

TRASH TO TREASURE:  
A CASE STUDY AND CONJOINT ANALYSIS OF CONSUMER PREFERENCE  
FOR SUSTAINABLE APPAREL SHOPPING

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May 12, 2021

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## **ABSTRACT**

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Title: Trash to Treasure: A Case Study and Conjoint Analysis of Consumer Preference for Sustainable Apparel Shopping

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The fashion industry is taking a toll on the environment, and all eyes are on industry leaders and circular business models to respond to the crisis and help repair the integrity of fashion. According to the Environmental Protection Agency (EPA), in 2018, 13 million tons of apparel were generated and over 9 million tons of clothing and footwear were landfilled. While consumer interest in sustainable product offerings has risen in past years, the “green” attitude-behavior gap is a challenge for market offerings that primarily target ethical personal values of sustainable consumption. Through several case studies, this thesis explores the potential economic value in business models that enhance service and product attributes relating to sustainable fashion, including: online resale, upcycling, and rental services. The final chapter of this thesis employs the findings of the case studies to empirically determine the value of various sustainable apparel offerings. To evaluate the unrealized value of apparel at various stages of use, a conjoint analysis is performed on the data collected from a panel of 262 US consumers. The findings suggest that consumers attribute a certain utility to unique, scarce items and more convenient methods of shopping sustainably.

## ACKNOWLEDGEMENTS

I would like to express my gratitude to my supervisors, Dr. Jennifer L. Wilson and Dr. Kathleen Li, for their wisdom and guidance throughout this journey. Thank you for taking a leap of faith with this project, and generously sharing your time and knowledge. It because of professors like yourselves that I am so proud to be a graduate of The University of Texas at Austin.

The research conducted in this thesis would not have been possible without the support and funding provided by the Plan II Honors Program and gracious donors. Thank you for continuously fueling the academic interests of curious students like myself.

I would also like to thank three, very fashionable women in my life who inspire me daily. To my mom, Lindy, and Mayita, thank you for teaching me to follow my heart, and to always do it in style. Whether I'm clutching a vintage Saddle bag, wearing burnt orange from head-to-toe, or running around in something I made from two men's button-downs at the thrift store, I have you to thank every step of the way. I love you all dearly.

## TABLE OF CONTENTS

<b>Chapter 1: Introduction .....</b>	<b>5</b>
<b>Brief History of the Secondhand Apparel Market .....</b>	<b>6</b>
<b>The Environmental Call for Extension of Apparel Longevity .....</b>	<b>8</b>
Fashion’s Toll on the Environment .....	8
Circular Fashion .....	10
Approaches to Slow Fashion .....	11
<b>Relevant Definitions and Distinctions .....</b>	<b>13</b>
<b>Framing the Thesis Questions .....</b>	<b>15</b>
Primary Demand Driver in Apparel Retail & Manufacturing .....	16
Macro-Environmental Context .....	18
The Unrealized Value of Discarded Apparel .....	20
Thesis Questions .....	21
<b>Chapter 2: The Psychology of Secondhand Apparel Consumption .....</b>	<b>23</b>
<b>Consumer Behavior Theories .....</b>	<b>23</b>
Maslow’s Hierarchy of Needs .....	24
Consumer Decision Process Theory .....	25
<b>Existing and Emerging Consumer Motivations .....</b>	<b>25</b>
Utilitarian Benefit .....	26
Hedonic Benefit .....	27
Ethical Personal Value .....	28
Need for Uniqueness .....	32
<b>Chapter 3: Case Studies of Innovative Businesses Extending Apparel Longevity .....</b>	<b>36</b>
<b>Online Resale .....</b>	<b>36</b>
ThredUP: Easy as Buying New .....	36
Depop: Curating Vintage Style .....	38
<b>Upcycling .....</b>	<b>42</b>
Patagonia - ReCrafted Line: Post-Consumer Made Premium .....	43
Mother - 60% Mother Capsule: Making Use of Overstock .....	45
<b>Rental Services .....</b>	<b>48</b>
Rent the Runway: Luxury Made Accessible .....	49
<b>Findings .....</b>	<b>52</b>
<b>Chapter 4: Conjoint Analysis Study of Circular Apparel Shopping Factors .....</b>	<b>56</b>
<b>Introduction .....</b>	<b>56</b>
<b>Methodology .....</b>	<b>57</b>
Selection of Stimulus .....	58
Selection of Attributes and Levels .....	58
Attributes .....	59
Levels .....	59
Fractional Factorial Design .....	61
<b>Data Analysis .....</b>	<b>62</b>
<b>Results .....</b>	<b>65</b>

**Conclusion ..... 70**  
    Findings..... 70  
    Limitations..... 71  
    Recommendations..... 71  
***References ..... 73***  
***Author Biography..... 80***

## Chapter 1: Introduction

My first, most vivid memories involve my grandmother's visits to my family and my stays at her home in Mexico. She and I would spend days building cardboard cities from recycled boxes, sewing brightly colored princess dresses adorned with tulle, and writing story plots for finger puppets that we pieced together from felt. The most rewarding part of it all came from the excitement and appreciation I received upon gifting our silly creations to my parents, aunts, and uncles. In retrospect, none of my family members probably wanted nor needed pine cones covered in glitter and glue, but they encouraged me nevertheless.

As I got older, I carried this passion to create with me, and I have fostered it ever since. In high school, I spent my summers in a musty community theater sewing costumes, performing, and building set pieces for musicals in my hometown of Brownsville, Texas. While the setting wasn't necessarily lavish, it certainly gave me a space to enrich and share my creative abilities with my community, and consequently, further my passion to do so. In writing about these experiences for my college application essay, I gained admission to Plan II and Canfield Business Honors at The University of Texas at Austin. During college, I became enamored with shopping at thrift stores for unique clothing, and I will occasionally alter pieces to create new garments. In the overwhelming state of today's fashion world, overrun with passing trends that encourage the disposable nature of apparel, I find a sense of joy in salvaging the treasures I find by thrifting.

In October 2020, my younger sister and I decided to combine our budding interests in sustainable fashion with my ability to sew, and together we started an upcycling apparel company called Split Shirt. The mission of our company lies in addressing the millions of tons of clothing that go to landfills each year, and encouraging consumers to incorporate slower,

responsible consumption practices into their closets. I have been amazed, to say the least, by the growth we have seen with Split Shirt as an upcycling clothing startup, especially amid a global pandemic. I soon came to realize that the opportunity we stumbled upon with Split Shirt is part of a much greater movement. In an industry where change is arguably the only constant, I am convinced that circular, sustainable fashion is the future - and it is here to stay.

In this thesis, I explore the complexities of why that is and how curators and creators like myself are resonating with shoppers by transforming what would otherwise be trash into treasure. This project explores the circular model of the fashion industry, consumer behaviors, and the economic opportunities involved with capturing the unrealized value of garments circulating towards and throughout the secondhand apparel market.

#### Brief History of the Secondhand Apparel Market

In *From Goodwill to Grunge: A History of Secondhand Styles and Alternative Economies*, historian Jennifer Le Zotte details the emergence of America's secondhand apparel economy and emphasizes the importance of historical context in understanding the significance of secondhand economies.<sup>1</sup> Popular perceptions involved with the exchange of secondhand goods in America have evolved dramatically since the 19th century. Before the establishment of Protestant charities driven by the sale of still-viable donated goods, hygienic and social concerns stifled the economic potential of the secondhand market. But in the early 1900s, during the Progressive Era, the Salvation Army and Goodwill Industries emerged as profitable venues for the exchange of secondhand goods, alleviating sanitization worries and promoting the connection between consumption and charity through marketing campaigns. As consumption increased and

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<sup>1</sup> Jennifer Le Zotte. *From Goodwill to Grunge: A History of Secondhand Styles and Alternative Economies*. (UNC Press Books, 2017), 2-16.

urbanization led to smaller homes with less storage space, donating to thrift stores became a convenient solution for some consumers looking to make space for new items, all while contributing to a good cause.

During the Great Depression and World War II, the demand for secondhand goods rapidly accelerated with limited supplies and the need for less expensive goods. In the 1950s, the postwar economic boom ushered in a new era of open-air flea markets and suburban garage sales, and the voluntary consumption of secondhand clothing transpired the first “vintage” trend linked to distinction. Throughout the postwar decades, secondhand fashion emerged as an outlet of expression for a variety of people seeking liberation from “the middle class and its connotations of homogeneity, conformity, and brand plasticity.”<sup>2</sup> Affordability undoubtedly remained a significant driver among thrifters in the 20th century, but many consumers throughout history have leveraged the opportunities of secondhand apparel to drive movements of political and personal nature. From the gay liberation movement in the 1970s to grunge’s consumer rebellion in the 1990s, the circulation of apparel has served as a tool of empowerment and expression. More recently, the secondhand apparel market is receiving attention from environmentalists as a potential remedy to the crisis caused by overflowing production and consumption of apparel. Additionally, Generation Z, or consumers born between the years 1997 to 2012/2015, are fueling the growth of the secondhand apparel market. This paper will consider the multifaceted motivations contributing to this development.

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<sup>2</sup> Le Zotte, *From Goodwill to Grunge: A History of Secondhand Styles and Alternative Economies*.



## The Environmental Call for Extension of Apparel Longevity

In this section, I begin by raising the environmental issues caused by the apparel industry's reliance on the linear economy's excessive production and disposal of finite resources. I then draw on the systemic approach of the circular economy and slow fashion movement to emphasize the importance of product longevity extension in combating the negative effects of fashion on the environment. In drawing this connection, I frame the scope of this research, which centers on two extension of product longevity approaches: enabling of multiple user lifetimes and product reconstruction and recycling.

### *Fashion's Toll on the Environment*

Even with thrifting and resale reaching mainstream status in recent years, the overproduction and overconsumption of clothing and footwear is becoming increasingly unmanageable. In 1960, the United States Environmental Protection Agency (EPA) estimated 1.3 million tons of clothing and footwear were generated by the United States (US), and 1.3 million tons were sent to landfills. In 2018, clothing and footwear generation increased tenfold to 13 million tons. And, while 13% was recycled, over 9 million tons of clothing and footwear were landfilled, a 592% increase over the span of 56 years.<sup>3</sup> The rate of textile recycling has not seen the same growth as textile generation because blends of synthetic polyester and cotton, the materials that make up most clothing today, are rather difficult to chemically break down and recycle into new material.<sup>4</sup> Due to the technological nascency of textile recycling, fabric made

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<sup>3</sup> "Nondurable Goods: Product-Specific Data." Data and Tools. US EPA, September 7, 2017. <https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/nondurable-goods-product-specific-data>.

<sup>4</sup> Abigail Beall. "Why Clothes Are so Hard to Recycle." Accessed April 25, 2021. <https://www.bbc.com/future/article/20200710-why-clothes-are-so-hard-to-recycle>.

from recycled textile is generally inaccessible to most fashion companies. Globally, it is estimated that less than one percent of manufactured clothing is recycled into new fibers for the clothing industry.

In recent years, recycled polyester, or polyethylene terephthalate (rPET) manufactured from recycled water bottles has gained notoriety in the world of fashion as a “green,” fairly cheap alternative to textile made from virgin materials. Major brands such as Hennes & Mauritz (H&M) and Adidas are accelerating the use of rPET to convey environmentally sustainable efforts, but the dependence on material recycled from an unrelated industry does not directly address the environmental issues created by the apparel industry’s overflowing waste problem. Today, all the packaging used to bottle water is completely recyclable, and the recycling rate for single-serve PET water bottles has doubled in the last ten years to 33 percent.<sup>5</sup> Unlike the market for recycled textiles, the demand for rPET water bottles greatly exceeds supply, and some experts in the plastics industry worry the demand for fabrics made from recycled plastic poses a threat to the circularity of the bottling industry.<sup>6</sup>

Unable to mitigate the excessive production, consumption, and disposal of apparel, the US is the largest exporter of used clothing at \$737.7 million in 2019.<sup>7</sup> Most unwanted clothing today will eventually wind up in landfills in the US or be shipped overseas. Unfortunately, the environmental footprint of the fashion industry is much larger than the issue of overflowing textile waste. With new trends rapidly emerging, mass production skyrocketing, material quality

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<sup>5</sup> “Recycling - Bottled Water | IBWA | Bottled Water.” Accessed April 25, 2021. <https://bottledwater.org/recycling/>.

<sup>6</sup> Elizabeth Segran. “Recycled Plastic Isn’t Going to Save Us.” Fast Company, November 12, 2019. <https://www.fastcompany.com/90429087/recycled-plastic-isnt-going-to-save-us>.

<sup>7</sup> “Used Clothing Leading Exporters Worldwide 2019.”

diminishing, and clothing lifetimes shortening, the fashion industry is negatively impacting the environment at nearly every stage of its cycle from manufacturer to consumer. The fashion industry is responsible for an estimated 2.1 billion metric tons of global greenhouse-gas emissions (GHG) each year, about 4% of the global amount;<sup>8</sup> and it is believed that textile dyeing and finishing contribute to about 20% of water pollution worldwide.<sup>9</sup> Although the demand for cheap, trendy fashion remains high, some consumers are realizing the impact of the apparel industry on the environment, and all eyes are on industry leaders and circular business models to respond to the crisis and help repair the integrity of fashion.

### *Circular Fashion*

The development of a more circular fashion economy helps mitigate excessive waste and production by extending the usage of existing garments. The industrial economy has been dominated by a linear system of “take, make, and dispose” production and consumption for the past 150 years. In addition to the environmental toll taken by the linear system, many business leaders, consumers, and governments are becoming concerned with the last decade’s increase in commodity prices as a result of the linear economy’s dependence on finite energy and materials inputs. An alternative circular economy, as described by the Ellen MacArthur Foundation, is as an industrial system that is restorative by design. In the apparel industry alone, circularity could yield global net materials cost savings of \$155 billion annually.<sup>10</sup> Circularity within the fashion

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<sup>8</sup>“How the Fashion Industry Can Reduce Its Carbon Footprint | McKinsey.” Accessed March 15, 2021. <https://www.mckinsey.com/industries/retail/our-insights/fashion-on-climate>.

<sup>9</sup>Debbie Moorhouse. “Making Fashion Sustainable: Waste and Collective Responsibility.” *One Earth* 3, no. 1 (July 24, 2020): 17–19. <https://doi.org/10.1016/j.oneear.2020.07.002>.

<sup>10</sup>“Towards the Circular Economy: Accelerating the Scale-up across Global Supply Chains.” Geneva, Switzerland, January 2014. [http://www3.weforum.org/docs/WEF\\_ENV\\_TowardsCircularEconomy\\_Report\\_2014](http://www3.weforum.org/docs/WEF_ENV_TowardsCircularEconomy_Report_2014).

industry calls for the adoption of a closed-loop system in which apparel is used and reused as long as possible before being regenerated into new resources. In the ideal closed-loop system, new apparel is not generated from raw, virgin materials, and used apparel does not end up in landfills (Figure 1).

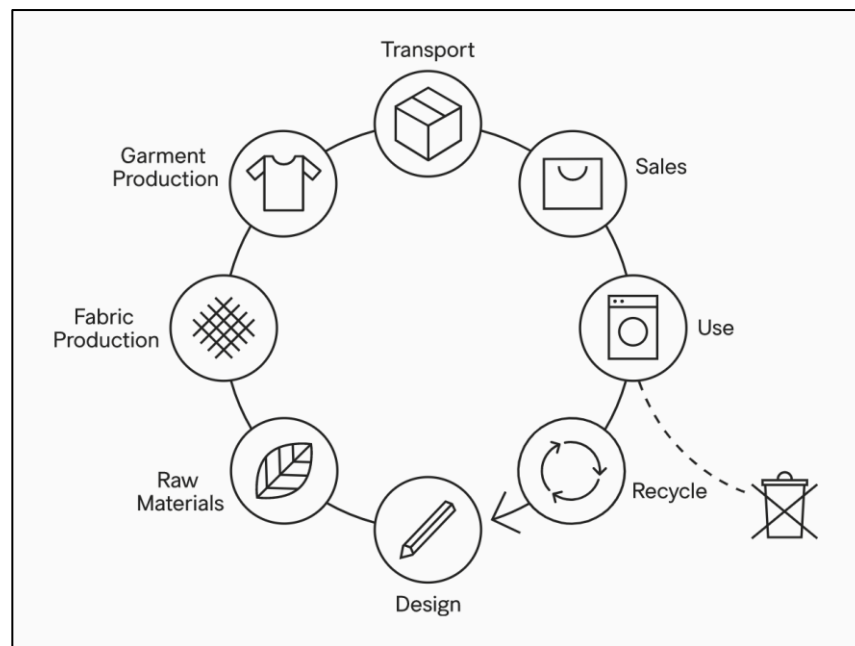


Figure 1. *Circular Model in the Fashion Industry*. “Global Change Award.” n.d. Accessed March 15, 2021.

