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**Exploration of Small Fashion Retailers' Green Efforts in Supply Chain Management and their Coping Strategies during COVID-19**

**By**

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**An Honors Thesis in partial fulfillment of the requirements for the degree Bachelor of Science in Business Administration in Finance**

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## **Abstract**

The purpose of this paper is to explore the current business model of small fashion retailers and their green efforts in supply chain management based on the Six-R framework that consists of recycle, reuse, reduce, re-design, recovery, and remanufacture. This study also investigated the impact of COVID-19 on small fashion businesses. Qualitative data were gathered through in-depth interviews of owners/employees of four small fashion retailers that addressed sustainable supply chain management, customer segments, and challenges and barriers in green supply chain management, and the effects of COVID-19. Interview findings revealed that small fashion retailers are more likely to implement green supply chain practices through recycling, reusing, and reducing, while neglecting re-designing, re-imagining, and recovering. Using recyclable packaging and donating unused or unwanted clothing were the most frequent sustainable practices performed. Cost and lack of concern were the reasons for not employing green practices. COVID-19 pushed the retailers to deal with their problems in new and creative ways but was hurtful for the businesses overall. The findings suggest that small retailers are more likely to employ green supply chain management when it aligns with their business values. Therefore, retailers must prioritize being environmentally friendly, as more sustainable practices occur when that is the case. Future success of retailing could be determined by sales, innovation, and creating a community.

## **Chapter 1. Introduction**

The fashion industry is known as the second largest polluter in the world (Sweeny, 2015). The fashion industry is the most resource intensive industry due to the large use of water, energy, and chemicals (Riba, 2020). With a growing global population and the current buy-and-throwaway culture, there has been an overall increase in the manufacturing and disposal of textiles. In 2017, 11.2 million tons of textiles ended in landfills (EPA, 2019). In the U.S., it is reported that each consumer throws away approximately 80 pounds of used clothing yearly (EPA, 2019). Whereas the linear system extracts resources that will end in landfills, circularity maximizes the utility and value of raw materials and products. If no change occurs in the current system, the industry could use 26% of the carbon budget associated with a 2C global warming limit by 2050 (Pandey, 2018). Given the large waste in the fashion industry, both researchers and practitioners have addressed the social, economic, and environmental issues associated with the manufacturing and distribution of fashion and apparel products (Caniato et al., 2012; Ho & Choi, 2012; Hvass, 2014; Roos et al., 2016).

The manufacturing and distribution in traditional supply chains are known for generating high volumes of textile waste which release pollutants (e.g., dyeing chemicals and toxic gases) and involve excessive packaging. To reduce waste generation and minimize environmental pollution, many fashion companies are implementing sustainable practices. Sustainable practices have been discussed from the perspective of national fashion retailers such as Patagonia (Caniato et al., 2012; Michel et al., 2019; Wang & Shen, 2017). However, literature that explores whether small fashion businesses or start-up retailers adopt sustainable practices in their supply chain is rare. Additionally, the vast majority of the solid waste stream is from within the fashion industry (Domina & Koch, 1997). The textile waste issue has primarily been addressed through the lens of residential consumption such as discarding, recycling, and purchasing second-hand goods (Bianchi & Birtwistle, 2010, 2012; Domina & Koch, 1997; Laitala, 2014; McNeill et al., 2020; Weber et al., 2017). It is important to review current fashion business practices and to address current challenges and barriers in reducing textile waste. For the sake of enhancing circularity in textiles and the apparel industry, further investigation needs to explore the current supply chain practices from the industry perspective. This study attempts to fill the research gap by interviewing small fashion retailers in regard to their current business model, target customers, their interests in sustainability issues, and green efforts in supply chain management drawn from the Six-R framework (Hernández et al., 2019). This study also investigates the impact of COVID-19 on small fashion businesses.

## **Chapter 2. Literature Review**

### **The Green Supply Chain Management**

Green supply chain management is the practice of making a supply chain environmentally friendly (Ho & Choi, 2012). It involves the incorporation of an environmental focus into purchasing decisions and supplier relationships (Ho & Choi, 2012). Many companies have made the move toward a green supply chain by reusing resources and minimizing waste generation by discouraging one-time use and disposal (Ho & Choi, 2012). There are some benefits and challenges in creating sustainable supply chains (Ho & Choi, 2012). For instance, some companies have implemented reverse logistics, which focuses on managing a product at the end of its life cycle, through incorporation back into the system or disposal (Abraham, 2011).

