories or other factories also had locations in other countries, typically Vietnam. Thus, when choosing the location of new factories, pre-determined partnerships played a significant role. Yet, there were difficulties moving certain sectors of their production out of the country due to skilled workforce, resources, and capacity. Despite, either having a reactive or a proactive approach, all companies attempted to share burden with their factories. Factories feared that their business would severely decrease

Mitigating Global Supply Chain Risk in the Fashion Industry

Honors Thesis for Danielle Nikosey

due to the Chinese tariffs as they are aware that U.S. companies may look elsewhere. Therefore, some factories were willing to share the additional costs with their partners to ensure they still had orders to complete and profit from.

Connection of Factory Diversification and International Trade Implications

Similar to how offshore risks are connected, so are the approaches of Factory Diversification and International Trade Implication strategies. There were similarities and patterns that were detected through the cross examination of both strategies. Therefore:

P3: Supply chains' approach to Factory Diversification as a risk mitigation strategy was dependent on how execution of their risk mitigation strategy related to International Trade Implications.

Specifically, it was found that having an extreme diversified approach or a limited diversified approach resulted in having proactive or reactive strategy. All companies that were extreme diversified took a proactive approach and limited diversified companies took a reactive approach. Therefore:

P3A: Companies with extreme factory diversification were more likely to take a proactive approach to International Trade Implications and thus were less likely to face an extreme burden as the increase in costs was limited and thus more manageable.

P3B: Companies with limited factory diversification were more likely to take a reactive approach to International Trade Implications and thus were more likely to face an extreme burden as the increase in costs was less manageable.

Thus, each strategy implemented to avert the threat of Chinese tariffs varied across each factor of: disinterest in China, shifting some production out of China, difficulties moving some production out of China, shared burden with factories, and offset cost to their customer prices. A cross-comparison of the strategies are identified in Table 3. There are varying effects depending on if companies decide to take a reactive and limited diversified approach, or a proactive and extreme diversified approach.

Mitigating Global Supply Chain Risk in the Fashion Industry

Honors Thesis for Danielle Nikosey

Global Health and Economic Crisis

The global chaos that COVID-19 has had on supply chains and the management at each level affected how companies address their risk mitigation strategies. Specifically, these strategies address all offshore risks due to the extreme uncertainty of how the pandemic will impact supply chains. There is a threat of factory shutdowns and lack of understanding of how customers would react and the level of their interest in making fashion purchases. Practices included in these strategies are constant collaboration with suppliers to better understand if factories are operating, and recognition of potential increase in lead time and other areas of the supply chain likely to be harmed the most.

Additionally, there is a necessity to increase health and safety procedures. It is important for organizations to protect the health and safety of their workers to reduce the spread of the disease and its impact on the world. One informant mentioned communicating new health guidelines and policies to their workers, especially in the factories. It is necessary that more precautions are taken. Lastly, it could be necessary for fashion businesses to plan for factory shutdowns. If this occurs it may be necessary to move production to other locations. Overall, it is extremely necessary for fashion manufacturers and retailers to protect their workers and mitigate this complex risk.

Mitigating Global Supply Chain Risk in the Fashion Industry
Honors Thesis for Danielle Nikosey

Table 3 *Factory Diversification and International Trade Implications Connection*

Factory Diversification and International Trade Implications		
	Limited Diversification	Extreme Diversification
<i>Reactive vs. Proactive</i>	<i>Reactive</i> Companies reacted after the implementation of Chinese tariffs.	<i>Proactive</i> Companies prepared for the implementation of Chinese tariffs.
<i>Disinterest in China</i>	<i>Result of Tariffs</i> Before the threat of Chinese tariffs, organizations continued to produce in China.	<i>Prior to Tariffs</i> Before the threat of Chinese tariffs, organizations were concerned with China as a long-term partner and looked elsewhere for production.
<i>Shift some production out of China</i>	<i>Need for New Factories</i> To offset cost of tariffs organizations looked to operate elsewhere and typically turned to Vietnam, as a favorable location.	<i>Move to Pre-Established Factories</i> To offset the costs from tariffs, organizations looked to operate elsewhere. Typically, companies utilized their factories in other countries since they have a diversified portfolio. However, the organizations also opened new factories to continue to spread the risk.
<i>Difficulty moving some products out of China</i>	<i>Strong Reliance on China</i> Due to the heavily reliance on Chinese manufacturing, companies faced immense struggle moving products.	<i>Less Reliance on China</i> Due to the lack of reliance on Chinese manufacturing, companies did not face immense struggle moving products. Specifically, accessories were difficult to move out of the country due to the workforce and resources.
<i>Share burden with factories</i>	<i>Actively Seeking Agreements</i> After, the implementation of Chinese tariffs, organizations looked to develop deals with their factories. However, since the approach was delayed and more reactive, they struggled and failed more often.	<i>Pre-Determined Agreements</i> Prior to the implementation of Chinese tariffs, organizations set-up of agreements with factories and were often more successful because they were proactive in their approach.
<i>Increase of Cost to Customer</i>	<i>More Likely</i> Due to the reactive approach, companies were more likely to increase prices to their customer.	<i>Increase in Cost was Manageable</i> Due to the proactive approach, companies were able to offset the cost of tariffs and did not need to place the burden on their customers.