### *Approaches to Slow Fashion*

Critical to the integration of a circular fashion economy are manufacturing and retail business models promoting the notion of *slower* fashion - a counter approach to today’s highly profitable fast fashion, a business model in which high-fashion designs are replicated and mass-produced at extremely low costs.<sup>11</sup> The slow living movement, with its origins in food production techniques, has been gaining media attention and support from non-governmental

<sup>11</sup>“Fast Fashion.” Accessed March 27, 2021. <https://www.britannica.com/art/fast-fashion>.

organizations (NGOs) in recent years. The philosophy emphasizes a less-is-more approach to modern life, placing more focus on the quality of life of society and individuals, rather than fast-paced consumerism.<sup>12</sup> In the circular fashion lifecycle, “new” apparel is designed from renewed materials to produce high-quality apparel that is intended to last many uses before returning to the biosphere.

The incorporation of the slow fashion philosophy with stages of the circular economy helps fill a gap in the loop as the infrastructure to renew and recycle textile blends becomes fortified. Until the process of dissolving and remanufacturing apparel becomes technologically and, thereby, economically efficient, the industry must heavily emphasize a multi-faceted approach to mitigating the overwhelming amounts of textile waste that continue to accumulate. Researchers have categorized several industry approaches to the slow fashion movement and the extension of product longevity in the following ways:<sup>13</sup>

1. The **extension of single-user lifetimes** approach is achieved through “functionally durable materials, timeless style & care/repair services.” For example, US fashion company Elieen Fisher offers free repairs for clothing with missing buttons, broken zippers, or holes.
2. The **enabling of multiple-user lifetimes** approach is focused on giving new life opportunities to apparel across multiple users through rental services, peer-to-peer sharing platforms, resale, charity, and branded resale. For example, Rent the Runway is

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<sup>12</sup> Wendy Parkins. “Out of Time: Fast Subjects and Slow Living.” *Time & Society* 13, no. 2–3 (September 1, 2004): 363–82. <https://doi.org/10.1177/0961463X04045662>.

<sup>13</sup> Kate Goldsworthy. “Circular Speeds: A Review of Fast & Slow Sustainable Design Approaches for Fashion & Textile Applications,” 2018. ISSN 2051-1787

an online service providing designer dress and accessory rentals. This approach also encompasses thrift stores like Goodwill and Salvation Army, among others.

3. The **product reconstruction and recycling** approach “reinvents existing products through design intervention,” which includes upcycling of pre-consumer and post-consumer textile waste, product reconstruction, remanufacture, and mechanical recycling. This approach excludes recycling through intervention of chemicals, heat, and electricity.

In this thesis, I limit the scope of discussion to innovative business models employing the latter two approaches. By doing so, I intend to explore the economic opportunities involved with creating additional value for consumers while simultaneously drawing on the circular economy principle of the extension of product longevity.

#### Relevant Definitions and Distinctions

As with many other industries in the digital age, the apparel industry operates at various, evolving levels. In this paper, I discuss and analyze the modern and future states of the secondhand apparel sector in respect to business models and consumer marketing. The broader landscape of retail has developed dramatically in the 21st century through the Internet and application of intelligent technologies in operations, logistics, and marketing. Below are current definitions of terms, as well as distinctions, that will be important to understanding later chapters.

A **channel** refers to the physical or digital path taken by a product or service to reach a consumer. Consumers have multiple options when choosing the channel through which they receive a product or service. The most relevant distinction is that between online and offline retail. **Online retail**, commonly referred to as e-commerce, does not require that a customer

leaves their home to complete a purchase and receive their product or service. A multichannel experience may occur if a customer initiates a purchase on one channel, for example online, and then drives to a physical storefront, a second channel, to receive their product or service.

Some apparel companies have leveraged the development of online channels to manufacture a product then sell directly to the consumer, bypassing third-party retailers like brick-and-mortar value chains or online department stores. Examples of direct-to-consumer apparel specialists include Warby Parker, Everlane, and Outdoor Voices. Such business models raise questions regarding the reporting and analysis of apparel retail and manufacturing. The \$5.33 trillion **retail sector** of the United States refers to the vast range of industries and merchandisers engaging in the sale of goods and services to consumers.<sup>14</sup> Today, retail ranges from brick-and-mortar value chains, such as Walmart and Target, to mom-and-pop shops, and to hospitality, such as restaurants and hotels.

As the paths of goods and services to consumers continue to evolve and as firms expand operations to take on various roles, the distinction between retailers and wholesalers has become increasingly unclear. The \$370 billion United States **apparel industry** is made up of firms that design and manufacture clothing articles. Historically, wholesalers comprised this industry, selling manufactured clothing items to retailers who would then sell to consumers.

This paper analyzes apparel business models through groupings of modern apparel sectors to avoid confusion.

An **apparel sector**, or sector, refers to a collection of businesses within the spectrum of the retail sector and apparel industry that share common operational characteristics. Several

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<sup>14</sup> “Retail Sales Forecast U.S. 2012-2024.” Accessed February 1, 2021. <https://www-statista-com.ezproxy.lib.utexas.edu/statistics/443495/total-us-retail-sales/>.

relevant sectors include luxury, department stores, value chains, direct-to-consumer, off-price, rental, fast fashion, and secondhand. A single product may first reach a customer through a department store such as Nordstrom and eventually be resold to another customer through a secondhand business such as Plato's Closet. Both sales would constitute added revenue to each respective sector. The **secondhand apparel sector** refers to the revenues generated through the sale of apparel through resale or traditional thrift and donation. **Resale** includes more curated, higher-end products through outlets such as TheRealReal, Plato's Closet, or ThredUP. Resale occurs through brick-and-mortar, and most recently, online. **Thrift and donation** include outlets such as Goodwill, Salvation Army, as well as garage sales and flea markets. Thrift and donation may also occur through an online channel.

The apparel sold through the secondhand apparel sector is typically regarded as a type of textile waste, or garments deemed unusable for its original purpose by the owner. Two types of textile waste circulate through the secondhand apparel sector: post-consumer textile waste and pre-consumer textile waste.<sup>15</sup> **Post-consumer clothing waste**, both used and unused, has been owned and discarded by consumers. **Pre-consumer textile waste** can be liquidated or donated to the secondhand apparel market in the forms of unsold clothing, such as overstock and returns, or clothing samples from the design and production of clothing.

#### Framing the Thesis Questions

In framing the thesis questions of this paper, this section reviews the modern landscape of the apparel sector, and more specifically, apparel circulating towards and throughout the secondhand apparel market. First, I briefly discuss the importance of consumer tastes and

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<sup>15</sup> "The Ecochic Design Award Zero-Waste Design Technique," 2017. [www.ecochicdesignaward.com](http://www.ecochicdesignaward.com).



preference as a primary demand driver in the broader apparel sector. Next, I draw on secondary marketing research to highlight the forecasted growth in secondhand apparel consumption. To properly assess consumer preferences, as well as the severity of overproduction within the apparel sector, this section provides a macro-environmental context of the apparel demand disruption caused by COVID-19. I then emphasize the economic opportunity in maximizing the utility of clothing by appealing to consumers through product and service enhancements. The consequential purpose of this thesis seeks to understand how firms can align marketing strategies with consumer needs to increase the perceived utility of clothing while simultaneously extending product longevity.

#### *Primary Demand Driver in Apparel Retail & Manufacturing*

The modern apparel industry notoriously operates according to consumer tastes and preferences. In its moderately fragmented, highly competitive environment, consumer preference is a key determinant of demand. Throughout the industry, retailers and merchandisers vie to extrude and interpret these preferences, which lead to purchasing behaviors. Once data is deciphered, the competitors of apparel retail will strategically align their products to appeal to these consumer preferences through the deployment of marketing techniques that address the stages of the consumer decision process. Coupled with highly innovative and efficient operations, industry leaders such as H&M and Inditex, the multinational parent company of eight brands including Zara, have emerged as masters of consumer data collection and marketing alignment, raking in tens of billions of dollars annually.<sup>16</sup>

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<sup>16</sup> “Sales of Major Apparel Manufacturers/Retailers Worldwide 2019.” Accessed April 20, 2021. <https://www-statista-com.ezproxy.lib.utexas.edu/statistics/242114/sales-of-the-leading-10-apparel-retailers-worldwide/>.

### *Secondhand Apparel Consumption*

Mintel conducted a consumer survey in February 2020, before COVID-19 was declared a global pandemic. This survey asked 2,000 internet users ages 18+ whether they had acquired everyday clothing such as jeans or shirts in the past 12 months and how they got these items. Of those who had acquired everyday clothing in the past 12 months, 18% reported they had purchased secondhand. Most notably, 23% of respondents ages 25-44 reported purchasing everyday clothes secondhand, while only 9% of respondents ages 55-64 reported purchasing the same apparel secondhand.<sup>17</sup>

According to ThredUP's 2020 Fashion Resale Report, the secondhand market is set to experience unprecedented growth over the next five years (Figure 2), and is expected to stem from the 39% compounded annual growth rate of the predominantly online resale sector. The exposure of secondhand apparel to the world of e-commerce has dramatically shifted the trajectory of the collective secondhand apparel market, which has historically operated through fragmented offline sellers.

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<sup>17</sup> "The Circular Economy - US - February 2020 - Demographics - Mintel." Accessed March 1, 2021. <https://data-mintel.com.ezproxy.lib.utexas.edu/databook/986870/question/Q8/code/2?country=3&d=gender&d=age>.

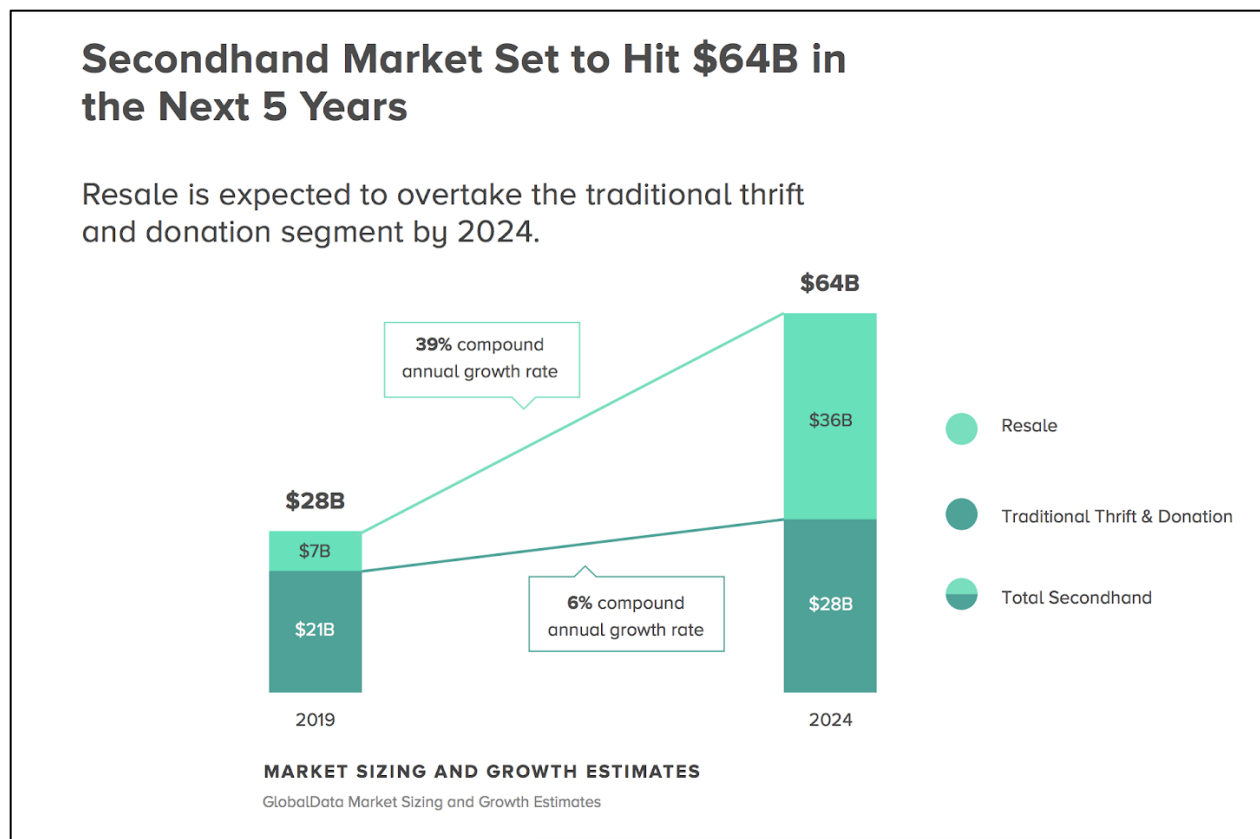


Figure 2. *Secondhand Market Set to Hit \$64B in the Next 5 Years*. “2020 Fashion Resale Market and Trend Report.” n.d. Accessed February 1, 2021. <https://www.thredup.com/resale/>.

### *Macro-Environmental Context*

In January 2020, the first case of COVID-19 was confirmed in the United States. Two months later, the World Health Organization declared COVID-19 a global pandemic. Businesses deemed non-essential, such as those geared toward recreation and entertainment, were forced to close or operate remotely due to state-mandated stay-at-home orders. During this closure period, retailers relied heavily on online channels, but also faced challenges with logistics and operations as factories and shipping facilities became strained.

With COVID-19 came the unavoidable and overwhelming effects of shifting social tendencies as a result of increased health consciousness. Even as states began rolling back stay-at-home orders at the beginning of June 2020, consumers remained reluctant to return to brick-

and-mortar shopping for fear of contracting the contagious virus. The economic downturn and high unemployment rates spurred by the pandemic also forced consumers to become more frugal, in turn reducing budgets on non-essential spending, including new apparel. Without weddings, holiday parties, business meetings, music festivals, and school dances to attend, consumers had fewer and fewer reasons to dress up and purchase new formal clothing. The frequency of apparel purchases dramatically decreased among consumers in the absence of necessity. Of those who did purchase clothing, value and price appeared to be a main driver.<sup>18</sup> The “work-from-home” trend also helped fuel a movement towards the casualization of fashion. Not only did consumers begin predominantly seeking value, but also comfortability as they found themselves spending a majority of their time on Zoom video calls and online workout classes from the comfort and safety of home.

Across the apparel sector, fashion companies became overwhelmed with unsold inventory due to demand forecast disruptions as a result of COVID-19. Good360, a US NGO that collects excess merchandise and distributes it to charities, discount stores, and liquidators, reported in August 2020 that they had already received tens of millions of dollars’ worth of donations from brands, and were expending more than \$660 millions in donations for the year, double the amount from the previous year.<sup>19</sup> In April 2021, I reached out to Matt Conelly, Chief Operating Officer at Good360, who informed me that “the forecasts were exceeded with over

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<sup>18</sup> “Men’s & Women’s Clothing: Incl Impact of COVID-19 - US - September 2020 - Market Research Report.” n.d. Accessed March 7, 2021. <https://reports.mintel.com/display/987156/>.

<sup>19</sup> Matthew Dalton. “What Happens to All of the Unsold Clothes?” *Wall Street Journal*, August 13, 2020, sec. Business. <https://www.wsj.com/articles/fashions-big-question-what-to-do-with-all-those-unsold-clothes-11597328695>.

\$800M [USD] of product distributed last year and on a run rate of over \$1B [USD] this year.”<sup>20</sup>

In recent years, fashion companies have been scrutinized for destroying and heavily discounting unsold inventory to the point of becoming waste. With the virtual eradication of at least an entire fashion season, COVID-19 continues to exacerbate the issue of pre-consumer textile waste entering the secondhand apparel market.

### *The Unrealized Value of Discarded Apparel*

Some critics argue that the consumption of secondhand apparel does not directly address environmental concerns, but instead perpetuates the cycle of excessive production by enticing consumers through extraordinarily low prices.<sup>21</sup> Others disparage the used clothing trade as a mere extension of capitalism, causing more harm than good by offering consumers a false sense of security in their consumption habits, and fashion companies a convenient method of disposal to encourage further production.<sup>22</sup> However, these criticisms can be reframed to divulge the issue that is the unrealized value and utility of most clothing at various stages of use.