Furthermore, green supply chains tend to become increasingly cyclical to keep waste from leaving the industrial system (Ho & Choi, 2012). A circular supply chain is what many companies would like to make a reality in the long term, but transforming a supply chain is difficult work. According to Ho and Choi, “The ever-lengthening supply chains of today’s global economy present growing risks,” as retailers and manufacturers are often dependent on numerous suppliers to get to the final product (2012). But even with the challenges of re-routing a business’ supply chain, the use of green methods presents a crucial shift that needs to happen. In fact, a product’s environmental footprint is determined by the supplier’s environmental performance (Caniato et al., 2012).

Green supply chains involve simplification, as opposed to the current trend toward a more complicated apparel chain (Ho & Choi, 2012). The fashion industry relies on hundreds of suppliers which has not been beneficial to the environment or their ecological footprint (Ho & Choi, 2012). Supply chain management is at the forefront of a business, meaning the implementation of green supply chain practices is integral to turn fashion into a low-impact industry.

Green supply chain management helps companies be competitive and pursue environmental responsibility. Past studies have focused on competitiveness, while environmental responsibility has been neglected (Caniato et al., 2012). Despite the lack of attention, recent trends have shown that sustainability could be a tool to reach eco-friendly consumers and improve brand image (Faisal, 2010). Growing consumer interest in the sustainability of products offers a new path for the fashion industry, posing an advantage for green fashion brands (Caniato et al., 2012).

### **Six-R Analysis Framework**

What started as the Three-R’s: recycle, reuse, reduce, has expanded into the Five-R model created by Etsy and Winston (2009) and then expanded to the Six-R Framework by Hernández et al. (2019). With the added components - re-design, recovery, and remanufacture - the model has been used to analyze, compare, and evaluate fashion companies’ green supply chain management ventures. *Recycle* involves collecting and processing materials into reusable forms and using the raw materials for new products. The waste can be split up into two types: post-industrial and post-consumer. Post-industrial waste recycling is easier because the makeup of the material is known and can be easily taken apart. Post-consumer waste is more challenging, especially when pieces are composed of natural and artificial fiber blends, which cannot be recycled. *Reuse* refers to extending a product’s life as opposed to discarding the items. Reuse not only applies to garments but to product packaging and basic sewing tools used by a fashion retailer. *Reduce* is keeping waste to a minimum. It spans from consumers shopping more thoughtfully to reduce the amount of fabric waste in the garment manufacturing process. *Re-design* should be considered before reducing. It can pertain to the use of materials in product design or the process of re-designing products. The latter is usually associated with altering or simplifying the design processes to minimize waste from logistics. *Recovery* of products means disassembling, recollecting, and sorting processes for reclaiming materials. *Remanufacture* involves reconditioning and repairing the manufacturing of similar products for use (Hernández et al., 2019).

## Chapter 3. Method

An exploratory study was conducted to address the lack of existing literature that identifies small fashion retailers' adoption of green sustainability practices to reduce textile waste, customer segments, challenges and barriers in reducing textile waste, and the effects of COVID-19. A qualitative design was implemented to understand current supply chain management and green efforts from the business perspective. The qualitative nature of the study allowed for a thorough assessment of store operations with an inside perspective.

Institutional Review Board (IRB) approval was obtained from the University of Arkansas prior to recruitment and data collection (see Appendix A). Snowball sampling, through personal contacts of the research mentor and referrals, was used to recruit four fashion retailers to participate in an in-depth interview. Interview questions were developed from the Business Model Canvas (Gopalakrishnan & Matthews, 2018; Osterwalder & Pigneur, 2010) and sustainable supply chain management literature (Caniato et al., 2012; Hernandez et al., 2019; Ho & Choi, 2012). A few additional questions were developed to meet the specific aims of this study. The interview consisted of questions about the store background and origin, business channels, supply chain management, sustainability efforts, management of post-production textile waste, customer segments and relationships, partnerships, business values, and the impact of COVID-19 on business.

Researchers sent an email invitation to recruit small fashion retailers (see Appendix B). All interviews were conducted remotely via Zoom. Each participant received a consent form via email and voluntarily agreed to participate in the study by signing the consent form (see Appendix C). Interviews lasted between 30 and 60 minutes and asked 15 open-ended questions (see Appendix D). With the participants' permission, all interviews were audio recorded for transcription. The recorded data were translated by a professional transcription service. After completing the interview, each participant received a \$40 gift card as an incentive.

## Chapter 4. Results

### Fashion Retailer Overview

#### *Retailer A*

Retailer A is a robotics and digital denim retailer which was founded in 2015. This retailer specializes in creating custom jeans on demand using a 3-D body scanner and their own production method. In addition to denim, their advanced technology is used by other companies to decrease wasteful manufacturing. The company's mission is to reduce global carbon emissions by 1% through automated, localized, and intentional manufacturing. Before opening the company's flagship store in San Francisco, California and their other location in Hong Kong, the business had pop-ups in Hong Kong. Additionally, Retailer A employs two small facilities in China. Retailer A creates jeans for men and women for \$200 that are digitally designed around the customer's body. The technology uses an algorithm to transform a body scan into digital jeans that perfectly fit. Because of this process, they have eliminated the need for inventory, decreasing their waste. Their business model prioritizes using the most sustainable practices available through localized sourcing, low impact fabrics, and on-demand manufacturing.