Mitigating Global Supply Chain Risk in the Fashion Industry
Honors Thesis for Danielle Nikosey

Corporate Social Responsibility (CSR) and Sustainability Efforts

The literature suggested that CSR was historically a luxury in the fashion industry, but the interviews indicate it is now standard practice. Informants were questioned about the rules and standards they implement to protect their workers, environment, and community. Trends and patterns were revealed based on similarities in practices amongst all participants. Based on the responses of the supply chain professionals, it was revealed that certain CSR and sustainability efforts are valued more than others in the industry. As a result, a ranking system was developed to categorize each effort, based on the information collected in the interviews. CSR and sustainability efforts were ranked as either being primary, secondary, and tertiary. Beginning with primary, these practices are held by all informants and thus are important to the industry. The level of commitment by the fashion companies that partook in the research decreased from primary to secondary and finally to tertiary. Each level includes examples that were mentioned and can be seen in Table 4.

Table 4 *CSR and Sustainability Efforts*

CSR and Sustainability Efforts		
	<i>Definition</i>	<i>Examples</i>
<i>Primary</i>	All informants are committed to practicing CSR and operating ethically by implementing these efforts.	Labor Rights Factory Conditions
<i>Secondary</i>	Most informants implement these efforts.	Philanthropic Partners Worker-Management Communication Programs Clean Energy Recycled Fabric
<i>Tertiary</i>	Few informants implement these efforts.	Closed Loop Supply Chain Programs

Primary CSR and Sustainability Efforts

Practices that were cited by all participants are classified as primary. They are initial steps for fashion companies to showcase that they are committed to upholding corporate socially responsible behaviors. Primary efforts can be summarized as labor rights and factory conditions.

Mitigating Global Supply Chain Risk in the Fashion Industry

Honors Thesis for Danielle Nikosey

Labor rights include: no discrimination, no child labor, no forced labor, and fair wages and hours. Factory conditions include: accessible exits, welfare facilities, proper lighting, clean workstations, controlled temperature, and sufficient ventilation. Overall, companies implement these activities to ensure that working conditions are humane and livable. Therefore:

P4: Primary CSR efforts are an industry standard and minimum expectation of fashion supply chains to protect basic human rights of the workers in the factories.

Considering that each practice is focused on the factory workers and labor safety, it is clear that it aligns with the Supplier Management strategy mentioned before. Specifically, Codes of Conduct typically outline these expectations and are monitored through factory audits. Therefore:

P4A: Primary CSR and Sustainability efforts are protected by Supplier Management risk mitigation strategies as they are typically outlined in Codes of Conducts and are criteria that must be met during factory audits.

Secondary CSR and Sustainability Efforts

To showcase further commitment of CSR, some fashion companies will extend their procedures beyond the needs of the laborers. First, some organizations partner with philanthropies. Some organizations have internal company foundations, which allow them to make charitable donations and connect with non-profits. Others work with non-profit organizations directly and make donations to various charities. Next, worker-management communication programs are utilized in some companies to give the worker's a voice in their work life. Typically, these programs include opportunities for laborers to anonymously submit complaints or be interviewed by auditors without management present. In general, worker well-being programs are used to protect laborers jobs, while better understanding what practices are outdated in the factories.

Prevention of water pollution was an additional procedure that some businesses mentioned having in place. For example, one informant stated their concern about the pollutants that enter water during the dying process of garments. The company now has an on-site water treatment.