According to the Secondary Materials and Recycled Textiles Association (SMART), nearly 95% of used clothing and textiles sent to landfills every year can be reused or recycled.<sup>23</sup> The issue does not lie in the lack of durable and wearable clothing, but perhaps, the perceptions

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<sup>20</sup> Matt Conelly. 2021. Interview with Matt Conelly.

<sup>21</sup> GreenBiz. “Booming Secondhand Clothing Sales Could Help Curb the Sustainability Crisis in Fashion | Greenbiz.” n.d. Accessed March 26, 2021. <https://www.greenbiz.com/article/booming-secondhand-clothing-sales-could-help-curb-sustainability-crisis-fashion>.

<sup>22</sup> “Op-Ed | The Trouble with Second-Hand Clothes.” 2013. The Business of Fashion. November 10, 2013. <https://www.businessoffashion.com/opinions/news-analysis/op-ed-the-trouble-with-second-hand-clothes>.

<sup>23</sup> Secondary Materials and Recycled Textiles. n.d. “Who Is SMART?” [https://www.smartasn.org/SMARTASN/assets/File/resources/SMART\\_PressKitOnline.pdf](https://www.smartasn.org/SMARTASN/assets/File/resources/SMART_PressKitOnline.pdf).

and unmet needs of consumers when shopping for secondhand apparel. In addition to the negative environmental impact of massive apparel disposal is the economic loss of an estimated \$460 billion worth of underutilized clothing being discarded from the system every year.<sup>24</sup>

Consequently, this paper will explore the emerging methods of capturing the unrealized value of apparel at various stages of use by appealing to consumer needs.

### *Thesis Questions*

Prior to evaluating the economic opportunities within fashion's circular economy, it is important to understand why a consumer might be interested in purchasing sustainable apparel to begin with. I first analyze the psychology of purchasing secondhand apparel through a literature review of consumer behavior theory and motivations. I then draw on several case studies of novel businesses promoting the extension of apparel product longevity: online resale, upcycling, and rental services. I limit the scope of discussion to these three methods to allow for comparable findings that will illuminate the design for a survey administered to a US consumer panel. Through a conjoint analysis research study, I empirically analyze how consumers value product and service features when shopping for sustainable apparel.

*The central purpose of this thesis is to determine how firms should position product offerings to increase the perceived utility of clothing and extend product longevity.* In answering this question, I seek to understand the following:

1. What consumer needs motivate the purchase of secondhand apparel?
2. What product and service attributes promote consumer purchase behavior of sustainable fashion?

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<sup>24</sup> "A New Textile's Economy: Redesigning Fashion's Future."  
<http://www.ellenmacarthurfoundation.org/publications>, 36.

And finally,

3. How do consumers value enhanced products and services as they relate to sustainable fashion? And, what is the actual utility of clothing at various stages of use?

## Chapter 2: The Psychology of Secondhand Apparel Consumption

“Consumers are people; and people are driven by the same core needs,” says social psychologist Erica Carranza, Ph.D., Vice President of Consumer Psychology at marketing research firm, Chadwick Martin Bailey.<sup>25</sup> In the world of retail, it is generally understood that consumers’ functional needs are consistent, but various factors may influence which needs are given more attention in forming the decision to make a purchase. In this chapter, I explore the consumer needs and transpiring motivations relevant to the exchange of secondhand goods, including utilitarian benefit and hedonic benefit. I then expand on the more novel hedonic consumer needs recently being addressed by the secondhand apparel market, including ethical personal value and need for uniqueness. Within the exploration of ethical personal value as hedonic benefit, I limit the scope of ethical personal value to environmental sustainability and illuminate the “green” attitude-behavior gap.

### Consumer Behavior Theories

Multiple theories exist relating to consumer behavior. This section integrates two of the most widely used consumer behavior theories in the study of marketing: Maslow’s Hierarchy of Needs and the Consumer Decision Process Theory.<sup>26</sup>

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<sup>25</sup> Pamela Danziger. “Consumer Psychology Is The Only Constant In A Changing Retail Market.” Forbes. Accessed March 17, 2021. <https://www.forbes.com/sites/pamdanziger/2020/08/23/consumer-psychology-is-the-only-constant-in-a-changing-retail-market/>.

<sup>26</sup> “The Consumer Decision Process | Principles of Marketing.” n.d. Accessed May 9, 2021. <https://courses.lumenlearning.com/trident-boundlessmarketing/chapter/the-consumer-decision-process/>.



### *Maslow's Hierarchy of Needs*

To determine why people make purchases, it is important to understand the basis of human needs. While there are many factors that may influence a consumer decision, motivation, defined as “a process governing choices made by persons among alternative forms of voluntary activity,” is most significant when exploring changes within consumer decision making.<sup>27</sup> When a consumer makes a conscious decision that results in a changed behavior from typical behavior, it is believed that the consumer is influenced by the motivation of a potential benefit in fulfilling their needs.

One of the best known paradigms for explaining motives is the popular theory of Abraham Maslow, in which a five-level pyramid is employed to represent the hierarchy of human needs.<sup>28</sup> At the foundation of the pyramid are the physiological needs, such as access to food, shelter, and water. Next, is safety and protection from physical or psychological danger. Then, there is social need for affection and belonging, which can be fulfilled through relationships with others. Next, a person will seek trust, recognition, or a good reputation in order to fulfill the need for esteem, and therefore, relevance in society. Last of all, Maslow posits that a person enters the stage of self-actualization once the four preceding needs are fulfilled, and it is in this step that a person achieves the need for development, creativity, and personal growth. A person will not fulfill a higher order need until preceding basic needs are met.

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<sup>27</sup> Victor Vroom. *Work and Motivation*. Wiley, 1964.

<sup>28</sup>A.H. Maslow. “A Theory of Human Motivation.” *Psychological Review* 50 (4): 370–96. <https://doi.org/10.1037/h0054346>.

### *Consumer Decision Process Theory*

The consumer decision process describes the steps taken by a consumer before, during, and after making a purchase. Engel, Blackwell, and Miniard outline the most widely accepted framework of a consumer's journey to acquire and use a good or service.<sup>29</sup> The first step, need recognition, is taken when a consumer realizes an unsatisfied need. Then, a consumer will search for information about options to fulfill the need. After finding information, a consumer might simultaneously evaluate alternative solutions according to conscious or subconscious criteria. After evaluation, a consumer may purchase a good or service if it is available. The final step is post-purchase behavior. Ideally, a satisfied customer becomes loyal to a brand, making subsequent purchases and spreading positive reviews, thereby positively influencing other customers. Alternatively, an unsatisfied customer will not make a subsequent purchase and may share negative reviews, discouraging other potential customers. The consumer decision process can also be influenced by various factors including marketing mix, psychological factors, social factors, and situational factors.

#### Existing and Emerging Consumer Motivations

In this section, I explore the varying motivations of consumers acquiring secondhand clothing. The motivation deriving from economic benefit has historically dictated consumption of secondhand apparel. As the market expands, consumers are addressing higher order needs through secondhand shopping. However, influential factors on the consumer decision process tend to play a greater role on attitudes deriving from higher order needs. This section explores the existing and emerging consumer motivations for purchasing secondhand apparel: utilitarian

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<sup>29</sup> James F. Engel et al., *Consumer behavior*. Miniard, 1986.

benefit and hedonic benefit, as well as ethical personal value and need for uniqueness as hedonic benefits.

### *Utilitarian Benefit*

The most fundamental purpose of clothing is to serve a physiological need for humans as protection from weather conditions. For example, a consumer identifies a need for a new coat in preparation for the winter season, but is not willing to spend too much money. While searching to fulfill a need, this consumer is simultaneously seeking an economic benefit, which may be derived through product acquisition, money management, and price appraisals.<sup>30</sup> Generally speaking, pre-owned clothing tends to list at a lower price compared to new alternatives because of the flaws, either presumed or apparent, associated with previous use. Further, price reduction of pre-owned clothing may, and often does, exceed actual value lost, thereby extending purchasing power to the consumer. The option to purchase a pre-owned winter coat from a thrift store may be deemed the most favorable solution to a thrifter interested in saving money for other expenditures. Driven by their conscious criteria of utility, the person may be willing to make a short-term sacrifice in marginal quality in favor of a long-term goal of economic benefit.

As for post-purchase behavior, a study conducted in 2019 investigated the role of perceived norms in influencing word-of-mouth recommendation behavior of online secondhand apparel shopping. The findings of this study indicate that high economic benefit promotes consumer willingness to recommend.<sup>31</sup> However, the results also found that among consumers

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<sup>30</sup> John Lastovicka, et al., 1999. "Lifestyle of the Tight and Frugal: Theory and Measurement." *Journal of Consumer Research* 26 (1): 85–98. <https://doi.org/10.1086/209552>.

<sup>31</sup> Carolyn J. Lo, et al., 2019. "To Tell or Not to Tell? The Roles of Perceived Norms and Self-Consciousness in Understanding Consumers' Willingness to Recommend Online Secondhand Apparel Shopping." *Psychology & Marketing* 36 (4): 287–304. <https://doi.org/10.1002/mar.21179>.

deriving economic benefit from secondhand shopping, highly self-conscious consumers are less willing to recommend secondhand apparel consumption due to a perceived social stigma. While the acceptance and popularity of secondhand shopping is increasing, these findings indicate a potential lingering discomfort involved with the final stage of consumer decision-making, perhaps due to fear of negative social reactions when shopping secondhand for economic reasons.

### *Hedonic Benefit*

In an ethnography of shopping published in 2005, two professors explored the relationship between the economic benefit of thrifting and the pursuit of thrift as a hedonistic experience. In *A Theory of Shopping*, Daniel Miller characterizes the two driving factors of everyday shopping as a dichotomy between utility, or provisional shopping, and pleasure, or hedonistic shopping.<sup>32</sup> Provisional shopping is conducted primarily out of necessity driven by economic benefit, and as a result, most individual desires become suppressed. Miller identifies thrifting as provisional shopping. Alternatively, with hedonistic shopping, the experience satisfies particular individual desires separate from economic benefit through “materialistic self-indulgence.” In other words, hedonistic shopping is considered to be a treat to the consumer resulting in pleasure. According to Miller, the two shopping experiences do not overlap. However, this study explores the relationship between thrift and treat. The researchers found that thrift shopping allows consumers to fulfill hedonistic wants and desires by purchasing goods such as thrifted luxury and collectable items, which constitutes a means to pleasure.<sup>33</sup> It was also

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<sup>32</sup> Daniel Miller. *A Theory of Shopping*. Cornell University Press, 1998. 287–304. <https://doi.org/10.1002/mar.21179>.

<sup>33</sup> “Thrift Shopping: Combining Utilitarian Thrift and Hedonic Treat Benefits.” n.d. Accessed March 18, 2021.

found that the “pursuit of the unexpected” involved with the thrifting experience motivated respondents to purchase items. In conjunction with the economic benefit of thrifting, respondents were able to justify self-indulgences while spending more freely. The ability to attain hedonic benefit through secondhand shopping gives way to the exploration of consumer needs apart from those deriving solely from basic physiological necessity and economic benefit.

### Ethical Personal Value

As consumers become concerned with the effects of overproduction on the environment through awareness on social media and news, the ethical consumerism movement has gained sizable traction over recent years. Ethical hedonism is a specific version of hedonism in which the moral rightness of an act is a function of the pleasure the act produces.<sup>34</sup> A self-actualizing consumer may contribute to their own personal growth by acquiring goods with ethical benefit, such as sustainably sourced apparel. It should be noted that the increased interest in sustainable efforts gives rise to debate surrounding the usage, meaning, and marketing tactics involving the word “sustainable.” It is important to have a clear understanding regarding the scope of “green” and sustainable apparel product offerings in the following analysis of the relationship between ethical personal values and consumer behavior.

Sustainability in the context of fashion is best understood as a spectrum in which merchandisers and producers lie based on interdependent social, economic, and environmental factors. Sustainable concerns may refer to water pollution and carbon emissions, as well as poor working conditions and exploitative labor. Figure 3 details seven forms of “more sustainable” fashion. While all strategies are important to implementing a more sustainable industry, I limit

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<sup>34</sup> J. J. Tilley. 2012. “Hedonism.” In *Encyclopedia of Applied Ethics (Second Edition)*, edited by Ruth Chadwick, 566–73. San Diego: Academic Press. <https://doi.org/10.1016/B978-0-12-373932-2.00205-2>.

the scope of this thesis and the usage of the term “sustainable” to the environmental issues addressed through the forms of Repair, Redesign & Upcycle (No. 5); Rent, Lease & Swap (No. 6); and Secondhand & Vintage (No. 7) in Figure 3. It should be noted that due to the nascency of the apparel rental market, the research on consumer behavior relating to apparel rental is limited, so this chapter reduces its scope to the psychology of purchasing secondhand apparel.

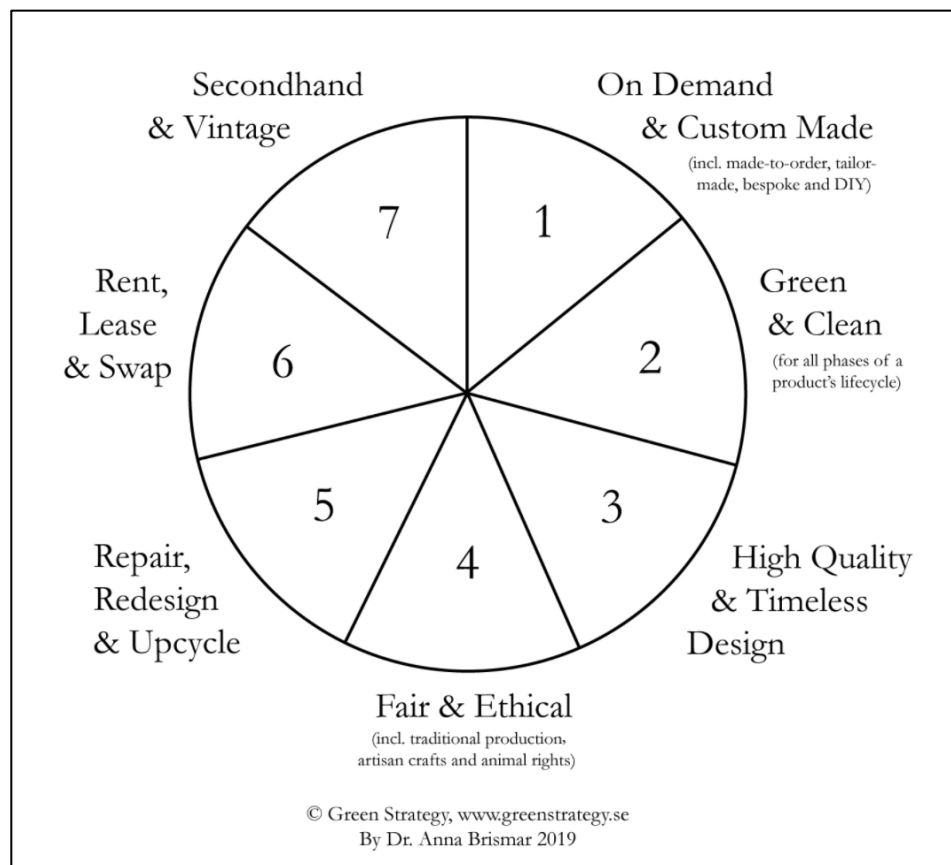


Figure 3. “SEVEN FORMS OF SUSTAINABLE FASHION.” n.d. Accessed March 31, 2021. <https://www.greenstrategy.se/sustainable-fashion/seven-forms-of-sustainable-fashion/>.

Younger shoppers, in particular, have been leading the growing interest in sustainable products. In 2020, McKinsey & Company found that 30% of Generation Z, say they are willing to pay more for products that have the least negative impact on the environment.<sup>35</sup> And, in 2020,

<sup>35</sup> Sarah Kent. 2021. “The Sustainability Gap.” The Business of Fashion Ltd.

Lyst, a global fashion search engine, reported a 37% increase in searches for sustainability-related keywords.<sup>36</sup> Although the increasing “green” values of consumers are considered a major factor driving the unprecedented growth of the secondhand apparel market, actual consumer purchase behavior deviates substantially from “green” attitudes. This phenomenon, referred to as the attitude-behavior gap, is the result of various influences on the consumer decision process.

