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Spring 2022

## Upscaling Textile Upcycling

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### Recommended Citation

Scott, Mason; High, Brett; Marcum, Sophia; Schiffli, Rachel; and Flowers, Andrew, "Upscaling Textile Upcycling" (2022). *Williams Honors College, Honors Research Projects*. 1572.  
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## **Upscaling Textile Upcycling**

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The University of Akron

Honors Project in Business Administration

Dr. Susan Hanlon

May 2, 2022

## **Introduction**

Our research project was designed to answer one question: is it feasible for the Goodwill Industries of Akron to use upcycled clothing as a sustainable revenue driver to fund their mission? Upcycled products are simply defined as products whose value has been increased by combination or alteration. This contrasts with product reuse or recycling which Goodwill already utilizes as ways to generate revenue. Goodwill's primary source of revenue currently is the resale of donated goods at their brick-and-mortar stores, and we thought that upcycled goods were consistent with their established business model. We hypothesized that the same consumers that presently shop at Goodwill store would be willing to purchase these products and that Goodwill could capitalize on this trend.

We utilized a five-step research plan to investigate this concept. We conducted some initial financial research on the current market for upcycled products and we examined consumer trends and market potential. This research was primarily based on secondary sources that observe and describe large-scale market trends. We also conducted three primary research studies to help us gather demographic specific data that will give us insights to our research question. We conducted a focus group where we discussed upcycling as a general concept, distributed a survey where we sought to grasp consumers' perceived value of upcycled goods and interviewed nine individuals to get their opinions on samples of upcycled clothing samples. Finally, we sent a questionnaire to some artists who are currently upcycling clothes and selling their creations through online avenues. We wanted to see what their current processes were and how Goodwill could replicate them on a larger scale.

## **1. Introductory Financial Analysis**

To assess the validity of forming a profitable upcycled clothing and accessory product line for a business, it is important to understand the key revenue and profit drivers, consumer trends, and the competitive landscape of the thrift store and upcycled clothing industry. This market is also referred to as the secondhand clothing market. This will better inform the net present value analysis of an upcycled product line and paint a better picture of the outlook of the industry.

### ***Key Revenue and Profit Drivers***

Traditionally, the key macroeconomic factors that impact demand for secondhand consumer goods in the U.S. include per capita disposable income, the national unemployment rate, and consumer confidence (Butler, 2020). Per capita disposable income is closely tied to the balance of wage growth and inflation. In a scenario where the US economy is entering an environment of persistent high inflation and rising interest rates, consumers' overall disposable income is reduced/stagnant if wage growth does not exceed inflation (Floyd, 2022). The impact of reduced disposable income leads consumers to cut discretionary spending. This is typically a net benefit for traditional thrift store merchandise selling at cheaper price points, as consumers substitute high-cost merchandise for lower cost merchandise.

However, this is a net negative for a curated line of upcycled goods. As of March 2022, analysts project per capita disposable income to decline in 2022, and then rebound and stay in stable growth the following years as pictured in the figure below ("Per capita disposable income", 2022). This implies that consumers will cut discretionary spending in 2022 and potentially early 2023, with discretionary spending then rebounding back to stable pre-pandemic level growth the following years.

The national unemployment rate impacts consumer spending and demand for secondhand goods in a similar fashion to per capita disposable income. During periods of high unemployment, consumers typically cut discretionary spending, and increase discretionary spending during periods of low unemployment. According to a collection of forecasts from the Federal Reserve Bank of Philadelphia, the unemployment rate is expected to remain at full employment, specifically ranging from 3%-4% from 2022 to 2025 (2022). This implies consumers will have more money in their pockets to spend on discretionary goods such as upcycled clothing.

Consumer confidence is also key in gauging consumer sentiment about the economy. The Consumer Confidence Index (CCI) serves as a reliable measure and leading indicator of consumer spending (Ganti, 2022). Analysts project the CCI to rebound strongly from the pandemic low in 2022 but not to the point of pre-pandemic levels. Forecasts of disposable income, the unemployment rate, and consumer confidence all point to consumers having more money in their pockets to spend on discretionary goods, a positive indicator for the success of a product line of upcycled goods (“Consumer confidence index,” 2021).