Mitigating Global Supply Chain Risk in the Fashion Industry

Honors Thesis for Danielle Nikosey

The water treatment process helps to filter the water during the dyeing and printing process to reduce chemicals entering the water stream. Additionally, organizations have started water reduction programs to reduce the use of water in factories and throughout the production of garments. Along with water pollution initiatives, some organizations favor factories that utilize clean energy through solar panels or windmills. Lastly, recycled fabric was a concern for most companies, however, practices differed across each business. Examples include having a tag on their products to explain to consumers how to recycle after they are done using the product, reusing unused fabric as samples, or making garments from recycled materials.

Given that secondary CSR efforts extend beyond the needs of workers it shows that there is a different focus for this category than primary efforts:

P5: Secondary CSR efforts are upheld by most fashion supply chains as they look to protect the environment, give back to the community, and listen to the needs of workers.

Tertiary CSR and Sustainability Efforts

Unlike the primary and secondary efforts, those ranked as tertiary were found to be less of a threat in the industry as very few informants implemented any additional practices. Closed Loop Programs were seemingly the way in which CSR was furthered extended. A unique feature of closed loop programs is that they extend the product life of garments from raw materials to the end consumer. Consumers donate used apparel, which is then repurposed and repaired into new garments. As a result, the number of garments that end up in landfills is reduced and each member of the supply chain plays a role in this program. Since, only one organization showcased further commitments beyond labor rights (primary) and social impact (secondary):

P6: Fashion supply chains that implement tertiary CSR efforts showcase that they have a dedication to CSR that is imbedded in their company values. By emphasizing transparency throughout the supply chain, tertiary efforts show commitment to each supply chain partner.

Overall CSR and Sustainability Efforts and Connection to Factory Diversification

Mitigating Global Supply Chain Risk in the Fashion Industry

Honors Thesis for Danielle Nikosey

From primary to tertiary responsibilities, fashion companies show their level of commitment to CSR efforts. Standards and expectations vary depending on the company values and thus will affect in what way they impact how fashion organizations choose factories and suppliers to partner with. However, the pattern of practices at each level also shows what areas of the supply chain that fashion organizations are committed to. As companies move further from primary to tertiary, so does the commitment throughout the supply chain. Thus:

P7A: Primary CSR efforts protect labor rights and work conditions and are centralized at the factory level.

P7B: Secondary CSR efforts have social impact and extend to the surrounding community and environment.

P7C: Tertiary CSR efforts extend to each level of the supply chain and take a triple bottom line approach.

Instilling a triple bottom line approach to CSR and sustainability clearly plays a role for fashion companies. Triple bottom line includes protecting the planet, people, and profits. As reflected in the efforts and propositions, the commitment to one, two, or all three of these initiatives depends on the company's declaration of primary, secondary, or tertiary efforts. Only, tertiary efforts protect all three.

Similarly, dedication to a level of CSR also correlates to findings from risk mitigation strategies. An organization's strategy to factory diversification were found to align with their CSR strategies. Hence:

P7D: Fashion supply chains that have an extreme diversified factory strategy typically have a complex supply chains, but a strong dedication to CSR by implementing primary, secondary, and sometime tertiary efforts.

P7E: Fashion supply chains that have a limited diversified factory strategy typically have less complex supply chains with less dedication to CSR by implementing primary efforts and sometimes secondary.

Mitigating Global Supply Chain Risk in the Fashion Industry

Honors Thesis for Danielle Nikosey

Benchmark to Inditex

To compare the four fashion companies that were researched, Inditex is used as benchmark for the industry. Based on information collected for (Inditex Annual Report 2018), implements all primary, secondary, and tertiary standards that were revealed from the interviews. However, what makes Inditex showcase their dedication further than their competitors is seen in their commitment to the UN SDGs and the GRI, that were researched in the literature review. By stating their dedication to global challenges outlined in UN SDGs, it reflects that this a company mission and a promise to each member of their supply chain. Similarly, by reporting on GRI standards, Inditex is transparent in their actions regarding CSR and sustainability. Therefore:

P8: Inditex exceeds the industry standards as CSR is imbedded in their company values through their expansive triple bottom line approach and should be a goal that companies should strive to achieve in the future.