#### *Retailer B*

Retailer B is an athletic apparel company which was founded in 2012. Their goal is to create high quality and long-lasting athletic clothing to keep products out of landfills. This retailer is reducing the use of conventional fabrics while increasing the use of recycled and ethically sourced fabrics. The retailer designs clothing with the goal of increasing their products' longevity and circularity. Retailer B plans to increase their sustainability by using more sustainable fabrics, implementing take-back and repair programs, and eliminating waste from their community events. They currently use packaging that is recycled or recyclable. The products are designed for both women and men with a price range of \$35 to \$135.

#### *Retailer C*

Retailer C is an ethical apparel and gift boutique founded online in 2018. In 2020, they started to sell their products through their website and in a brick-and-mortar store. The retailer wants to create a place for customers to be able to shop without having to question if the products are ethically made with natural materials and dyes. The retailer uses sustainable fabrics, eco-friendly production practices, shipping, pays fair and livable wages, and gives back to the community. The retailer sells apparel products and accessories for men and women with a focus on sustainability and transparency. Their apparel products range in price from \$10 to \$170. Products are purchased directly from apparel wholesalers that have transparent supply chains.

#### *Retailer D*

Retailer D is a family business founded in 2013 that offers casual, contemporary, and classic apparel products, jewelry, accessories, and gift items for women. Their product price ranges from \$30 to \$170. They have a brick-and-mortar store they have owned for eight years. This retailer opened an online business three years ago. A variety of brands are available in the store and on their website, such as Free People, Just Jeans, AG Denim, Show Me Your Mumu, Be Supply, Rocket Jewelry, Ariana Jewelry, Michael Stars, and Ariat Lauren.

### **Interview Findings**

#### *Target customers and customer relationship management*

The primary consumer varied some between the four retailers. Each retailer emphasized the importance of customer relationships that feel personal. Retailers A, C, and D discussed the friendly atmosphere when customers shop in-store. For the smaller retailers, C and D, customers often become friends with the owners, resulting in a loyal customer base. A sense of community was most important for Retailer B, which has an active online presence, with newsletters and city guides, and hosts free events at their physical locations.

Retailer A has three primary customer segments: those focused on the technology-forward nature of the business, consumers that are purely concerned with the perfect fit of their jeans, and customers focused on sustainability. Retailer A reported, "One is in the technology. They're actually excited about the scanning process. They are excited about new ways to shop it, scanning on iPhone. They are our tech-forward customers. Maybe they even work in tech. But these new experiences do not put them off, if anything it excites them. So that is kind of one customer segment. We also see these people as optimizers. If they buy something and they like it, they will come back and continue to buy it. We do see customers who bought one pant, and then they come back, and they buy four or five more. Every time we have a new release, and they buy it again. Other customers are purely around fit. It's just they have a difficult shape, but

they feel like brands aren't making jeans that fit their body category well, and so they're coming to us purely for fit. In some cases, they would prefer to come in person and scan on the phone, but they're willing to do whatever it takes to get a good fitting pair of jeans. The third one is sustainability focused customers. But by far, that is the smallest category.”

Retailer B targets women ages 20 to 35 who are interested in a healthy lifestyle. They described their customer as “someone who is active. Someone who is exercising for fun. . . not exercising for competition. And someone with a healthy lifestyle or who wants to live a healthy lifestyle so that we are always encouraging people to really just get out, walk, and be outside, and start to develop a healthier lifestyle.”

Retailer C targets women ages 30 to 60 who are socially and environmentally conscious, saying, “They tend to be mothers usually, or they are in the workforce, but either way, they usually are very busy. . . They are usually already conscious of their purchase choice. They mostly buy clothing and gift items. They shop us because they really like our sustainability values, and they like that there [is] so much care and thought put into each item that comes into the store. They really respect the process.”

Retailer D also targets women ages 30 to 60 who are either working or stay-at-home moms, saying, “It is a really good combo of both. Our customers like coming for [the] experience. All my customers are super loyal. They have been shopping with me since day one. So, they are familiar faces. I keep track of their family and their sizing. So, it is not only just coming in for shopping, but it is coming in and chit-chatting. I am texting them whenever we get something in that they would like to know. I am sending them thoughtful texts and notes throughout the year saying how much we appreciate them. Honestly, if they were not as loyal as they were, we would not survive. The main part of it is building customer relationships, just being super friendly and not just saying, ‘Hi,’ to a customer. Especially with the COVID-19, we have offered a lot of private shopping. For instance, they text me at all hours of the night. . . If I am not in the store, they are texting me.”