In *The Psychology of Sustainability*, Paul Sparks explores the discrepancies between attitudes and behavior in the context of sustainability. While attitude corresponds to the measure of behavior, the relationship is by no means perfectly correlated. Factors such as the existence of other competing attitudes and those open to subsequent modification during the evaluation stage of the consumer decision process contribute to the existence of the attitude-behavior gap.<sup>37</sup> For example, one may express concern for their health while simultaneously engaging in unhealthy behaviors, or may forego a healthy behavior in favor of a more accessible method. But while one’s health-related attitudes pertain directly to their own individual needs, environmental-related values are less salient to the direct needs of the individual. The weaker the importance of a personal value, such as sustainability, the more vulnerable the purchase behavior is to other factors, such as those illustrated in Figure 4.

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<sup>36</sup> “The 2020 Conscious Fashion Report.” 2020. *Lyst Insights* (blog). April 2, 2020. <https://www.lyst.com/data/2020-conscious-fashion-report/>.

<sup>37</sup> Paul Sparks. 2014. “The Psychology of Sustainability.” In *Encouraging Sustainable Behavior*. Psychology Press.

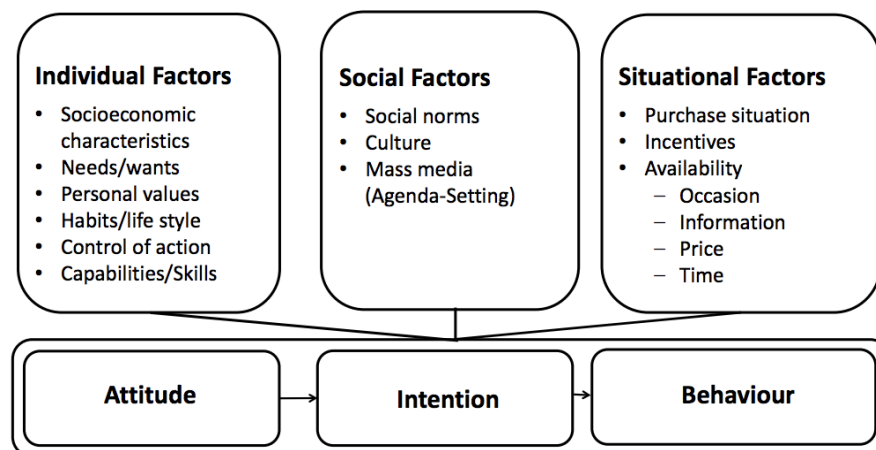


Figure 4. Terlau, Wiltrud, and Darya Hirsch. 2015. “Sustainable Consumption and the Attitude-Behaviour-Gap Phenomenon - Causes and Measurements towards a Sustainable Development.” *International Journal on Food System Dynamics* 6 (3): 159–74. <https://doi.org/10.18461/ijfsd.v6i3.634>.

Sparks draws on the notions of collective action and morality in examining the “green” consumer attitude-behavior gap. Here, the two themes serve to elucidate the relationship of actions with those who affect and are affected by an individual’s actions. Because environmental issues affect the wellbeing of others and the environment, morality is implicated. As for collective action, environmental movements require the collective cooperation of other individuals in order to implement change. A rational person realizes their individual “good” action will only create change if others behave similarly. The personal value justification of consumption, therefore, becomes a type of political consumption in which the choices based on attitudes regarding “justice, fairness, or non-economic issues” create change “with the goal of changing objectionable institutional or market practices” through collective action.<sup>38</sup> However,

<sup>38</sup> M. Micheletti. 2003. *Political Virtue and Shopping: Individuals, Consumerism, and Collective Action*. Springer.



actual purchase behavior may not occur if a consumer does not truly believe their decision will lead to positive change.

There are considerable limitations associated with the study of purchase behavior and political consumption. In attitude research, socially desirable responses become inflated by the respondents' desires to make a good impression on the researcher or to conform to social norms.<sup>39</sup> The study of explicit attitude is not the most valid tool for predicting purchase behavior because the actual purchase experience of the consumer is based on multi-attribute decision making, which is sensitive to situational factors affecting the consumer buying decision such as purchase situation, incentives, and availability.<sup>40</sup> In researching the attitude-behavior gap of sustainable product offerings, it is important to study the motives of consumers in conjunction with various influences on the consumer buying situation.

#### Need for Uniqueness

Consumers may choose to shop secondhand for the purpose of feeling differentiated from others, representing their own uniqueness through displayed material objects. A consumer's need for uniqueness has been defined as "the trait of pursuing differentness relative to others through the acquisition, utilization and disposition of consumer goods for the purpose of enhancing one's social and self-image."<sup>41</sup> For some consumers, the pursuit of uniqueness serves to develop one's social identity, or esteem, and/or personal identity, or self-actualization. A person who considers

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<sup>39</sup> Maryon King, et al., 2000. "Social Desirability Bias: A Neglected Aspect of Validity Testing."

<sup>40</sup> Patrick De Pelsmacker, et al., 2005. "Do Consumers Care about Ethics? Willingness to Pay for Fair-Trade Coffee." *Journal of Consumer Affairs* 39 (2): 363–85. <https://doi.org/10.1111/j.1745-6606.2005.00019.x>.

<sup>41</sup> Kelly Tepper Tian, et al., 2001. "Consumers' Need for Uniqueness: Scale Development and Validation." *Journal of Consumer Research* 28 (1): 50–66. <https://doi.org/10.1086/321947>.

their degree of uniqueness insufficient may seek products to achieve a more desirable level of uniqueness. Consumers who value uniqueness often have a tendency to prefer items that others may not have access to, and so, the relationship between the need for uniqueness and product scarcity is worthy of discussion.

The commodity theory supports the assumption that product scarcity drives consumer desirability, and “any commodity will be valued to the extent which it is unavailable.”<sup>42</sup> In appealing to the consumer need for distinction, marketers in the apparel sector often communicate product scarcity through advertisements and familiar catch phrases such as “limited time only” and “while supplies last.” Multiple studies have found that the need for uniqueness plays a substantial role in preference for scarce commodities.<sup>43</sup> However, advertisements that exploit the desire for scarce goods may, in turn, create what has been called a “consumer Catch-22 carousel,” where consumers lose the derived sense of uniqueness if many others also acquire the same, so-called “limited edition” product.<sup>44</sup> If scarcity disappears, the consumer need for uniqueness becomes unfulfilled, and the cycle begins again.

Sellers of secondhand apparel, especially secondhand apparel representing vintage fashion, exhibit a potential advantage compared to mass producers of apparel in the marketing of unique and/or scarce products. The notion of vintage fashion describes a fashion style based on

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<sup>42</sup> Timothy C. Brock, et al., 1992. “Liberalization of Commodity Theory.” *Basic & Applied Social Psychology* 13 (1): 135–44. [https://doi.org/10.1207/s15324834basp1301\\_11](https://doi.org/10.1207/s15324834basp1301_11).

<sup>43</sup> Michael Lynn. 1991. “Scarcity Effects on Value: A Quantitative Review of the Commodity Theory Literature.” *Psychology and Marketing* 8 (1): 43–57. <http://search.proquest.com/docview/1308075778/citation/D06D018310334615PQ/1>.

<sup>44</sup> C.R. Snyder. 1992. “Product Scarcity by Need for Uniqueness Interaction: A Consumer Catch022 Carousel?” *Basic & Applied Social Psychology* 13 (1): 9–24. [https://doi.org/10.1207/s15324834basp1301\\_3](https://doi.org/10.1207/s15324834basp1301_3).

used or retro-style garments.<sup>45</sup> In a study of vintage clothing, respondents favored vintage clothing to mainstream fashion for distinguishing themselves and improving personal uniqueness.<sup>46</sup> Compared to mass produced apparel, vintage clothing appears more exclusive and unique. While not all secondhand apparel is truly vintage, and not all vintage apparel is secondhand, the popularization of the secondhand market has coincided with a looser interpretation of vintage fashion among consumers.

Though the most highly valued, true vintage items are typically at least 25 year old originals of designer labels or limited-edition offerings, the contemporary vintage style has been made achievable by consumers through nearly every sector of the apparel industry.<sup>47</sup> Through the revivalism of the vintage band t-shirt, an original 1994 Grateful Dead Denver Los Angeles Tour tee might be listed by an authenticated reseller for as much as \$400,<sup>48</sup> but the proliferation of the vintage tee trend has resulted in the mass production by fast fashion brands selling aesthetically similar, unauthentic tees for as little as \$15.<sup>49</sup> A consumer motivated by the desire for uniqueness may not feel as inclined to purchase the vintage-inspired, mass produced tee for lack of authenticity and scarcity, but may also be deterred from purchasing the authentic tee due to the cost. Somewhere between the un-authenticity of mass-produced apparel and the high price

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<sup>45</sup> Aleit Veenstra, et al., 2013. "It Is Not Old-Fashioned, It Is Vintage, Vintage Fashion and The Complexities of 21st Century Consumption Practices."

<sup>46</sup> K. Gladigau. (2008), "Shop till you drop: youth, distinction and identity in vintage clothing"

<sup>47</sup> Daniella Ryding, et al., 2018. *Vintage Luxury Fashion: Exploring the Rise of the Secondhand Clothing Trade*.

<sup>48</sup> "Vintage Grateful Dead Denver Los Angeles Tour Tie Dye 1994 Shirt | WyCo Vintage." n.d. Accessed April 3, 2021. <https://wycovintage.com/product/1994-grateful-dead-denver-los-angeles-tour-tie-dye-shirt/>.

<sup>49</sup> "Grateful Dead Graphic Tee | Forever 21."

tag of true vintage lies the potential appeal of carefully curated secondhand apparel communicating the benefits of vintage style - authenticity, nostalgia, and uniqueness.

### *Conclusion*

Environmental concerns and the popularization of vintage style are contributing to the expansion of the secondhand apparel market, unveiling the economic opportunity in addressing higher order consumer motivations such as ethical personal value and need for uniqueness. However, consumers seeking to fulfill higher order needs may forgo a sustainable purchase, such as a secondhand garment, in favor of another, environmentally unfavorable purchase during the evaluation stage of the consumer decision process. Consumers motivated by hedonic benefit have many options to evaluate in the highly competitive apparel sector. In addressing the attitude-behavior gap involved with sustainable product offerings, firms should focus on appealing to consumer motivations and improving controllable situational factors through compelling offerings and valued information.

### Chapter 3: Case Studies of Innovative Businesses Extending Apparel Longevity

In this chapter, I analyze five innovative business models successfully capturing the value of clothing through online resale, upcycling, and rental services: ThredUP, Depop, Patagonia's "ReCrafted" line, Mother's "60% Mother" capsule, and Rent the Runway. The case study method employed in this chapter serves to illuminate the economic opportunity involved with business models that extend apparel longevity. Elements of this chapter will highlight the attributes of apparel at various stages of use, as well as potential utility maximizing market offerings. The findings will inform the structure of the research methods employed in the next chapter.

#### Online Resale

Prior to 2014, the \$30 billion secondhand apparel market depended almost entirely on brick-and-mortar thrift and donation. Although well-established e-commerce platforms like eBay were facilitating peer-to-peer sales and breaking down geographical barriers within the exchange of secondhand goods, there were many inconveniences among the network of buyers and sellers in the absence of intermediaries.<sup>50</sup> As such, specialized apparel online retail platforms emerged. A closer look into the development of San Francisco based e-commerce company, ThredUP, and fashion marketplace, Depop, reveal how refined selections can create value for consumers - even in a relatively matured sector like secondhand apparel.

#### *ThredUP: Easy as Buying New*

At its early stage in 2012, sellers on ThredUP collectively earned \$800,000 reselling children's clothes through the online platform. But two years later, when women's apparel was

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<sup>50</sup> "ThredUp: Reinventing the Resale Business 20 Years after EBay." 2015. September 27, 2015. <https://www.dailyrepublic.com/all-dr-news/wires/business/thredup-reinventing-the-resale-business-20-years-after-ebay/>.

introduced and operations became more sophisticated, sellers earned a total of \$4.5 million selling their clothes without ever having to step foot in a brick-and-mortar store or facilitate an exchange with a buyer. In ThredUP's 2018 "Resale Report," their co-founder and CEO, James Reinhart, stated that "there is a powerful transformation of the modern closet happening," he states, "and resale is a key driver."<sup>51</sup> In a subsection titled, "Bye Bye Stigma: Thrift is Going Mainstream," ThredUP reported 44 million women shopped secondhand in 2017 compared to 25 million in 2016, a 76% increase from the previous year.

Much of ThredUP's success over the years has been attributed to the convenience of the process for both sellers and buyers on the platform. Rather than physically commuting to a local thrift store or communicating with a buyer on eBay to sell pre-owned clothing, sellers request a prepaid "Clean Out Kit" to fill their items in and send off to ThredUP facilities. ThredUP will either pay the seller upfront or through consignment if the items meet their standards, and any item not accepted gets donated or recycled, unless the seller has opted in with a "Return Assurance" fee. Then, ThredUp takes on all aspects of the selling and distribution role, including the photography, product description, packaging, shipping, and buyer transaction involved with each item. As of 2019, ThredUP was able to process up to 100,000 garments each day.<sup>52</sup>

At the other end of the exchange, ThredUP creates distinct value for its buyers with a wide selection of 35,000 brands and up to 40,000 new items listed each day. In addition to offering apparel at low prices, this online marketplace also leverages strict quality standards and a 12-point quality check system to ensure authenticity regarding the condition of the garments, thereby reducing consumer risk. Rather than sacrificing the time required to sift through racks of

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<sup>51</sup> "2018 Fashion Resale Market and Trend Report | ThredUP." n.d. Accessed May 10, 2021. [https://www.thredup.com/resale/2018?tswc\\_redir=true](https://www.thredup.com/resale/2018?tswc_redir=true).

<sup>52</sup> "Our Impact." Accessed March 7, 2021. <https://www.thredup.com/impact>.

clothing at a brick-and-mortar thrift store, consumers are able to narrow selections by size, price, brand, and category, among many other options. By making “the shopping experience indistinguishable from what it’s like to shop for new things” through an easily accessible, user friendly platform and high-quality product images and descriptions, ThredUP breaks down many of the inconvenient barriers imposed by traditional thrift and donation models while conserving the benefit of low-cost offerings.<sup>53</sup> ThredUP has strengthened customer agency by improving the situational factors involved with shopping for secondhand apparel. For consumers weighing many purchase options, the secondhand apparel sold on ThredUP becomes compelling in the sea of alternatives through the benefits of convenience, quality assurance, and value.

*Depop: Curating Vintage Style*

In 2011, Simon Beckerman, an Italian graphic designer and co-founder of Retrosuperfuture sunglasses, launched Depop as a mobile application to sell the products featured in PIG (People in Groove), the independent magazine he worked for at the time. The mobile application has since evolved to become a peer-to-peer marketplace for secondhand apparel. Founded in Milan and now based in London, Depop is garnering the profound interest of teens in America. Depop is capitalizing on the loose interpretation of vintage fashion, and Generation Z is jumping on the opportunity to buy, sell, and “discover unique fashion” (see Figure 5). Today, the platform has over 18 million registered users, including both buyers and sellers, 90% of which are below the age of 29 in the US.<sup>54</sup>

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<sup>53</sup>“Digital Forum: ThredUp Goes for Big-Time Growth – WWD.” n.d. Accessed February 22, 2021. <https://wwd.com/business-news/retail/digital-forum-thredup-50-100-billion-anthony-marino-1203308147/>.

<sup>54</sup> “U.S. Depop Users by Age 2020.” n.d. Statista. Accessed April 3, 2021. <https://www.statista.com/statistics/1125124/depop-us-users-age/>.