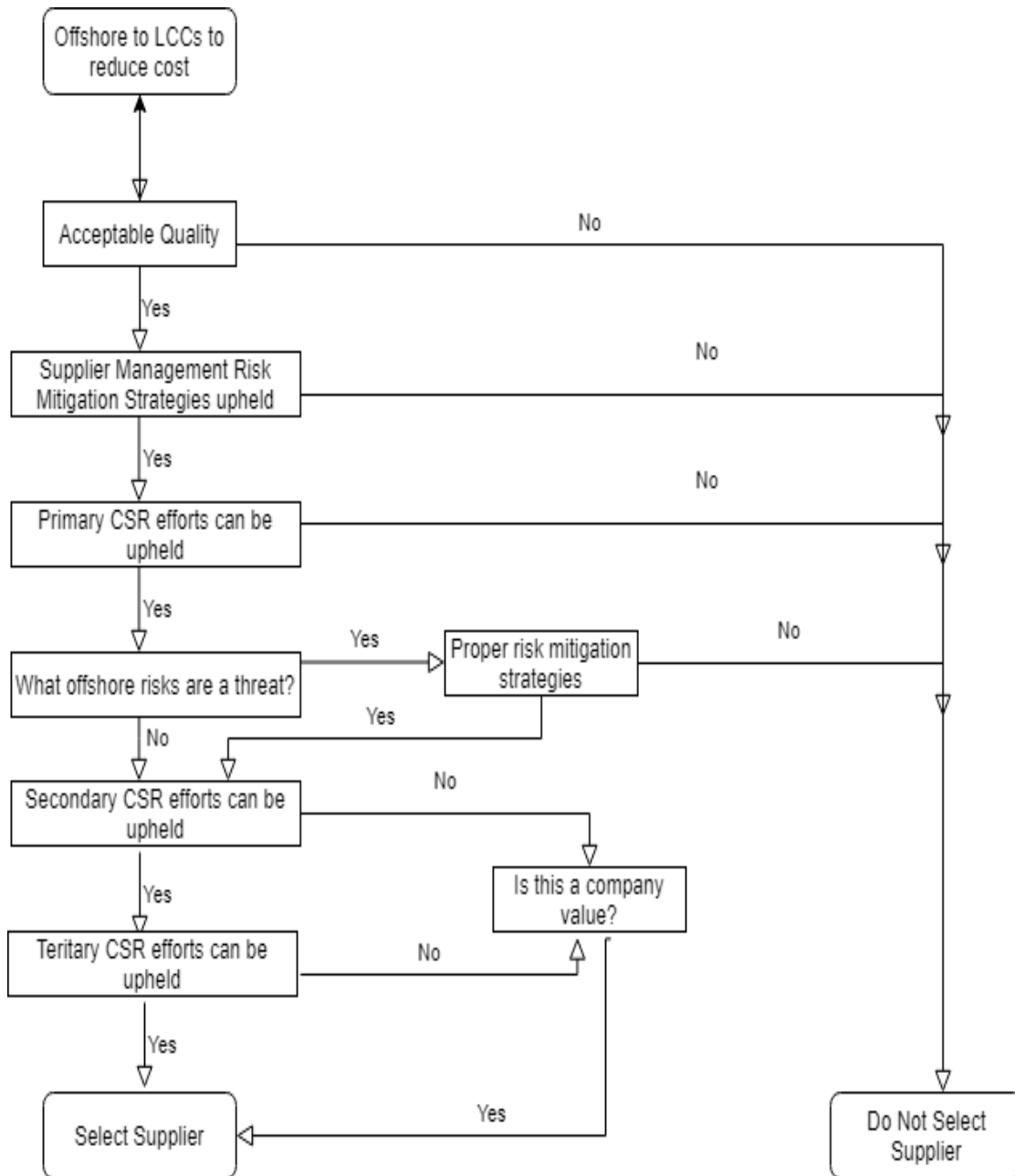
Supplier Selection Criteria Framework for LCCs