Retailer A emphasized building trust is important, as the customers do not see the products they are ordering before they buy [them]. Retailer A stated, “We want to have a relationship built on trust. We want customers to really trust us that we are not going to do anything with their scans. It really takes a lot for a brand that doesn't have necessarily a large reputation to get there. And we are actually very friendly with our customers. Our customer service is like spot on where if somebody messages us, we usually message them back in five to ten minutes. We know our customers because either they come to the store and we were the ones that helped them, or they emailed us before, or they called us on the phone. It becomes a kind of friendly conversation. They are like, ‘I got the Mission last time. I feel like next time I want something looser, what do you suggest?’ We say, ‘Oh, yeah, I remember that fit you so well. But what if you try this?’ And they really feel like there is a connection, and [they recognize] we care about them. As we scale up and go more mobile, it will be interesting to see how we can hang on to this.”

All of the retailers stated they value making and maintaining relationships with their customers. Retailer A reaches out to customers to ensure they are happy with the outcome, saying, “After they pay \$200 for these jeans that they have never tried on from our brand, they have to wait around two weeks to receive the jeans. Sometimes there [is] some back and forth there while we are making the jeans, and then after they have received the jeans, we want to be super on top of like, making sure that they fit. If they run into any issues, we try to figure out whether that is just a refund or remaking the jeans with whatever tweaks that they might want.”



Retailer B indicated that they build long-term relationships with customers through social media and emails. They said, “Between our Instagram presence and emails, we have something called The Recreationalist, which is a newsletter blog that we produce. We add new content to The Recreationalists all the time. Just yesterday, we posted a city guide for Santa Fe, we have city guides for some of our top cities in the country. It is definitely like a long-term relationship that we have with our customers. And it is not just transactional.” Retailer C considers customers their friends, stating, “That is the way retail works. . . you become friends with your customers.” Retailer D offers a rewards program to build and maintain customer relationships, saying, “It is like a loyalty program. We have that as our main marketing that we do on a regular basis. It keeps people coming back. For every \$150 you spend, you get \$10 back. I send \$15 off for birthdays. I send \$10 off or \$15 off as ‘I missed you.’ We send coupons through emails. If we have not seen them in three months, we send a coupon to come in. It flashes you like you should come and shop. So, birthdays, missed you, and the actual reward thing that we have. Also, I mainly hope people will refer us by word of mouth. That is kind of how our customer [is] loyal to us. The best advertisement is somebody advertising for you by word of mouth. That's what I hope for. Customers follow us through social media. We grow our Instagram followers. We have 5,300 followers on our Instagram.”

#### *Current efforts and challenges in green supply chain management*

The green efforts toward sustainable supply chain management varied with each retailer. Retailers A and B design their apparel whereas retailers C and D purchase apparel products from wholesalers. Retailers A and C have been making sustainability efforts in the supply chain from start to finish through methods such as only choosing business partners with transparent supply chains who work with leftover waste. For example, Retailer A uses an eco-friendly washing method, saying, “Other supply chain practices that are sustainable is the way that we wash our jeans. So, we use the Tenello machine, which I believe is one of the best washing methods out there. It really cuts down on energy, water, all of the intended chemical that happened during that process, as well as how we sourced. We use as much organic as we can. If not organic, BCI. We're phasing out of all conventional cotton. We're phasing out of all virgin polyester. We really have some strict material goals that we're trying to hit, and also we're trying to lean into heavier on the natural fibers and really start phasing out as much as possible all the synthetics that we can.” Retailer A also tries to reduce textile waste, stating, “We are using the 3D weaving machine because we know cut fabric is always going to get wasted. What would happen when you can create a garment where it's just woven to shape without any cutting waste at all. That is a kind of our long-term vision. But before that, we're just working on how we can recycle cutting fabrics and the best way to where it's not downgraded but used as best as we can.”

Retailer C is concerned with ethical wholesalers and sustainable manufacturers, saying, “We definitely want to know where our clothes come from; what the farms look like, are they conscious of waste? Are they transparent about it? We really go into the full supply chain all the way back to how the products are created. Where are the dyes coming from? Who does make the products? All of these questions are very important to us. We transparently check their supply chain with honesty and integrity asking questions like, ‘Can we see a picture of your warehouse and factory?’”