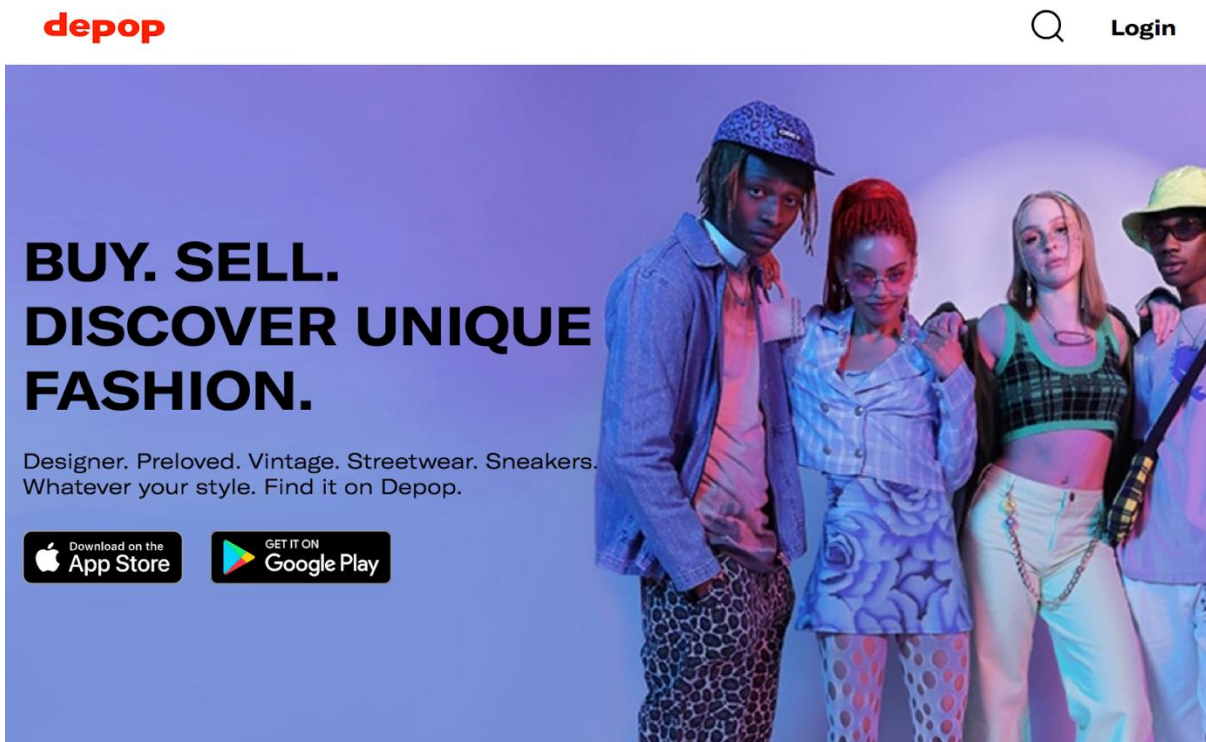


Figure 5. “Depop - Buy, Sell, Discover Unique Fashion.” n.d. Accessed April 18, 2021. <https://www.depop.com>.

Depop generates revenue by charging sellers a 10% flat rate fee on every item sold. The fashion marketplace’s capabilities have been widely referred to as a blend between eBay and Instagram, not only supporting the exchange of goods, but also personal aesthetics, styles, and ideas. Depop is comparatively much smaller than Instagram, which surpassed 1 billion users at the end of 2020. However, niche, community-centric platforms like Depop can appeal to audiences deterred by the advertisement overload on large audience platforms like Facebook, Instagram, and Twitter, where engagement rates are suffering, and audiences have become overwhelmed and overstimulated.<sup>55</sup>

<sup>55</sup> “The State of Fashion 2020.” 2020. *The Business of Fashion*, 108. <https://www.mckinsey.com/~media/mckinsey/industries/retail/our%20insights/the%20state%20of%20fashion%202020%20navigating%20uncertainty/the-state-of-fashion-2020-final.pdf>.



From January 2019 to January 2021, Depop experienced a 415% increase in monthly active users in the US.<sup>56</sup> During COVID-19, as consumers turned to online retail channels and the US unemployment rate peaked at an unprecedented level, Depop provided a promising venue for young entrepreneurs seeking extra income.<sup>57</sup> Many sellers have found success on Depop by purchasing apparel items from secondhand stores or reselling garments from their own wardrobes, then styling and staging apparel through photoshoots, and finally, uploading the images to Depop with a formal description of the items and prices. In February 2021, Teen Vogue published a series of conversations with seven successful Black Depop designers and sellers. Eighteen-year-old Depop seller, Derrick Griggs, describes their Depop page as a “curate(d) line of handpicked vintage clothing through (their) own aesthetic lens.”<sup>58</sup> While each Depop page tells a different story depending on each seller’s “aesthetic lens,” a commonality emerges through the interviews: “unique” and “eye-catching” pieces that “stand out” are what sell best.

Depop sellers are also leveraging other social media opportunities to promote unique apparel in correspondence to emerging vintage styles. A symbiotic relationship between Depop and TikTok, the short video-sharing social networking service owned by Chinese company ByteDance, transpired a vintage “trend funnel” during COVID-19. This quickly gave rise to vintage fashion styles like cottagecore, inspired by a romanticized interpretation of rural life, and

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<sup>56</sup> “Depop Monthly Active Users U.S. 2017-2021.” n.d. Statista. Accessed April 11, 2021. <https://www-statista-com.ezproxy.lib.utexas.edu/statistics/1218235/depop-monthly-active-users-us/>.

<sup>57</sup> Gene Falk, et al., “Unemployment Rates During the COVID-19 Pandemic: In Brief,” 16.

<sup>58</sup> Asia Milia Ware. n.d. “7 Black Depop Sellers On Their Success.” Teen Vogue. Accessed April 12, 2021. <https://www.teenvogue.com/story/7-black-depop-sellers-on-their-success>.

Y2K fashion, based on early 2000s style. Between March and August, searches for the term “cottagecore” were up 900 percent.<sup>59</sup> Yazmin How, TikTok’s content lead, explains:

“If your favorite [TikTok] creators changes their aesthetic due to a particular trend, a whole style can be born out of it. The fashion industry is no longer the only voice directing the new season’s trends. People are tapping into TikTok to see what emerging styles are ‘in’ and what previously popular trends are coming back around.”<sup>60</sup>

TikTok has become one of the fastest-growing apps worldwide through content creation genres ranging from dance routines to cooking recipes. Because TikTok’s “For You” algorithm is customized to each user’s past viewing behavior and interests, the platform is able to specifically target individuals and serve as an auspicious venue for re-emerging fashion trends based on vintage styles. On the fashion side of TikTok, users will often discover styling tips, outfits of the day, and thrift store hauls. Upon reaching a Depop seller’s TikTok page, users can browse the creator’s style and be funneled to Depop to make a purchase. As it becomes increasingly difficult to excite and inspire audiences, genuine influencers who tell an authentic story are high in demand, and TikTok creators are capitalizing on the added appeal of transparent storytelling.<sup>61</sup> The cross-pollination between the two platforms allow influencers to share their candid style with viewers, through both digital content and purchasable, one-of-a-kind apparel.

Depop sellers provide additional value to consumers motivated by the need for uniqueness by curating one-of-a-kind pieces to represent vintage style. A consumer may become aware of a vintage style through social media, then consequently gain interest in purchasing a

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<sup>59</sup> Lucy Maguire, n.d. “From TikTok to Depop: Fashion’s New Trend Funnel.” Vogue Business. Accessed April 18, 2021. <https://www.voguebusiness.com/fashion/from-tiktok-to-depop-fashions-new-trend-funnel>.

<sup>60</sup> Lucy Maguire, n.d. “From TikTok to Depop: Fashion’s New Trend Funnel.”

<sup>61</sup> “The State of Fashion 2020.” 2020. *The Business of Fashion*, 108.

secondhand vintage style garment, but the barriers of time and a creative lens may weaken actual purchase behavior. In curating a selection of garments, Depop curators are resonating with consumers seeking to enhance social and self-image through the acquisition of scarce, unique items.

### Upcycling

The apparel upcycling method directly enhances the value of secondhand apparel products through redesign and reconstruction. Upcycling has been described as:

1. A process in which the value/quality of a product is improved by making a superior product;
2. giving new value to materials that are either discarded, or are not being used anymore;
3. and repurposing lower-value items (such as a neck scarf) to construct a higher-value end use item (such as a wrap skirt or halter top).<sup>62</sup>

Upcycled products can appeal to consumers due to past identity product salience, or the awareness of a product's past identity as a contextual story cue. Through redesign and transformation, upcycled products escape the stigma of formerly depreciated value to elicit a persuasive biographical story.<sup>63</sup> In sharing a product's past identity, a consumer engages in inferential narrative processing, drawing on their own personal knowledge and imagination to create a story.<sup>64</sup> A consumer's self-inferred narrative regarding an object leads to its perceived uniqueness. Past identity salient, and thus, unique objects are likely to motivate purchases. In

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<sup>62</sup> Manoj Kumar Paras, et al., 2016. "A State-of-the-Art Literature Review of Upcycling: A Clothing Industry Perspective." In , 121. Editura Acreditata de Cncsis Bucuresti. <http://urn.kb.se/resolve?urn=urn:nbn:se:hb:diva-11114>.

<sup>63</sup> Karen Page Winterich, et al., 2019. "Knowing What It Makes: How Product Transformation Salience Increases Recycling." n.d. Accessed May 2, 2021. <https://journals.sagepub.com/doi/abs/10.1177/0022242919842167>.

<sup>64</sup> Richard J. Gerrig, *Experiencing Narrative Worlds : on the Psychological Activities of Reading* / Richard J. Gerrig. New York, New York ;: Routledge, 2018.

2019, marketing researchers studied the consumer motivations associated with the demand for upcycled products. In this study, the researchers observed quadruple the revenue at an upcycling shop when a products' past identities were made salient.<sup>65</sup>

Patagonia's ReCrafted Line and Mother's 60% Mother Capsule are two upcycling collections which source material from the secondhand apparel market in the forms of pre-consumer and post-consumer textile waste. In analyzing these product lines, I discuss the viability of upcycling as a business model and additional benefit of positive brand image control. The following case studies demonstrate how apparel companies can expand into upcycling by leveraging existing resources and increasing consumer willingness to pay for previously devalued apparel.

#### *Patagonia - ReCrafted Line: Post-Consumer Made Premium*

Patagonia is an American outdoor clothing and gear company, founded in 1973 by Yvon Chouinard and based in Ventura, California. Today, Patagonia is widely recognized as a "green" retail company and advocate for sustainable consumption and social responsibility. In 2019, Patagonia launched its premium upcycling line, ReCrafted, producing over 10,000 one-of-a-kind jackets, bags, and sweaters from post-consumer Patagonia products. The venture began as somewhat of an experiment, says Alex Kremer, head of Patagonia's used gear business, but the ReCrafted line has since become a major success.<sup>66</sup>

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<sup>65</sup> Bernadette Kamleitner, et al., 2019. "A Cinderella Story: How Past Identity Salience Boosts Demand for Repurposed Products." *Journal of Marketing* 83 (6): 76–92. <https://doi.org/10.1177/0022242919872156>.

<sup>66</sup> Elizabeth Segran. 2021. "Patagonia Has Had Enormous Success with Upcycled Clothing. Could Other Brands Follow?"

In sourcing the post-consumer apparel used for ReCrafted, Patagonia leverages an in-house trade-in program called Worn Wear, which incentivizes customers to send in gently used Patagonia clothing in exchange for credit toward purchases in Patagonia retail stores. Not only does Worn Wear benefit the company by promoting additional purchases, but the reuptake also contributes to the control of brand image and pricing of Patagonia products in the secondhand apparel market. In strategic marketing, it is generally understood that if a recognizable brand enters the secondhand apparel market at a deep discount, a company risks dilution of brand image over time with the association of poor quality in the minds of consumers.<sup>67</sup> Collectively, Worn Wear and ReCrafted provide an opportunity for Patagonia to maintain brand image control while generating an additional revenue stream on existing products. Worn Wear sorts the gathered inventory according to product viability, sets aside damaged articles to upcycle through ReCrafted, then resells good condition items on the Worn Wear online store.<sup>68</sup> Where the average cost of a women's coat is \$9.99 at Goodwill,<sup>69</sup> Worn Wear maintains a higher value for used Patagonia coats, with prices typically representing 50% of the good's original price, depending on condition and style.

The ReCrafted upcycling line, on the other hand, restores and enhances Patagonia products to frame the garments as premium offerings. Though upcycling does not require new material generation nor cutting-edge technology, the process does incur additional manufacturing costs. In order to make use of garments at various stages of use and damage through repair,

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<sup>67</sup> Danijela Mandić. 2009. "Long-Term Impact of Sales Promotion on Brand Image," 238.

<sup>68</sup> "Worn Wear - Used Patagonia Clothing & Gear." n.d. Accessed April 20, 2021. <https://wornwear.patagonia.com>.

<sup>69</sup> "Price List." n.d. *Goodwill - Southern Piedmont* (blog). Accessed May 10, 2021. <https://goodwillsp.org/shop/price-list/>.

restructure, and design techniques, the upcycling approach calls for novel approaches to production. A manufacturing process that takes on the task of individually restructuring pre-owned garments is inherently more time intensive and intricate than a manufacturing process beginning with a new roll of uncompromised fabric.<sup>70</sup> However, by positioning the upcycled ReCrafted products as a premium collection of redesigned goods by illuminating the past life of the products, Patagonia elicits a higher willingness to pay from consumers, with price points ranging from \$57 to \$231 - well above the prices paid for the original items.

*Mother - 60% Mother Capsule: Making Use of Overstock*

A premium Los Angeles-based denim label by the name of Mother came to realize the opportunity presented by upcycling in the midst of COVID-19 when the supply of overstock became a pressing issue. For years now, celebrities like Meghan Markle, Heidi Klum, and Jennifer Garner have been seen wearing the denim brand. Founded by Tim Kaeding and Lela Becker in 2010, Mother became known for exclusive “capsules,” featuring collaborations with stars like Freja Beha Erichsen, a Danish model and former muse of the late Karl Lagerfeld, as well as niche themes like western wear.<sup>71</sup> In February 2021, Kaeding met with Vogue to share the background of Mother’s most recent capsule collection, 60% Mother, which sold online through Mother’s website,

“At first, we were just thinking it would be a great project, but once COVID happened, it became a necessity. Every store was shut down for months, and suddenly we were stuck with all this product.”<sup>72</sup>

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<sup>70</sup> “The State of Fashion 2020.” 2020. *The Business of Fashion*.

<sup>71</sup> Caroline Tell. n.d. “MOTHER Denim’s Founders Talk Charity, Retail Growth And Mom.” Forbes. Accessed April 26, 2021. <https://www.forbes.com/sites/carolinetell/2018/10/04/mother-denims-founders-talk-charity-retail-growth-and-mom/>.

<sup>72</sup> Emily Farra. n.d. “Mother’s New Collection Is Made of Upcycled Jeans, Leftover Textiles, and Clothes from L.A. Rag Houses.”

The exclusive capsule features an array of re-engineered garments made from 60% of Mother's own pre-consumer textile waste, including damaged pieces, overstock apparel, and excess fabric that would otherwise be discounted or wasted. The remaining 40% of the material for the capsule was sourced from wholesale vintage recycling plants in Los Angeles at low costs. For Mother, pre-consumer textile waste is a sunk cost, meaning that the cost has already been incurred and cannot be recovered. Therefore, the direct materials cost of the 60% Mother capsule is essentially negligible. Though the design and manufacturing stages of the collection became "really hands-on processes," Kaeding told *Vogue* to expect upcycled materials and garments in every Mother collection going forward.<sup>73</sup>

The apparel sector has been scrutinized by governments, consumers, and NGOs for disposal methods of pre-consumer textile waste long before the demand disruption of COVID-19. Where fast fashion companies might turn to discounts and liquidation centers to relieve their warehouses of unsold merchandise, significant discounts pose a risk to fashion companies with a recognizable brand image to maintain. In 2018, Burberry publicly announced an effort to maintain "brand value" by burning tens of millions of dollars of unsold goods.<sup>74</sup> The announcement was met with public outrage, and a few days later, Burberry pledged to immediately stop the practice of destroying unsold products. The negative environmental impact caused by pre-consumer textile waste is overwhelming, but many fashion companies lack

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<sup>73</sup> Emily Farra. n.d. "Mother's New Collection Is Made of Upcycled Jeans, Leftover Textiles, and Clothes from L.A. Rag Houses."

<sup>74</sup> Paton, Elizabeth. 2018. "Burberry to Stop Burning Clothing and Other Goods It Can't Sell." *The New York Times*, September 6, 2018, sec. Business. <https://www.nytimes.com/2018/09/06/business/burberry-burning-unsold-stock.html>.

transparency when it comes to disclosing information regarding unsold merchandise. Some sources estimate an apparel sector overproduction rate of 30%, however, the true number remains unknown.<sup>75</sup> This much is clear: fashion companies go to great lengths to conceal information regarding pre-consumer textile waste contributions for a reason.