To summarize findings for this research a framework was created to show the steps that fashion companies take when selecting factories and suppliers. This is reflected in Figure 1. The first step that fashion companies take is deciding to offshore their production to LCCs to reduce cost. After making this strategic decision, companies must determine if the potential supplier has acceptable quality. If no, then do not select supplier. If yes, then move on to determining if the supplier is able to uphold Supplier Management risk mitigation strategies. This is because that Supplier Management was found to be an industry standard. If no, do not select supplier. If yes, then move on to determining if the supplier is able to uphold primary CSR efforts. Again, this is because primary efforts were found to be an industry standard. If no, do not select the supplier. If yes, then move to identifying the potential offshore risks. If there are risks, then the company must analyze their ability to mitigate their risk. If they are not able to do so then, do not select the suppliers. If they do have the necessary strategies or if there are no risks (unlikely this would happen), then secondary CSR efforts can be analyzed to be a practice of the supplier. If the supplier does not instill these procedures, the company needs to question if these efforts are important to their company mission, as it is not a requirement for the industry. If it is a company value, then do not select the supplier. If it is not a company value or practices that the supplier

Mitigating Global Supply Chain Risk in the Fashion Industry
Honors Thesis for Danielle Nikosey

already has, then move to the final step of tertiary efforts. A similar process that occurred for secondary efforts must happen. Thus, the company will decide if the supplier is acceptable or fails to their necessary practices.

Figure 1 Supplier Selection Criteria for LCCs



RESEARCH LIMITATIONS AND FUTURE RESEARCH

Given that this study was primarily qualitative there are limitations to be recognized and future research that can be considered. Data collection was mainly driven by the four interviews that were conducted with supply chain professionals from four companies. From this, interpretations and insights were derived based on commonalities between the interviews. The literature review was used to support the propositions that were developed from the interviews. However, through further empirical investigation there is an opportunity to develop theory and test the validity of the current findings.

The small sample size of the research is a contributing limitation of the study. The sample of informants were selected based on networks and connections known by the researchers. Findings from the study can be used to make generalizations on supply chain managers during crisis. However, with a larger sample pool more concerns, supplier criteria, and crisis management tools may be unveiled.

Although, the four companies that were studied are diverse and have distinct characteristics, additional companies should be evaluated. It is likely that the size of the organization also played a role in their decision making. Through more interviews or a quantitative survey, future researchers could develop more complex theory. This study's literature review and interviews could be used a framework to develop measures for the following steps in the research.

This research focuses on supply chain management decision making when barriers arose. Given that risk mitigation was the driving cause for shifting manufacturing, new obstacles will likely continue to arise. Each hurdle is unique and thus, crisis mitigation would likely be handled on a case by case basis. During the time in which the interviews were conducted there were issues regarding an increase in tariffs on goods from China. Thus, this was a driving factor for decision making. Towards the end of the interviews a new risk arose as well. The COVID-19 pandemic caused havoc for supply chains and thus their supply chain managers. It would be noteworthy to further this research and understand how fashion companies are mitigating the risk of the pandemic. There significant areas for further investigation.

Mitigating Global Supply Chain Risk in the Fashion Industry
Honors Thesis for Danielle Nikosey

Additionally, each organization discussed their CSR efforts and general practices they upheld in their factories. Placing a greater emphasis on CSR and sustainability is an upcoming trend in the industry. There is potential for changing attitudes and preferences of customers, regarding their CSR efforts, as these practices continue to develop. Fashion companies will need to alter the way in which they operate. Furthermore, if future inquiry were to occur, it is likely that new ways to monitor, train, and ethically operate will have been created and utilized in the fashion industry.

APPENDIX

Appendix A: Interview Protocol

The purpose of this in-depth interview is to grasp a better understanding of how fashion supply chains are mitigating supply chain risk when outsourcing production. Outlined below are sample questions that may be asked. Depending on the responses to the question, new questions may emerge.

Confidentiality is assured to all informants. All results will be secured so no information can be traced to a single informant or their respective company. A voice recording of the interview will be used with permission of the informant and the two principal researchers will be the only individuals to have access to the recordings. If requested, the researchers will sign a non-disclosure agreement.

Demographics:

- How long have you been with this company?
- How long have you been in this industry?
- What is your current role and responsibilities? Have you held other roles within this company? If yes, please provide a description of past roles.
- What are the main priorities or projects that you are working on or that the company is working towards?

Manufacturing Process:

- How would you describe the company's supply chain, particularly the manufacturing process?
 - Do you offshore the production of your garments?
 - Where do you outsource?
 - Has your offshore outsourcing evolved over the years?