The primary drivers pushing these businesses toward the adoption of sustainable practices were the owners’ personal desire or mission and customer sentiment toward sustainable products. Retailer B uses recycled materials in packaging, saying, “We continue to use

sustainable packaging, and that's really been a big focus for us. We are moving into recyclable polybag. So, all items arrive to customers in a plastic polybag. And all of our outbound shipping supplies are recycled paper. We continue to try and use either a slower shipping method or shipping methods that do not have as much of an impact on the environment.” Retailer C believes that one reason customers shop their products is because of the sustainable packaging and that by incorporating recycled fabrics into their apparel, they could draw in more customers. “We [conserve] packing supplies and product containers, all of that. And that is our responsibility as a business to handle those and to decide to recycle and to reuse boxes when we can, reuse packing materials. Before throwing things away, I ask, ‘Can we reuse it? Can we replace it? How can we do a better job in green efforts?’” Retailer C also tries to reduce textile waste by working with companies that use left-over fabrics, telling, “We do like when we work with companies that reuse the waste.”

Retailer B uses leftover fabrics to make smaller items, such as totes and scrunchies and sends damaged apparel to be turned into insulation for carpeting. Customers can return worn denim to Retailer A. The pieces will be downgraded to use as insulation for Habitat for Humanity Houses. Retailer A also uses dissolvable thread, saying, “When you are a customer, and the garment’s reached the end, if you can actually return it to us. . . we return it to the company that makes the dissolvable threads, and what they do is, they will disassemble the garment very easily, and then it can be recycled. We would eventually use the material from our old jeans back in our system. Because we were always looking for new more sustainable supply chain options that was a pretty easy collaboration and actually from that, we've really been able to get way more press, way more brands know about us.” Retailer D donates a lot of leftover products to non-profit organizations, saying, “We set a guideline like one charity for each month. We do try to participate and go to all the charity events, too, as a store to support all the local charity groups as much as I can.”

The reason sustainable practices have not been adopted by businesses is because of a lack of profitability and lack of concern with environmentally conscious business practices. Retailer B mentioned that “customers are excited about sustainable products. So, we talk about our sustainable packaging. But, it is very hard to use recycled materials for products we create. It is definitely something that we are focusing on. We look at sustainable players like Patagonia and Merrell and brands that are doing really amazing things with recycled materials. They have huge R&D teams that spend years coming up with these sustainable fabrics and products. We are just behind there, but it is definitely something that we are focusing on.” Retailer D said, “It is like people are really focusing on sustainability in what they are wearing. People focus on what we do in the world [that] is safe and healthy. But, it is far here. I have not really thought too much about bringing sustainability in my business and concentrating on even though I probably should. But, it is just really hard to find. . . with what we sell in the store.”

#### *Partnership with other fashion retailers*

Retailers A and B, which are bigger than the other two, have partners. Retailer A partners with Resortecs for their dissolvable thread and H&M through the Global Change Award they won. Additionally, Retailer A has partners for the technology aspect. TG3D scanners are used in-store, and they partner with N3D, the company that provides the scanning system on customers’ phones. Retailer B has collaborated on products with Merrell, Rapha, and wholesales to Nordstrom. For events, Retailer B will partner with local yoga studios or brands, such as Topo

Chico. Retailer D purchases apparel products from overseas suppliers in Europe and Australia primarily, where sustainable brands are more plentiful.

Businesses similar to Retailer A are MTailor and others that focus on custom products, however, many of these companies do not have sustainable messages like Retailer A. Retailer A also feels they are “competing with patterning programs” because of their use of technology. Retailer B looks at brands such as Girlfriend Collective, Everlane, Reformation, and Lululemon as competitors. Retailers C and D have small fashion boutiques that offer similar products in the local community.

### *Product distribution channels and sources of revenue*

Each of the retailers stated they use social media as the main method for reaching out to customers. Instagram and Facebook act as free platforms to show their offerings to potential customers with the option to run ads as Retailer A does. There was also a consensus among the four retailers that word of mouth is the most effective tool to keep customer traffic to the store and online. The product was consistently the most important source of revenue. The most expensive cost was typically rent and labor. For Retailer C, marketing is the most expensive cost. As a small business, Retailer C does not feel they have the budget to pay for ads that receive little response. Retailer A frequently runs discounts and promotions. They specifically target people at tech companies who might be interested in their innovation by providing discount codes. They are still in the testing phase of this strategy. Retailer B offers product discounts during the holiday season. Similarly, Retailer C offers seasonal promotions a few times a year.

All the retailers said they are value driven over cost driven. Retailers A and C pointed out the importance of cost, though. Retailer A said, “The whole point is value, but you have to survive.” The main source of revenue for the retailers is the products sold. Retailer A obtains additional revenue from collaborations, and Retailer B earns additional revenue from wholesales. Smaller retailers like C and D stated that more revenue is generated through in-store sales compared to online sales.