Upcycling is beginning to gain recognition as a potential remedy to the issue of pre-consumer textile waste. In November 2020, British Vogue named upcycling “the biggest trend of spring/summer 2021,” and luxury brands like Balenciaga and Miu Miu made headlines when showcasing leftover fabrics and trims from previous seasons on the runway. With prices beginning at \$125, Mother’s capsule makes the high-fashion upcycling style featured in runway collections more accessible to consumers. The upcycled capsule features 21 garments, most with multiple size options: scarves made from bandanas, drawstring parachute denim pants, a patchwork denim jumpsuit, and reprinted graphic t-shirts adorned with phrases like, “Save Your Mother Save Yourself” and “Post Consumer” (see Figure 6).

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<sup>75</sup> “Apparel and Fashion Overproduction Report with Infographic.” n.d. ShareCloth. Accessed April 26, 2021. <https://sharecloth.com/>.



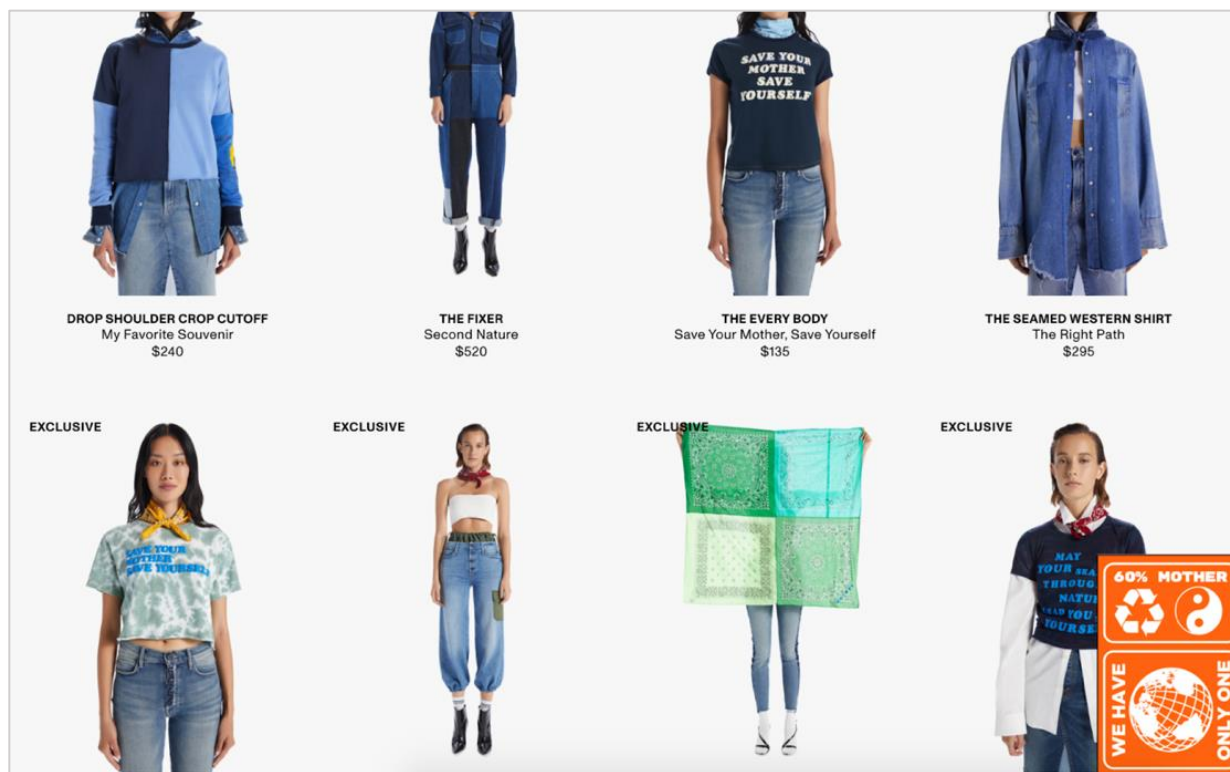


Figure 6. “Upcycle ’21.” n.d. MOTHER. Accessed April 25, 2021. <https://www.motherdenim.com/collections/upcycle-21>.

### Rental Services

The sharing economy, in recent years, has emerged through technological developments such as mobile applications and Internet platforms. Today, people are sharing, swapping, and trading to gain access to goods and services through so-called “collaborative consumption.”<sup>76</sup> From Airbnb, the online rental service for vacation rental, to Uber Technologies, the technology company with services including ridesharing, food delivery, and motorized scooter rentals, firms are capitalizing on the shared economy - and fashion is no exception.

Although rental services do not directly constitute added revenue to the secondhand apparel market, apparel rental is a promising approach to the circular fashion pillar of extension

<sup>76</sup> Juho Hamari, et al., 2016. “The Sharing Economy: Why People Participate in Collaborative Consumption.” *Journal of the Association for Information Science & Technology* 67 (9): 2047–59. <https://doi.org/10.1002/asi.23552>.

of apparel longevity, and therefore, worthy of examining in this discussion of innovative business models. In the specific instance of Rent the Runway (RTR), apparel utility is maximized through multiple users until a garment is no longer able to cycle through the rental platform. Additionally, RTR has partnered with ThredUP to make retired garments available for purchase on the ThredUP platform. In this section, I analyze the enabling of multiple user-lifetimes approach exhibited by apparel rental services like RTR.

*Rent the Runway: Luxury Made Accessible*

Originally founded as an e-commerce company in November 2009 by Jennifer Hyman and Jennifer Fleiss, Rent the Runway has received over \$337 million in venture capital funding over the past ten years.<sup>77</sup> The initial round of \$1.75 million, raised by Bain Capital Ventures, was allocated towards developing the technology, infrastructure, and logistics of the rental service, which became the firm's core competencies in later years. In March 2019, RTR gained "unicorn" status with a \$1 billion valuation.<sup>78</sup> The company's initial product offering was called RTR Reserve, which allowed customers to rent special occasion, designer dresses for a period of 4- or 8-days at a cost varying from 10% to 20% of the item's original retail price. All transactions were handled online, with customers receiving shipments through mail. In 2014, RTR began opening brick-and-mortar retail stores in large US metropolitan areas to facilitate shopping, fittings, pick-ups, and returns. With access to over 350 designer brands at a fraction of the

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<sup>77</sup> "Rent the Runway Hits a \$1 Billion Valuation." n.d. *TechCrunch* (blog). Accessed May 1, 2021. <https://social.techcrunch.com/2019/03/21/rent-the-runway-hits-a-1-billion-valuation/>.

<sup>78</sup> Sapna, Maheshwari. 2019. "Rent the Runway Now Valued at \$1 Billion With New Funding." *The New York Times*, March 21, 2019, sec. Business. <https://www.nytimes.com/2019/03/21/business/rent-the-runway-unicorn.html>.

original price, RTR gained traction by appealing to younger women interested in trying new brands without having to fully commit to the high price of a designer purchase.

In March 2016, RTR expanded their product offerings to include a subscription service, thereby converting a portion of their transactions to a discrete, fixed schedule.<sup>79</sup> Subscription business models, when successful, can be especially beneficial to companies by providing a predictable revenue stream, powerful customer data, and a better understanding of the Customer Lifetime Value, or sum of all discounted net cash flows of users.<sup>80</sup> There are currently three subscription plans available for RTR members, as seen in Table 1. All memberships include free shipping and returns, dry cleaning, rental insurance, and reusable packaging.

Items/month	Up to 4	Up to 8	Up to 16
Monthly price after trial	\$89	\$135	\$199
Maximum item value	\$350	\$3,500	\$3,500
Shipments/month	1	2	4

Table 1. Rent the Runway Subscription Plans. *Note.* Adapted from “Rent the Runway.” n.d. Rent the Runway. <https://www.renttherunway.com/content/thredup>.

The subscription model proved to become an excellent fit for both RTR and its customers. As of March 2020, RTR membership subscriptions accounted for 75% of the company’s revenue, and 90% of subscriptions were held by working women.<sup>81</sup> However, the

<sup>79</sup> “Our Story - About Us.” n.d. Rent the Runway. Accessed May 1, 2021. <https://www.renttherunway.com/about-us/story>.

<sup>80</sup> Robin Schneider, et al., 2020. “User-Based Valuation of Digital Subscription Business Models.” *International Journal of Real Options and Strategy* 8: 1–26. <https://doi.org/10.12949/ijros.8.1>.

<sup>81</sup> Mara Leighton. n.d. “Rent the Runway Just Launched a New Subscription Option That Lets Members Rent 8 Items per Month for \$135.” *Insider*. Accessed May 1, 2021. <https://www.insider.com/rent-the-runway-2-swap-membership-review>

COVID-19 pandemic caused a disruption in the growth of apparel rental subscription services like RTR with consumers having fewer meetings and special occasions to attend. During this period, RTR lost as much as two thirds of subscription memberships, and its company valuation decreased from over \$1 billion to what is now suspected to be \$750 million. In facing the crisis caused by COVID-19, RTR was forced to adjust its business model and close all brick-and-mortar retail locations.

Co-founder and CEO Jennifer Hyman was interviewed by Fortune Magazine in December 2020 to discuss the future of Rent the Runway. “What was great is that [the pandemic] accelerated a movement towards being a much more higher margin business, and it accelerated our path to full profitability,” she says.<sup>82</sup> Before COVID-19, more than 90% of the physical store traffic accounted for customers picking up and dropping off the item they had rented. Hyman explains that the effects of COVID accelerated the firm’s decision to restructure the consumer multichannel experience, refocusing retail space to become drop off centers. “The experiences were not about fashion discovery, they were about first-mile and last-mile delivery,” she admits.

At about \$960 million dollars in 2020, a 16 percent decrease in the US rental apparel market was observed from 2019, but the trend towards non-traditional, sharing economies contribute to a promising forecast for rental services like RTR. Though greatly challenged during the March-June 2020 peak lockdown period, apparel rental is expected to steadily recover in the near future as vaccines continue to be rolled out, employees to return to work, and the evolution

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<sup>82</sup> “Why Rent the Runway’s CEO Doesn’t Want You to Wear Anything You Wore in 2020—in 2021.” n.d. Fortune. Accessed May 1, 2021. <https://fortune.com/2020/12/24/the-pandemic-cramped-rent-the-runways-style-but-heres-how-the-company-is-fashioning-a-comeback-in-2021/>.

of ownership continues. In 2025, the US rental apparel market is forecasted to reach \$2 billion in revenue.<sup>83</sup> Despite the challenges faced during COVID-19, consumers' interest in rental options still reaches 40%, consistent with the previous years' findings.<sup>84</sup> Fashion rental services like RTR are especially valuable to consumers seeking the hedonic value and social distinction derived from luxury goods. As macro-environmental conditions become normal again, it is likely that apparel rental will reemerge as a competitive offering due to its compelling facet of accessibility for shoppers interested in attaining luxury apparel in a convenient, affordable way.

### Findings

From these five online resellers, upcycling lines, and rental services - ThredUP, Depop, Patagonia's "ReCrafted" line, Mother's "60% Mother" capsule, and Rent the Runway – a variety of economic opportunities in extending apparel longevity are discussed. Key findings can be drawn from these case studies to answer the question this chapter seeks to understand: What product and service attributes promote consumer purchase behavior of sustainable fashion?

**1. Convenience and accessibility make sustainable fashion competitive.** The consumer decision process for purchasing apparel can become very complex, especially for consumers seeking hedonic value. The ThredUP case study demonstrates how service improvements can better position sustainable product offerings in the evaluation stage of the consumer decision process. ThredUP makes the shopping experience as convenient as it is to buy new items online. With a price point similar to fast fashion online resale is expanding rapidly as

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<sup>83</sup>“Rental Apparel Revenue U.S. 2025.” n.d. Statista. Accessed May 1, 2021. <https://www-statista-com.ezproxy.lib.utexas.edu/statistics/1195591/rental-apparel-market-revenue-us/>.

<sup>84</sup>“The Circular Economy - US - March 2021: The Market Landscape.” n.d. Accessed May 1, 2021. <https://reports-mintel-com.ezproxy.lib.utexas.edu/display/1072221/?fromSearch=%3Ffreetext%3Dapparel%2520rental>

a favorable option for consumers seeking both value and convenience. Though the growth of apparel rental services has recently declined during COVID-19, Rent the Runway appeals to consumers seeking access to higher priced, luxury items at a fraction of the cost through a convenient platform. A 2020 National Retail Federation study found that 47% of consumers say convenience is very important when shopping for clothing, and 61% expressed willingness to pay a premium for convenience.<sup>85</sup> *Thus, the following research study determines the perceived utility of secondhand, upcycled, and rented apparel with enhanced convenience/accessibility through varying levels of time involvement. Additionally, the research study determines the perceived utility of rented apparel with the description of price representing a fraction of the item's original retail value.*

**2. Information can enhance a product's perceived uniqueness.** A consumer may perceive an item as unique when an item is scarce or unavailable to others, and this chapter also reveals how other forms of information can enhance a product's perceived uniqueness. On Depop, sellers are capitalizing on vintage style trends, and Gen Z is fueling the demand for curated secondhand selections comprised of one-of-a-kind pieces. By contextualizing unique offerings through an aesthetic lens and authentic story, Depop sellers are appealing to consumers motivated by the need for uniqueness. Both upcycling lines, ReCrafted and 60% Mother, restore and enhance devalued material to produce new offerings with past identity salient stories. Research has shown that a consumer's self-inferred narrative regarding an object's past identity leads to its perceived uniqueness and can enhance purchase behavior. *Thus, the following research study determines the perceived utility of secondhand, upcycled, and rented apparel with*

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<sup>85</sup> "Convenience and the Consumer." 2020. National Retail Federation.  
<https://cdn.nrf.com/sites/default/files/2020-01/cv8-convenience-final-jan-9-2020.pdf>.

*identified uniqueness through varying levels of scarcity. Additionally, the research study determines the perceived utility of upcycled apparel with a past identity description, which research has found to enhance uniqueness.*

These findings culminate in the selection of the attributes and levels, or independent variables, of the next chapter's conjoint analysis research study. Convenience/accessibility is theoretically maximized through the attribute levels of rented apparel and low time involvement (Table 2). Uniqueness is theoretically maximized through the attribute levels of upcycled apparel and low time involvement (Table 2).

Attribute	Sustainability Information	Scarcity	Time Involvement
Level	Secondhand (sustainable)	Few available	Low
	Rented (sustainable)	Many available	High
	Upcycled (sustainable)		
	New (not sustainable)		

	Convenience/accessibility maximized
	Uniqueness maximized

Table 2. Summary of conjoint analysis variables with descriptions of maximized appeals within attributes. *Note: Level descriptions adapted for simplicity.*

The central purpose of this thesis is to determine how firms should position product offerings to increase the perceived utility of clothing and extend product longevity. In recent years, many consumers have developed positive attitudes towards sustainable market offerings but, a persistent “green” attitude-behavior gap is observed. Consequently, I have explored methods of enhancing sustainable products and services by improving situational factors and appealing to motivations other than those solely rooted in ethical personal value, such as need for uniqueness. In the next chapter, I conduct a research study to put these findings to the test and

empirically determine how consumers value enhanced product and service attributes as they relate to sustainable apparel.



## **Chapter 4: Conjoint Analysis Study of Circular Apparel Shopping Factors**

The objective of this conjoint analysis study is to determine how people value enhanced product and service features associated with various circular apparel business models. 262 US consumer shoppers participated in a survey to determine the utility of several factors relating to secondhand, upcycled, and rental shopping situations. Through the analysis, I also determine the value of clothing utility at various stages of use. The survey responses were assessed through conjoint analysis, a popular statistical marketing technique used to determine how people value the attributes of products and services. Key results indicate that consumers value upcycled apparel nearly as much as new apparel. Additionally, a majority of consumers are willing to pay more for enhanced convenience and less available items.

### **Introduction**

Title: Secondhand Apparel Conjoint Analysis Survey

Principal Investigator: Helena Sampayo, hss744

The extension of product longevity is a key principle of circular fashion. Extending apparel use helps to mitigate excessive textile waste. The consumption of secondhand, upcycled, and rented apparel promotes product longevity, and thus, environmental sustainability. In recent years, consumer interest in sustainable product offerings has grown. However, a “green” attitude-behavior gap involving the actual consumption of sustainable goods has proven to be a challenge for sustainable product offerings specifically focused on appealing to ethical personal values. Individual, social, and situational factors such as price, time, other personal values, and purchase situation are associated with the existence of the attitude-behavior gap. Product and service enhancements may increase consumer perceived utility, and therefore mediate the effects of the attitude-behavior gap.