Supplier Selection Criteria:

- What criteria is considered when choosing manufacturing locations and suppliers?
 - How are locations evaluated against each other?
 - Are their criteria that is more important than others?
 - Specifically,

Mitigating Global Supply Chain Risk in the Fashion Industry

Honors Thesis for Danielle Nikosey

- What role does low-cost labor have on this selection process?
- What role do tariffs have on this selection process?
- What rules or standards are suppliers expected to abide to?
 - Is there an enforcement on ethical and socially responsible practices?
 - How are suppliers monitored?
 - Do you evaluate working conditions (fire exists, bathrooms, break rooms, and break time for workers)?
 - Do you monitor workers' work hours (do they follow 8-hour-per-day standard and, if not, how do they justify it?)
 - Do you monitor worker's access to health insurance, vacation time, and other perks American worker might have access to?
 - Are their auditing processes in place?
- Do you believe you could produce under the same working conditions (not wages, but other working conditions) in the U.S. or elsewhere in the developed world?
 - [If no:] What are your thoughts on the different work standards that are considered acceptable in low cost countries but wouldn't be acceptable in the U.S.?
- Do you think that the country of origin effect is important for your organization and industry to consider?
 - Have you noticed the different biases surrounding your products due to this effect?
 - Are there specific examples that you can provide?
 - How does the country of origin effect your organization's supplier selection?

Obstacles Due to Offshoring:

- What are major obstacles you face while offshoring your production?
 - How does the distance, political, and cultural differences, etc. effect the relationship with your offshore suppliers?
- Do you predict that the new tariffs implemented in December will impact your supply chain?

Mitigating Global Supply Chain Risk in the Fashion Industry
Honors Thesis for Danielle Nikosey

- Do you think that apparel companies will begin to shift their manufacturing to places such as Vietnam or Bangladesh over China?
- How do you plan to mitigate this risk?

Other:

- Are there any other questions regarding your manufacturing process and supplier selection, specifically in low cost labors, that we should know about?

REFERENCES

- Aftab, M. A., Yuanjian, Q., Kabir, N., & Barua, Z. (2018). Super Responsive Supply Chain: The Case of Spanish Fast Fashion Retailer Inditex-Zara. *International Journal of Business and Management*, 13(5), 212. doi: 10.5539/ijbm.v13n5p212
- Anner, M. (2018). CSR participation committees, wildcat strikes and the sourcing squeeze in global supply chains. *British Journal of Industrial Relations*, 56(1), 75-98. doi:10.1111/bjir.12275
- Buchanan, F., Anwar, S., & Tran, T. (2013). Spotlight on an emerging market: Assessing the footwear and apparel industries in Vietnam. *Global Business and Organizational Excellence*, 32(2), 38-51. doi:10.1002/joe.21471
- Compare Countries. (n.d.). Retrieved from <https://www.hofstede-insights.com/product/compare-countries/>
- Devnath, A. (2019, July 10). Fashion Retailers Sidestepping Trump's Trade War with China. *Fortune*. Retrieved from <https://fortune.com/2019/07/10/fashion-retailers-trumps-china-trade-war-china-textile-industry-in-bangladesh/>
- Emont, J. (2019, Sep 02). Trade war pushes garment companies back to Bangladesh; fashion brands have increased sourcing in the country amid efforts to improve safety conditions there. *Wall Street Journal (Online)* Retrieved from <http://bryant.idm.oclc.org/login?url=https://search.proquest.com/docview/2283096681?accountid=36823>
- Emont, J., & Yap, C.-W. (2020, March 8). Companies That Got Out of China Before Coronavirus Are Still Tangled in Its Supply Chains. Retrieved from <https://www.wsj.com/articles/companies-that-got-out-of-china-before-coronavirus-are-still-tangled-in-its-supply-chains-11583686996>
- Fernie, J., & Grant, D. B. (2015). *Fashion Logistics: Insights into the Fashion Retail Supply Chain*.
- Fang, T., Gunterberg, C., & Larsson, E. (2010). Sourcing in an increasingly expensive China: Four Swedish cases. *Journal of Business Ethics*, 97(1), 119-138.