### *Impact of COVID-19*

COVID-19 impacted the retailers in various ways. One of the main changes from the pandemic was having employees working from home. Retailer A was faced with creating a method to scan customers’ bodies for their custom denim without being in the physical store. It pushed them to develop the mobile scanning they now use to sell their jeans anywhere. They also took the time to apply to become B Corp. Retailer A said, “It was a giant challenge, but I think we came out stronger in the end. Because people could not physically come into our retail locations, we did not know how to scan them. It really pushed us to develop who could be our mobile scanning partner. It pushed us to think about that way earlier than we were going to but out of necessity. Now we have mobile scanners that we believe are working well. And now we can sell anywhere in the world.” Retailer B had to lay off and furlough employees who worked at their stores. Retailer B also experienced an increase in online sales since people were staying home and choosing to dress in leisure or athletic wear primarily. All the stores had to be closed, and not all have opened back up.

Retailer C opened only two months before COVID-19 began impacting businesses and was very clear about the struggles brought on by the pandemic. Retailer C said that it got to the point where they were barely paying their rent and bills each month, and shared, “The hardest part is the financial burden of really just being a small business during this time.” From not

having as many people come and shop to wearing masks in store, they also found that COVID-19 made normal customer interactions more difficult. Similarly, COVID-19 negatively impacted Retailer D. The business has experienced lower foot traffic, vendor issues, and the challenge of customers not wanting to wear masks in the store. A positive point was customers trying to shop locally with them and being willing to pay full price for products. Retailer D adapted by shifting their focus to buying and selling more loungewear.

For Retailer A, the key challenge of their business is finding the balance between “what is different,” and when to “leave the comfort zone.” They are working to convey that the 3D scanning process is exciting and engaging and leave no anxiety around the process. They also shared a more general challenge: “Just being a fashion company, and marketing yourself, it’s always quite tricky.” The saturation of athletic apparel is the main challenge of Retailer B, along with the uncertainty of the future of retail and whether all of their physical locations will reopen. Through COVID-19, they have not been able to gather for events, which plays a large role in their community engagement. Marketing is the primary challenge for Retailer C. As a small business that opened right before the pandemic started, reaching customers and connecting with them has been a big obstacle. Retailer D’s biggest challenge is staffing. With four employees, if someone is unable to work there is a definite impact.

For the retailers, factors that determined their business success were different. Retailer A said there were two ways they measured success: environmental impact and sales, including their Lifecycle Assessment (LCA) decrease as they sold jeans and collaborates with brands. From the sales perspective, being able to generate enough revenue to operate without an investor and grow was important. Looking towards the future, they are interested to see if their business will rely more on business to consumer or business to business selling. Retailer B considered innovation through the employment of new fabrics, silhouettes, and designs as factors for their future success. Retailer C echoed that sales are a driving factor in determining future success, as well as the community that grows from it. They plan to enhance their online store and eventually open another storefront. Due to the pandemic, Retailer D is trying to get through the year.

## **Chapter 5. Discussion and Conclusion**

While there were differences among the four retailers, the target market was mainly women, and they placed importance on the value of maintaining good customer relationships. Social media was named as the best and most inexpensive way for businesses to stay connected to customers. Revenue was primarily generated through the selling of the retailers’ products and labor was the biggest cost. COVID-19 pushed the retailers to deal with their problems in new and creative ways but was hurtful for the businesses overall.

Among the Six-R’s, small fashion retailers are making efforts in green supply chain management through recycling, reusing, and reducing. Recycling materials and reducing wastes are commonly practiced, however, small retailers do not re-design, recovery, and remanufacture. The main determinant of green supply chain management is related to the owners’ attitude toward the importance of sustainability. Retailers A and C who are driven by the desire to run an environmentally friendly business are the ones that have made the most effort in implementing green practices through transparent supply chains, using environmentally friendly materials, and take-back programs for used garments. All of the retailers indicated that using recyclable packaging and donating unused or unwanted products are easier practices compared to producing environmentally friendly products. Cost and lack of concern were the reasons for not employing green practices, but all four retailers are small and have limited funds, leading to the conclusion

that the value placed on sustainability is the biggest determinant in running an environmentally conscious fashion business.

The larger of the four retailers, A and B, partnered with various companies for collaborations, while the smaller retailers C and D, only worked with their suppliers. The retailers agreed that word of mouth was the most effective way to generate more traffic, and they value the positive effect of word of mouth. An important point was made that even when value is the focus, cost cannot be dismissed to survive. The biggest shift with COVID-19 was remote working. Storefronts had to be closed and workers furloughed. There was the consensus that the pandemic made connecting with customers more challenging in a business that is used to bringing people together. Future success was defined differently by the retailers but included sales, innovation, and bringing a community together.

The main limitation of this explorative study was the small sample size. The sample was limited to small fashion retailers. Future research could extend the understanding of fashion business practices in green supply chain management by conducting in-depth interviews with diverse fashion retailers. Different fashion retailers might have different approaches and practices toward green supply chain management, and different coping strategies could be taken during the pandemic. Future research should ensure a broader sample to increase the generalizability of the findings. As our findings revealed, the four retailers' main consumer group was typically women. Therefore, future research could include fashion businesses that target other consumer groups, such as men and children.