## Methodology

To recruit participants, administer the survey, and collect results for this study, I leverage the tools offered by SurveyMonkey, a market research solution used by approximately 10,000 US organizations including American Red Cross, J.P. Morgan, The Vanguard Group, and Netflix. SurveyMonkey's consumer panel pricing was the most suitable option for the budget of this study. According to SurveyMonkey, many students use the platform to conduct research for dissertations and graduate work. For more information on the steps followed to abide by IRB Guidelines and SurveyMonkey's Terms of Use, please visit:

[https://help.surveymonkey.com/articles/en\\_US/kb/How-does-SurveyMonkey-adhere-to-IRB-guidelines](https://help.surveymonkey.com/articles/en_US/kb/How-does-SurveyMonkey-adhere-to-IRB-guidelines).

### *Participants*

Due to the retail nature of this study, a pre-screened consumer panel representative of US Consumer Shoppers over the age of 18 was targeted. SurveyMonkey Audience's Target Audience collector tool sorts panelists based on country, demographics, employment status, and more. Additionally, data quality is insured through bot detection, panel calibration studies, and census-based gender and age balancing. The respondents of this survey voluntarily join a program to take surveys to earn credits to donate to charity. If a program member fits the target audience, SurveyMonkey sends an email invitation for the panelist to voluntarily take the survey. On May 5, 2021, this survey was launched through SurveyMonkey Audience, and 262 panelist responses were collected.

This study was approved by the IRB as exempt due to minimal risk exposure of participants. Panelists consented to participate in this study prior to providing responses. Data

collection was not associated with identifying information, and IP address tracking was disabled to ensure anonymity.

### *Selection of Stimulus*

This study is centered around apparel shopping factors, not apparel design. Nevertheless, a conjoint analysis requires a stimulus subject to imbed in the profiles that each respondent rates on a specified scale. Several considerations were made in the selection of this survey's apparel stimulus. Because the selected participant pool is balanced according to US census-based gender, the stimulus selection should appeal to all possible respondents, regardless of gender. The selection should also consider the macro-environmental factors of COVID-19, which have resulted in a decline of formal wear purchases. The selection should also represent an apparel item relevant to the secondhand apparel market, apparel rental services, and upcycled apparel. For this reason, a pair of denim jeans, a fundamental component of the casual American wardrobe, is selected as the optimal stimulus. Respondents are asked to rate the likelihood of purchasing a pair of jeans based on the shopping scenarios of sixteen profiles. Responses take on the one of nine values of the following scale:

1	2	3	4	5	6	7	8	9
Very unlikely		Somewhat unlikely		Neither likely nor unlikely		Somewhat likely		Very likely

### *Selection of Attributes and Levels*

In conjoint analysis, it is assumed that each product is equal to the sum of its parts, or independent attributes. Each attribute is composed of distinct discrete levels, which can be combined to build a profile. The results of the study will be analyzed to determine each level's

part worth, or part of the product's total utility. Table 3 categorizes the attributes and corresponding levels used to build the profiles of this study.

Attribute	Sustainability Information	Scarcity	Time Involvement	Price
Level	Secondhand (sustainable)	Only 1-10 available	Low (less than 30 minutes)	\$30
	Rented (sustainable)	Over 1,000 available	High (1 to 2 hours)	\$70
	Upcycled (sustainable)			\$120
	New (not sustainable)			\$180

Table 3. Categorization of attributes and levels.

#### Attributes

Four attributes serve as the independent variables: *sustainability information*, *scarcity*, *time involvement*, and *price*. Sustainability information is selected as the first attribute, as this study seeks to determine the utility of apparel at various stages of use through the approaches of product longevity extension discussed in this thesis. Scarcity and time involvement are selected as the next attributes based on the Findings section of Chapter 3. Price is selected as the fourth attribute to permit the analysis of consumer willingness to pay for improvements in levels of the other three attributes.

#### Levels

The levels selected for the first attribute of *sustainability information* are: *secondhand*, *rented*, *upcycled*, and *new*. The levels of secondhand, rented, and upcycled are briefly described in the survey instructions as environmentally sustainable options, and the new level is distinguished as a non-sustainable option. New apparel serves as the baseline comparison. The appeal for convenience/accessibility is tested through the description of rented apparel price representing just “20% of the item’s original value.” To control for the effects of apparel

aesthetic design, the exploration of uniqueness appeal is limited to descriptive levels. The appeal for uniqueness is tested through the description of upcycled apparel as “redesigned and transformed from preowned apparel and factory scrap material that would otherwise be destined to become waste.”

To structure the levels of the *scarcity* attribute, pilot data was gathered to explore consumer interest in scarce, thus unique offerings. Three potential scarcity levels were explored in a pilot survey: 1 item availability, 10 item availability, and 1,000 item availability. A factor analysis was conducted to reduce the complexity of the conjoint analysis for more interpretable insights. A significant correlation between 1 item availability and 10 item availability was observed. So, for the conjoint analysis survey, the levels are reduced to just two: *only 1-10 item availability* and *over 1,000 item availability*. The level of only 1-10 item availability maximizes uniqueness appeal within the scarcity attribute.

The selection for levels of *time involvement* were also guided by pilot data. Fewer than 15% of respondents were willing to spend more than one hour shopping at a secondhand store like Goodwill or Buffalo Exchange. From this information, two levels of time involvement are selected: *low (less than 30 minutes)* and *high (1 to 2 hours)*. To supplement the time involvement attribute, each profile displays a real-life image of the shopping scenario based on the time involvement. For a low time involvement profile, an unbranded online apparel store including filter features for price, brand, and size is displayed. For a high time involvement profile, an unbranded brick-and-mortar apparel store is displayed. Each profile image varies slightly to realistically depict the time involvement required for the profile.

Several considerations guided the selection of the *price* levels. At the upper threshold, the average price of men's and women's new denim jeans in the US is about \$187.<sup>86</sup> At the lower threshold, average price of men's and women's jeans sold at Goodwill is \$6.99.<sup>87</sup> This range, however, is likely too vast for meaningful results. In conjoint analysis, it better to avoid a base price that is less than 1/3 of total average price.<sup>88</sup> Responses from the pilot survey, however, provided clearer guidance for price levels. Most respondents indicated an upper threshold range of \$150 to \$200 for willingness to pay for a pair of jeans. When asked what price would be considered so inexpensive that the respondent would have doubts about quality, most indicated a lower threshold range of \$20 to \$40. Based on the pilot data and optimized for meaningful results, the price levels take on four values: \$30, \$70, \$120, and \$180.

#### *Fractional Factorial Design*

A fractional factorial design is used in this experiment to assess the relative importance, part-worths, and willingness to pay of the four experimental attributes. Two attributes contain two levels and two attributes contain four attributes. A full factorial design of this experiment would require 64 profiles, thereby increasing the risk of inaccurate responses due to respondent fatigue. An alternative fractional factorial design asks the minimal number of questions to estimate the effects of the variables. The International Business Machines Corporation (IBM) Statistical Package for the Social Sciences (SPSS) software platform's Orthogonal Design

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<sup>86</sup> "Average Price of Men's and Women's Jeans U.S. 2018." n.d. Statista. Accessed May 14, 2021. <https://www-statista-com.ezproxy.lib.utexas.edu/statistics/1026008/average-price-of-men-s-and-women-s-jeans/>.

<sup>87</sup>"Price List." n.d. *Goodwill - Southern Piedmont* (blog).

<sup>88</sup> Bryan Orme. n.d. "Three Ways to Treat Overall Price in Conjoint Analysis," 11.

feature is leveraged to generate the framework of the survey profile design, reducing the 64 full factorial profiles to just sixteen (Table 4).

Profile	Sustainability Information	Scarcity	Time Involvement	Price
1	Upcycled	Only 1-10	High	\$120
2	Rented	Only 1-10	Low	\$70
3	Upcycled	Over 1,000	High	\$70
4	Secondhand	Only 1-10	High	\$120
5	Secondhand	Over 1,000	High	\$70
6	New	Over 1,000	Low	\$120
7	New	Over 1,000	High	\$30
8	Rented	Over 1,000	Low	\$120
9	Rented	Over 1,000	High	\$30
10	New	Only 1-10	Low	\$70
11	Secondhand	Only 1-10	Low	\$30
12	Upcycled	Over 1,000	Low	\$180
13	New	Only 1-10	High	\$180
14	Secondhand	Over 1,000	Low	\$180
15	Rented	Only 1-10	High	\$180
16	Upcycled	Only 1-10	Low	\$30

Table 4. Fractional factorial design breakdown by profile.

### Data Analysis

The utility value, or part-worth, of each attribute level is calculated for each respondent using the least-squares model of multiple linear regressions. The following equation predicts the best-fitting line for each respondent by minimizing the sum of the squared errors and estimating regression coefficients:

$$Y = b_1(x_1) + b_2(x_2) + b_3(x_3) + b_4(x_4) + b_5(x_5) + b_6(x_6) + b_7(x_7) + b_8(x_8) + b_0$$

where  $b_1$  is the part-worth of  $x_1$ ,  $b_2$  is the part-worth of  $x_2$ ,  $b_3$  is the part-worth of  $x_3$ , and so on (Table 5). The intercept,  $b_0$ , is the baseline corresponding to the part-worth of the excluded





16	0	0	1	1	1	0	0	0	7	9	6	...	6
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Table 6. Visualization of response ratings as dependent variables in each multiple linear regression. *Note: Adapted for brevity.*

The part-worths, or utility values, are retrieved from the R output for each respondent. To determine the respondent's relative importance of each attribute, the maximum level utility is first subtracted from the minimum level utility to calculate the range of each attribute. Then, a percentage, or attribute relative importance, is calculated by dividing each range by the sum of all four ranges.

To calculate how much more a respondent is willing to pay for an improvement in the level of an attribute, the dollar value of one utility point is calculated based on the utility loss of a higher price. See Table 7 for an example of this calculation with the part-worth values of Participant 43 (Table 7).

<b>Participant 43</b>				
<b>Variable</b>	Baseline	$b_3$	Baseline	$b_6$
<b>Level</b>	New	Upcycled	\$30	\$70
<b>Part Worth</b>	0	0.5	0	-1.5

<b>Price Increase</b>	\$40
<b>Utility Change</b>	-1.5
<b>Value of One Point</b>	\$26.67

<b>Upcycled Utility Change</b>	0.5
<b>Upcycled Willingness to Pay</b>	\$13.33

Table 7. Example of willingness to pay calculation for an improvement in level.

## Results

Of the 262 respondents, 23% were ages 18-29, 31% were ages 30-44, 31% were ages 45-60, and 14% were over 65; 44% were male and 56% were female. The overall average of the individual attribute relative importance showed that price was the most important attribute with a relative importance of 48%, followed by sustainability information at 27% (Figure 7). Little to no variation was observed if relative importance was segmented by age and gender.

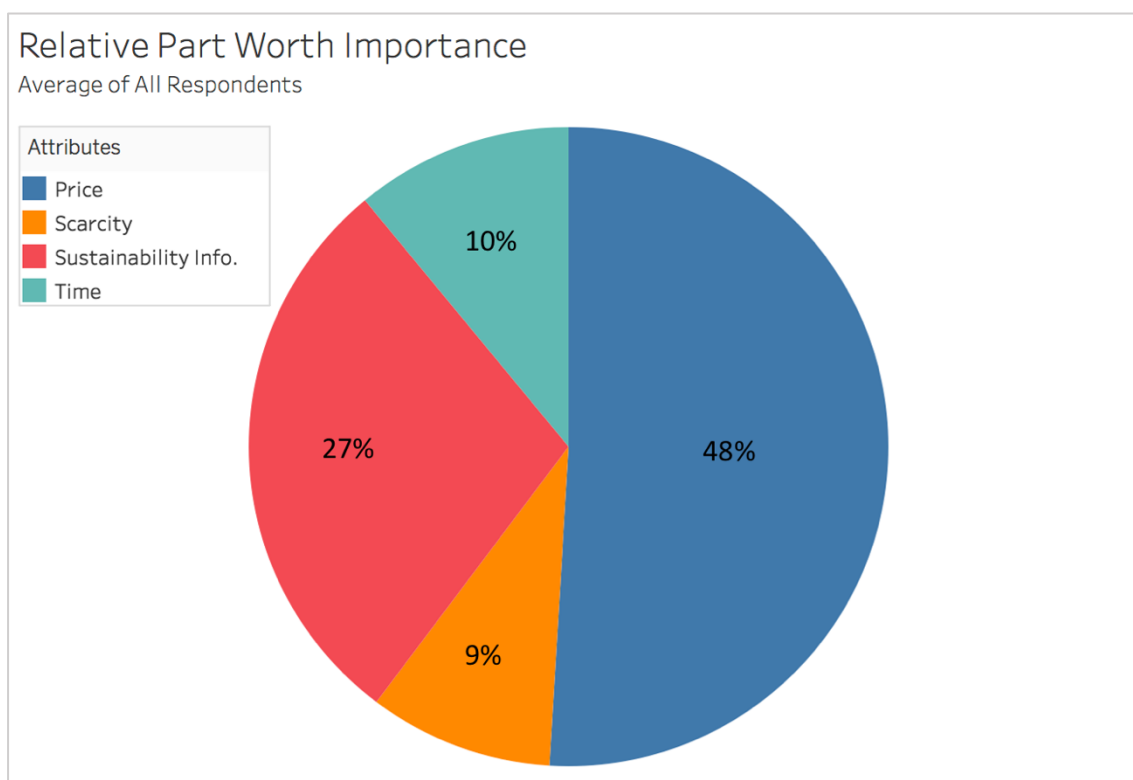


Figure 7. Relative part-worth importance pie chart as an average of all respondents.

In analyzing the average part-worths of all respondents by attribute, several observations were made. For sustainability information, upcycled apparel lost just 0.04 utility points, on average, compared to the baseline of new apparel. Rented apparel lost the most utility points, on average, compared to the baseline (Figure 8).

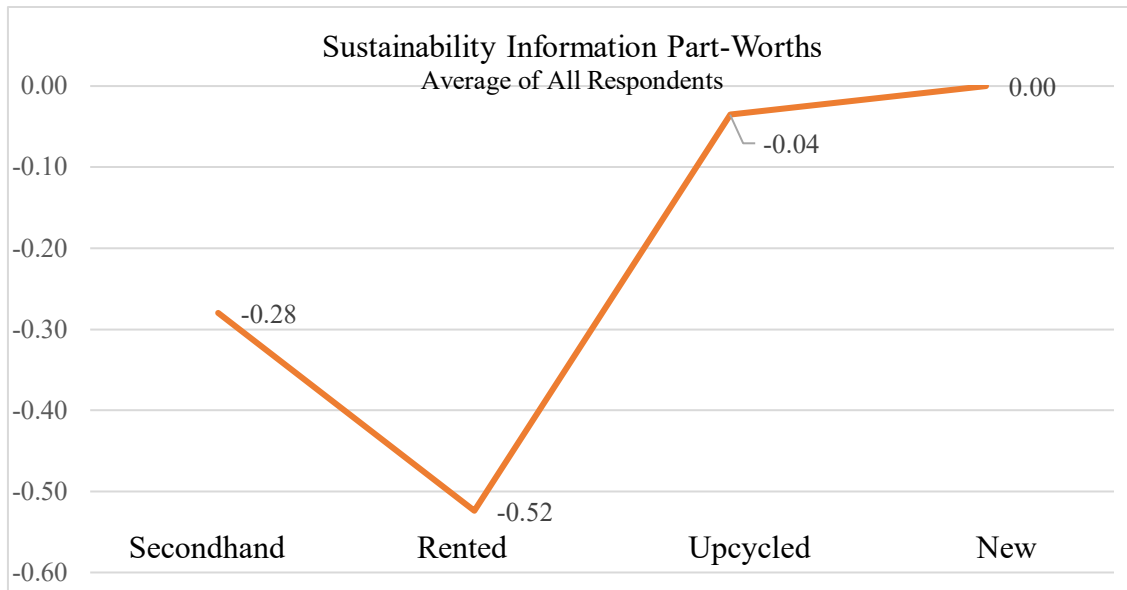


Figure 8. Sustainability information part-worths as an average of all respondents.