Mitigating Global Supply Chain Risk in the Fashion Industry
Honors Thesis for Danielle Nikosey

- Fontana, E., & Egels-Zandén, N. (2019). Non sibi, sed omnibus: Influence of supplier collective behaviour on corporate social responsibility in the Bangladeshi apparel supply chain. *Journal of Business Ethics*, 159(4), 1047-1064. doi:10.1007/s10551-018-3828-z
- Fung, E., & Pacheco, I. (2019, Aug 20). Apparel companies fear tariffs could squash profits; about 40% of all clothing and 70% of shoes sold in U.S. are made in China. *Wall Street Journal* (Online) Retrieved from <http://bryant.idm.oclc.org/login?url=https://search.proquest.com/docview/2275853231?accountid=36823>
- Gallagher, J. (2020, March 27). Is Anyone Still Shopping for Clothes During the Coronavirus? Retrieved from <https://www.wsj.com/articles/is-anyone-still-shopping-for-clothes-during-the-coronavirus-11585315319>
- Ghemawat, P., & Nueno, J. L. (2016). *Zara: Fast Fashion*. Harvard Business School Publishing.
- Kapner, S. (2020, March 24). Coronavirus Crisis Reveals Retail Haves and Have-Nots. Retrieved from <https://www.wsj.com/articles/coronavirus-crisis-reveals-retail-haves-and-have-nots-11585047603>
- Haleem, F., Farooq, S., Boer, H., & Waehrens, B. (2018). Offshoring experience and performance: The role of realized drivers and risk management. *Supply Chain Management*, 23(6), 531-544. doi:10.1108/SCM-02-2018-0074
- Human Development Reports. (2018). Retrieved from <http://hdr.undp.org/en/2018-update>.
- Inditex Annual Report. (2018). Retrieved from <https://www.inditex.com/investors/investor-relations/annual-reports>
- International Labor Organization. (2017, December 21). The Rana Plaza Accident and its aftermath. Retrieved December 2, 2019, from https://www.ilo.org/global/topics/geip/WCMS_614394/lang--en/index.htm
- Maidenberg, M. (2019, August 28). Guess Sees Little Effect from Potential China Tariffs Increase. Retrieved January 15, 2020, from <https://www.wsj.com/articles/guess-sees-little-effect-from-potential-china-tariffs-increase-11567030798>
- Mauldin, W., & Deng, C. (2019, September 1). Trump Administration Goes Ahead with New Tariffs on Chinese Products. Retrieved from <https://www.wsj.com/articles/trump-administration-goes-ahead-with-new-tariffs-on-chinese-products-11567337797>

Mitigating Global Supply Chain Risk in the Fashion Industry
Honors Thesis for Danielle Nikosey

- Monczka, R. M., Handfield, R. B., Giunipero, L. C., & Patterson, J. L. (2011). *Purchasing and Supply Chain Management*. Mason, OH: South-Western, Cengage Learning.
- Perry, P., Wood, S., & Fernie, J. (2014). Corporate Social Responsibility in Garment Sourcing Networks: Factory Management Perspectives on Ethical Trade in Sri Lanka. *Journal of Business Ethics*, 130(3), 737–752. doi: 10.1007/s10551-014-2252-2
- Perry, P. (2012). Exploring the influence of national cultural context on CSR implementation. *Journal of Fashion Marketing and Management*, 16(2), 141-160.
doi:10.1108/13612021211222806
- Popescu, B. A.-C. (2015). Fast Fashion and Sustainable Supply Chain Management. *Young Economists Journal / Revista Tinerilor Economisti*, 12(24), 29–40. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=116803718&site=ehost-live>
- Tate, W., & Bals, L. (2017). Outsourcing/offshoring insights: Going beyond reshoring to rightshoring. *International Journal of Physical Distribution & Logistics Management*, 47(2/3), 106-113. doi:10.1108/IJPDLM-11-2016-0314
- The Sustainability Yearbook 2020. (2020). Retrieved from <https://yearbook.robecosam.com/>
- Wei, L. (2020, February 6). China to Cut Tariffs on \$75 Billion of U.S. Goods. Retrieved from <https://www.wsj.com/articles/china-to-cut-tariffs-on-75-billion-of-u-s-goods-11580967540>
- Weijian, S. (2019). The unwinnable trade war: Everyone loses in the U.S.-Chinese clash--but especially Americans. *Foreign Affairs*, 98(6).
- Xie, C., Hon Kam, B., Chen, L., & Wilding, R. (2011). Managing production outsourcing risks in China's apparel industry: A case study of two apparel retailers. *Supply Chain Management: An International Journal*, 16(6), 428-445.
doi:10.1108/13598541111171147
- Yadlapalli, A., Rahman, S., & Gunasekaran, A. (2018). Socially responsible governance mechanisms for manufacturing firms in apparel supply chains. *International Journal of Production Economics*, 196, 135-149.