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## Appendix A: IRB Approval



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**To:** Madison B Huskey  
BELL 4188

**From:** Douglas J Adams, Chair  
IRB Expedited Review

**Date:** 10/01/2020

**Action:** **Expedited Approval**

**Action Date:** 10/01/2020

**Protocol #:** 2002247692

**Study Title:** An exploratory case study of environmentally sustainable fashion supply chain management

**Expiration Date:** 09/10/2021

**Last Approval Date:**

The above-referenced protocol has been approved following expedited review by the IRB Committee that oversees research with human subjects.

If the research involves collaboration with another institution then the research cannot commence until the Committee receives written notification of approval from the collaborating institution's IRB.

It is the Principal Investigator's responsibility to obtain review and continued approval before the expiration date.

Protocols are approved for a maximum period of one year. You may not continue any research activity beyond the expiration date without Committee approval. Please submit continuation requests early enough to allow sufficient time for review. Failure to receive approval for continuation before the expiration date will result in the automatic suspension of the approval of this protocol. Information collected following suspension is unapproved research and cannot be reported or published as research data. If you do not wish continued approval, please notify the Committee of the study closure.

**Adverse Events:** Any serious or unexpected adverse event must be reported to the IRB Committee within 48 hours. All other adverse events should be reported within 10 working days.

**Amendments:** If you wish to change any aspect of this study, such as the procedures, the consent forms, study personnel, or number of participants, please submit an amendment to the IRB. All changes must be approved by the IRB Committee before they can be initiated.

You must maintain a research file for at least 3 years after completion of the study. This file should include all correspondence with the IRB Committee, original signed consent forms, and study data.

cc: Eunjoo Cho, Investigator



## **Appendix B: Email Invitation**

Dear Fashion Retailers:

We are conducting a research that aims to examine environmentally sustainable supply chain management that could reduce industrial textile waste. Eligible participants must be current employees who work for online or brick-and-mortar fashion firms. Each participant will be asked to voluntarily participate in an in-depth individual interview.

Each interview will last between 30 and 60 minutes asking 12-15 open-ended questions. Interviews will be conducted over video conferencing and audio/video recorded. Questions will ask you about the background of business operations, supply chain management, and difficulties/challenges in the business. The last part will ask you to provide your general background information including age, gender, ethnicity, educational attainment, and current residence. There are no risks from participating in this study.

As an incentive, each participant will receive a \$40.00 gift card. Outcomes from this research will contribute to expanding knowledge and practices in sustainable supply chain management in the fashion industry.

Please feel free to forward this information to your co-workers who may be interested in participating in this study. If you have additional questions about the study, please feel free to contact the co-researchers. Thank you for your time!

Sincerely,  
Madison Huskey  
University of Arkansas  
Phone: 870-703-5678  
Email: mbhuskey@uark.edu

Eunjoo Cho, PhD  
Associate Professor  
School of Human Environmental Sciences  
University of Arkansas  
Phone: 479-575-4599  
Email: ejcho@uark.edu

### **Compliance Contact Information**

Ro Windwalker, CIP  
Institutional Review Board Coordinator  
Research Compliance  
University of Arkansas  
Fayetteville, AR 72701-1201  
Phone: 479-575-2208  
Email: irb@uark.edu

## Appendix C: Informed Consent Document

**Title: An exploratory case study of environmentally sustainable fashion supply chain management**

**Investigators:**

Madison Huskey and Dr. Cho will be conducting in-depth individual interviews. This document provides informed consent.

**Purpose:**

This is an academic research project. Madison Huskey and Dr. Cho are interested in talking with current employees who work for fashion firms. The purpose of this research project is to examine environmentally sustainable supply chain management that could reduce industrial textile waste.

**Procedures:**

To be eligible for the interviews, you must be a current employee who works for an online and/or brick-and-mortar fashion firm. Each participant will be asked to voluntarily participate in an in-depth individual interview. Each interview will last between 30 and 60 minutes asking 12-15 open-ended questions. Interviews will be conducted over video conferencing and audio/video recorded. Questions will ask you about the background of business operations, supply chain management, and difficulties/challenges in the business. The last part will ask you to provide your general background information including age, gender, ethnicity, educational attainment, and current residence. There are no risks from participating in this study.

**Benefits:**

As an incentive, each participant will receive a \$40.00 gift card. Outcomes from this research will contribute to expanding knowledge and practices in sustainable supply chain management in the fashion industry.

**Confidentiality:**

All data collected will be kept confidential to the extent allowed by the law and University policy. All interview data will be saved on password protected computers. If results are published, only summary data rather than individual responses will be reported.