Additionally, when segmented by age and gender, several trends are observed. Women over the age of 30 indicated a higher perceived utility for upcycled apparel, above the baseline of new apparel. Specifically, women ages 30-44 recognized the utility for upcycled apparel with an average increase in 0.3 utility points. Comparing the average utility lost by secondhand apparel, women lost just 0.16 utility points while men lost 0.47 (Figure 9). Rented apparel loses the most utility across most segments, with the exception of men ages 18-29 and men over 60.

## Sustainability Information Part Worths Averages Segmented by Age and Gender

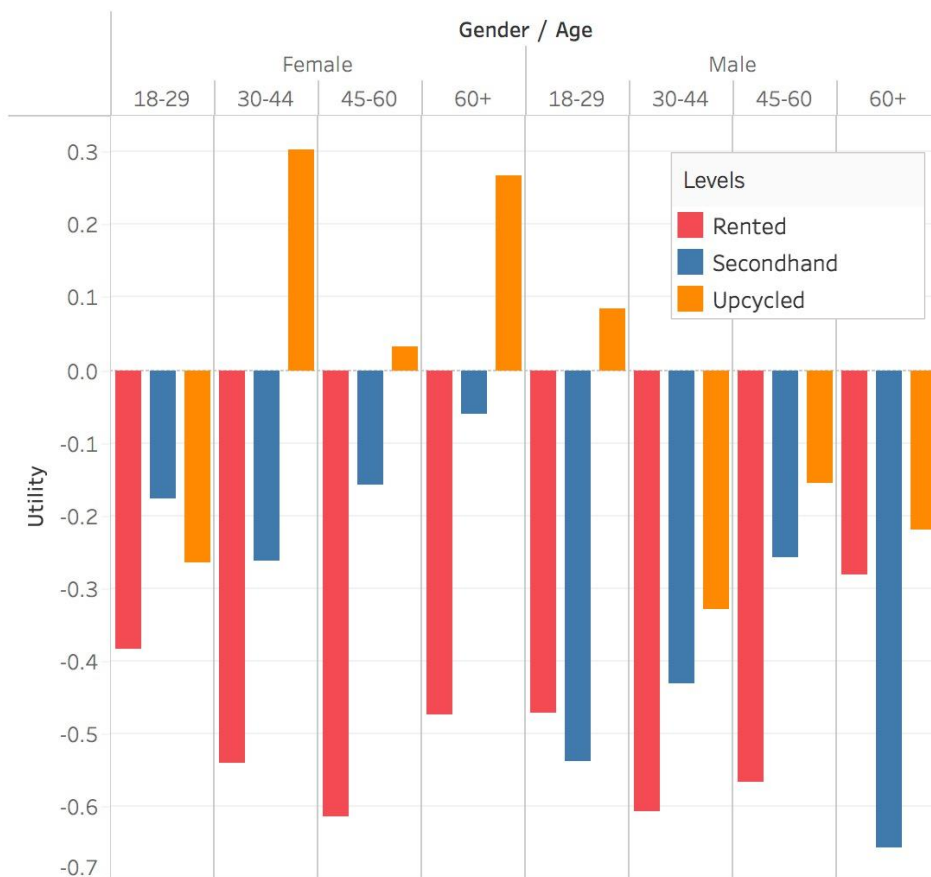


Figure 9. Sustainability information part-worths as averages segmented by age and gender.

A similar analysis is conducted with the average part worths of scarcity and time involvement. The results indicate varying utility across segments of age and gender. For apparel with limited availability, men over 60 attribute the most utility points, an additional 0.4, to the baseline of widely available apparel, followed by men ages 18-29 with an additional 0.3 points. Women ages 18-29 gain the most utility when time involvement is low (Figure 10).

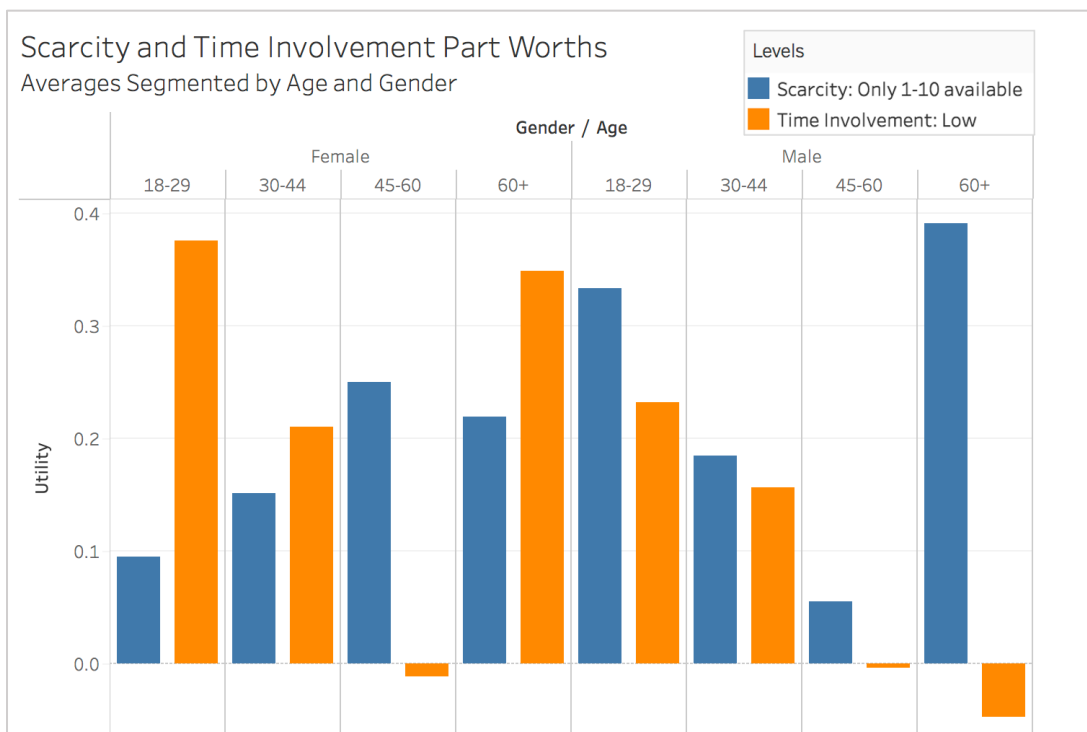


Figure 10. Scarcity and time involvement part-worths as averages segmented by age and gender.

The individual calculations of willingness to pay showed that 57% of respondents were willing to pay more for an enhancement in the scarcity attribute. Of the respondents willing to pay more for scarcity, 25% were willing to pay more than \$20 (Figure 11).

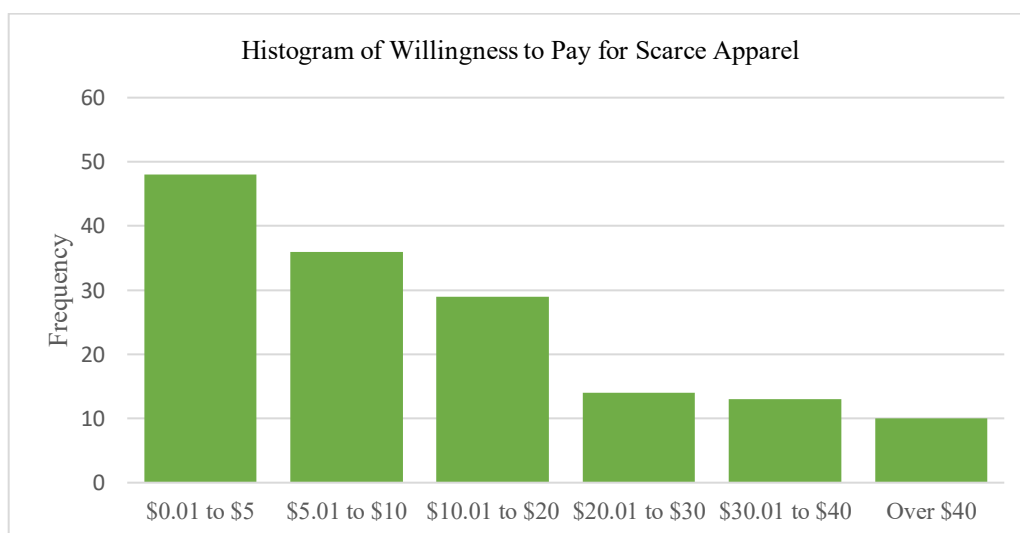


Figure 11. Histogram of willingness to pay for scarce apparel.

The individual calculations of willingness to pay also showed that 47% of respondents were willing to pay more for upcycled apparel, compared to the baseline of new apparel. Of the respondents willing to pay more for upcycled apparel, 34% were willing to pay more than \$25 (Figure 11).

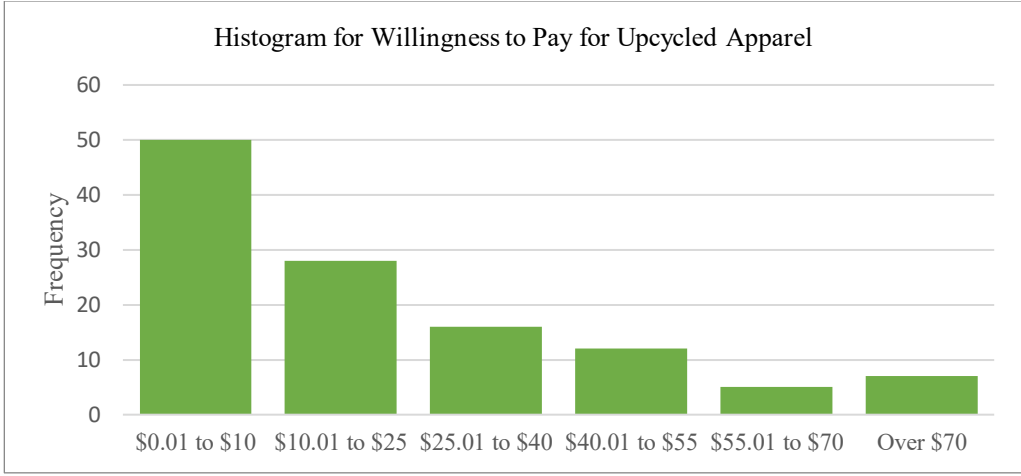


Figure 11. Histogram of willingness to pay for upcycled apparel.

When time involvement was low, 60% of respondents were willing to pay more compared to the baseline of high time involvement. Of the respondents willing to pay more for convenience, 34% were willing to pay more than \$20 (Figure 12).

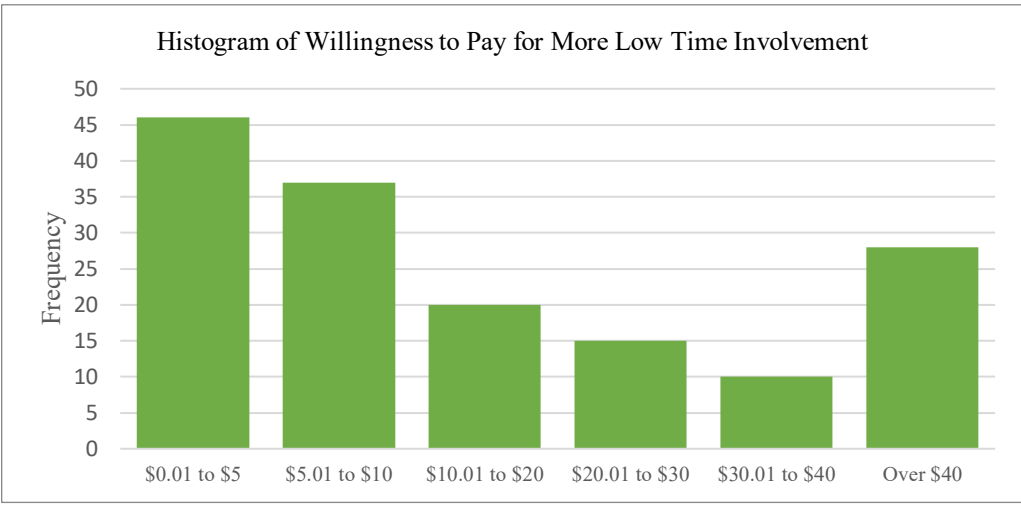


Figure 12. Histogram of willingness to pay for convenience.

## Conclusion

In this final section, I summarize the findings of this conjoint analysis research study comprised of 262 responses from a US consumer panel. By assessing the utility of several factors relating to secondhand, upcycled, and rental shopping situations, I conclude by answering the remaining research questions, addressing the limitations of this study, and providing recommendations for future research and sustainable business ventures.

### *Findings*

How do consumers value enhanced products and services as they relate to sustainable fashion? And, what is the actual utility of clothing at various stages of use?

The findings of this research study showed that, on average, consumers perceive upcycled apparel as the most valued form of sustainable apparel with an average loss of just 0.04 utility points compared to new apparel. Quite notably, women ages 30-44 and over 60 gained more utility with upcycled apparel compared to the baseline of new apparel. And, given that 57% of respondents were also willing to pay more for more scarce items, these results support the hypothesis that uniqueness factors can increase product utility. With 60% of respondents willing to pay more for shopping situations that require less time involvement, there is reason to believe that convenient services also enhance perceived utility. However, rented apparel, on average, lost the most value compared to the baseline and secondhand apparel. There are a number of potential explanations for this. As discussed in the Findings section of Chapter 3, COVID-19 has led to a decline in growth of the apparel rental market. Additionally, apparel rental is in a relatively nascent stage, and it will likely require time before most consumers to become accustomed with the notion of shared closets. Though secondhand apparel did not perform as well as upcycled apparel, 38% of respondents expressed higher willingness to pay for

secondhand apparel. This is a notable finding, given that secondhand apparel is often discarded or sold at extremely low prices.

### *Limitations*

Several limitations in the current study exist. First, there are concerns regarding the focus of the participants while taking the survey. I did not retrieve the individual level data on the time spent by the participants on each question, so there is a level of uncertainty regarding the attention and focus of the respondents. Retrospectively, I could have included attention check questions to verify respondent engagement. Doing so could have filtered out any inaccurate information. Second, though this research primarily involved purchase decisions, aesthetic design is a substantial factor for most consumers purchasing apparel, but was not measured in this study. The findings of this conjoint analysis assume the inclusion of all relevant attributes, but in future research, the inclusion of both aesthetic design and other influences on the consumer decision process such as socioeconomic characteristics may produce more insightful research.

### *Recommendations*

As I reflect on the perplexity of the “green” attitude-behavior gap and how it led me to this research, it becomes clear that one way of closing the gap is to reframe sustainable product offerings in the mind of consumers as equal or enhanced compared to new market offerings. This thesis has discussed the limitations in appealing to personal ethical values of sustainable consumption because, ultimately, a purchase decision is based on multi-attribute factors, and those that are more salient to the direct needs of the consumer tend to carry more weight. Despite this, sustainable, circular fashion has a very promising future, and apparel companies should be encouraged to capitalize on the economic opportunities of underutilized apparel. Whether that



may mean establishing an in-house buyback program, upcycling deadstock to create new pieces, or partnering with existing firms promoting sustainable fashion – the opportunities are abundant, and consumers are clearly catching on. As discussed in this paper, secondhand and upcycled fashion is in an excellent position to appeal to consumers motivated by the need for uniqueness. And, as online resale breaks down the inconveniences involved with shopping secondhand, sustainable fashion is appealing to broader audiences each day by making the process as easy as it is to buy new. One thing is certain: consumers can value apparel at various stages of use significantly more than we may think, especially when the shopping situation is convenient and accessible, and the information is clear and convincing. If the fact that 9 million tons of clothing fill landfills each year is not sufficient to convince you that circular fashion should be the future, then perhaps the economic opportunity involved with capturing the value of the \$460 billion worth of clothing being discarded as waste will.<sup>89</sup>

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<sup>89</sup> “A New Textile’s Economy: Redesigning Fashion’s Future.” <http://www.ellenmacarthurfoundation.org/publications>, 36.

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### **Author Biography**

Helena Sampayo was raised in Brownsville, Texas, on the western Gulf Coast, adjacent to the border with Matamoros, Mexico. She will graduate from The University of Texas at Austin with a Bachelor of Arts in Plan II and Bachelor of Business Administration in the Canfield Business Honors Program in Spring 2021. During her senior year, Helena co-founded Split Shirt, an apparel upcycling company, and has been recognized as the Kendra Scott Women's Entrepreneurial Leadership Institute Featured Female Founder of July 2021. Helena will begin her professional career as a financial analyst in Walmart's Accounting and Finance Development Program (AFDP), and will continue running Split Shirt in her free time.