**Participant Rights:**

Your participation in this study is completely voluntary and you have the right to refuse to participate or leave the study at any time without any penalty. If you decide not to participate in the study or leave the study early, it is up to you. You may skip any questions that you do not feel comfortable answering.

**Contacts:**

The primary investigator, Madison Huskey, may be contacted at (870) 703-5678; [mbhuskey@uark.edu](mailto:mbhuskey@uark.edu). The co-investigator, Dr. Eunjoo Cho, may be contacted at (479) 575-4599; [ejcho@uark.edu](mailto:ejcho@uark.edu). For questions or concerns about your rights as a research participant, please

contact Ro Windwalker, the University's IRB Coordinator, at (479) 575-2208 or by e-mail at [irb@uark.edu](mailto:irb@uark.edu).

I have read and understand all information above in the informed consent form. I agree to participate in this research.

Signature \_\_\_\_\_ Date \_\_\_\_\_

## Appendix D: Interview Questions

First, self-introduction by a researcher and brief introduction about the purpose of the interview. (Make this very brief – just share a few details). Second, to build rapport, the researcher should ask the participant to introduce his/her background. The following topics may be used: firm name, current position, career path, hobbies/interests etc.

### 7. Fashion retailer: Its origin

- a. When was this business started?
- b. How was this business started?
- c. How long has been the store in operation?
- d. Was the store opened first or online?

### 8. What are the specific **channels or methods** (e.g., online, social media, and brick-and mortar) for reaching the customers? Which one do you think is the most feasible and efficient? How are the channels or methods integrated with customers' routine?

### 9. Supply chain management

- a. What are current supply chains?
- b. What green supply chain management practices have the business adopted?
- c. Have these practices led to new business opportunities?
- d. What are the drivers pushing your business towards the adoption of sustainable supply chain practices?
- e. If your business has not implemented green efforts yet, why do you think your business chose not to implement it (e.g., lack of interest, lack of knowledge about options were available to them, cost, etc.)?

### 10. If you have implemented environmentally sustainable supply chain practices, would you tell us about how your business adopted and implemented those?

- a. Recycle
- b. Reuse
- c. Reduce
- d. Re-design
- e. Recovery
- f. Remanufacture

### 11. In a broad manner of corporate social responsibility (CSR), is your business participating in sustainability efforts that might not strictly apply to the supply chains (e.g., donating profit, reducing energy use in offices or retail locations, being registered as a B Corp, etc).

### 12. What ways does the business handle post production textile waste (i.e., leftover fabrics, trims, unsold clothing)?

### 13. Customer segments

- a. Who are the primary consumers and how would you describe them?

- b. What type of merchandise do they like to purchase?
- c. Why do they shop you versus other retailers?
- d. What is your target market?
- e. Has your target market changed over the years?

#### **14. Customer relationships**

- a. How would you describe the type of relationship you seek to establish your customers?
- b. Do you have any after-sales customer relationships?
- c. What is the cost involved in maintaining customer relationships?
- d. What are the advertising/marketing strategies adopted to attract new customers?

#### **15. Partnerships**

- a. Who are your partners? (collaborators or affiliates)
- b. Who are your suppliers? (vendors, sellers, or traders)
- c. What resources are acquired from partners?
- d. What are the roles of partners?

#### **16. Business values**

- a. What values are delivered to your customers through your store?
- b. What motivates customer to shop with you – alternative/sustainable/reduced cost?
- c. What are the products/services offered to customers?
- d. What are the brands sold?
- e. Would you say your store offers a certain level of ‘uniqueness’? How so or how not

#### **17. Cost structure**

- a. What is the most important cost within the business?
- b. Which activities of the store are the most expensive?
- c. Which resources of the store are most expensive?
- d. What/ how often discount offers/promotions done in the store?
- e. Is business – Cost/ Value driven?

#### **18. Revenues**

- a. What are the key sources of revenue to the store?
- b. How do customers prefer to pay?
- c. Asset sales if any?
- d. Do your customers have to pay subscription/ membership usage fees if any?
- e. Do you have any other modes of revenue? (i.e. consulting, styling, etc.)

#### **19. COVID-19**

- a. In what ways has COVID-19 positively or negatively impacted your business?
- b. What changes have been made to cope with the pandemic?

**20. Do you know any other similar business?** If so, could you share with me their names?

- a. How are these businesses similar or different from yours?

**21. Concluding Discussion**

- a. What do you think are the key challenges of your business?
- b. What are the key factors that you think determines your business success?
- c. What are your future plans for the business success?
- d. Do you think specific merchandise/brand/quantity should be added to your store?
- e. Is there anything else you would like to share?

Lastly, researcher should thank the participant for their time and information that they shared.