### ***Consumer Trends and Market Potential***

While traditionally thrift stores have relied on customers shopping out of necessity due to lack of disposable income and need for cheaper substitutes, thrift stores are now seeing strong demand from consumers seeking sustainable or unique items, especially younger generations. According to the National Association of Resale and Thrift Shops (NARTS), the growing popularity of thrift shopping is attributed to a rising awareness of the need to reduce waste by recycling clothes and other goods. In the words of James Reinhart, CEO and Co-Founder of ThredUp, “We are in the early stages of a radical transformation in retail. Consumers are prioritizing sustainability,

retailers are starting to embrace resale, and policy makers are getting on board with the circular economy” (2021 Resale Report). This transformation serves as a phenomenal catalyst for the success and profitability of an upcycled goods product line. In fact, the secondhand market is projected to double in the next 5 years.

A driving factor of this forecasted growth is the rapid adoption of sustainable fashion, particularly from Gen Z and Millennials. Gen X also represented a significant increase in secondhand shoppers from 2019 to 2020 (2021 Resale Report). This is fueled by the increasing presence and promotion of upcycling and sustainability through different media channels like blogs, social media (primarily TikTok and Instagram), as well as TV shows influencing consumer tastes (Butler, 2020).

On a national level, the consumer trend is overwhelmingly positive. However, our online anonymous survey gauging consumer sentiment of upcycling and sustainable fashion paints a mixed picture. We had a total of 365 participants of which 86% are Gen Z, and all participants reside in Ohio. Prompted with an explanation of the concept of upcycling and sustainable fashion, respondents were asked about their initial reaction.

Our results indicate an overwhelmingly positive response. However, a positive reaction is not reflective of further action and commitment to purchase. Near the end of the survey, respondents were once again asked about their perspective specifically regarding upcycled clothing products, this time with more descriptive answer selections.

38% of respondents selected an answer indicating a desire to purchase upcycled clothing products. This is not necessarily in-line with the initial overwhelmingly positive reaction indicated in the survey.

Because of the concentration of our respondents residing in Ohio, this could indicate that the market demand for secondhand and upcycled clothing is not as prevalent in Ohio compared to a national scale. Despite this, most data shows that consumers are increasingly becoming more environmentally conscious, and this is a trend that serves to benefit upcycling and secondhand clothing product lines in future years.

### ***Competitive Landscape***

With companies looking to capitalize on the rapidly growing consumer demand for resale and upcycled products, the degree of competition within the industry is increasing. This is especially evident in online/ecommerce channels. Companies such as ThredUp, Poshmark, and The RealReal are some of the largest players in online clothing resale and are skilled at appealing to the interests of younger consumers. This is where more mature thrifting businesses seem to lag. However, mature non-profit industry players such as Goodwill Industries have a key advantage based on the fact they do not have to incur as many purchase expenses, due to the nature of their inflows of goods being sourced from free donations. This creates the potential for better expense management and better profit margins compared to industry peers.

While for-profit industry peers may not be able to manage expenses as efficiently, there is a fair argument that they have significantly more pricing power compared to players such as Goodwill Industries due to brand appeal/strength (Butler, 2020). For example, Patagonia's upcycled product line "ReCrafted" has vests typically priced around \$200, and t-shirts around \$45. Because of the nature of Goodwill's reputation as a low-cost thrift store, it is highly unlikely that Goodwill would be able to sell products at comparable price points. To withstand intense competition, the most crucial factors for the success of an upcycling business are:

- Consumer awareness and understanding of the importance of sustainable fashion

- Aggressive marketing towards targets young demographics
- Strong quality assurance measures and efficient collection/sorting processes
- Strong e-commerce channel to supplement brick and mortar stores

If a business can achieve all these points, it will be one of the winners that takes significant market share in the rapidly growing secondhand clothing industry. (Singh, Sung, Cooper, West, Mont, 2019).

## **2. Survey Results**

### ***Survey Methodology***

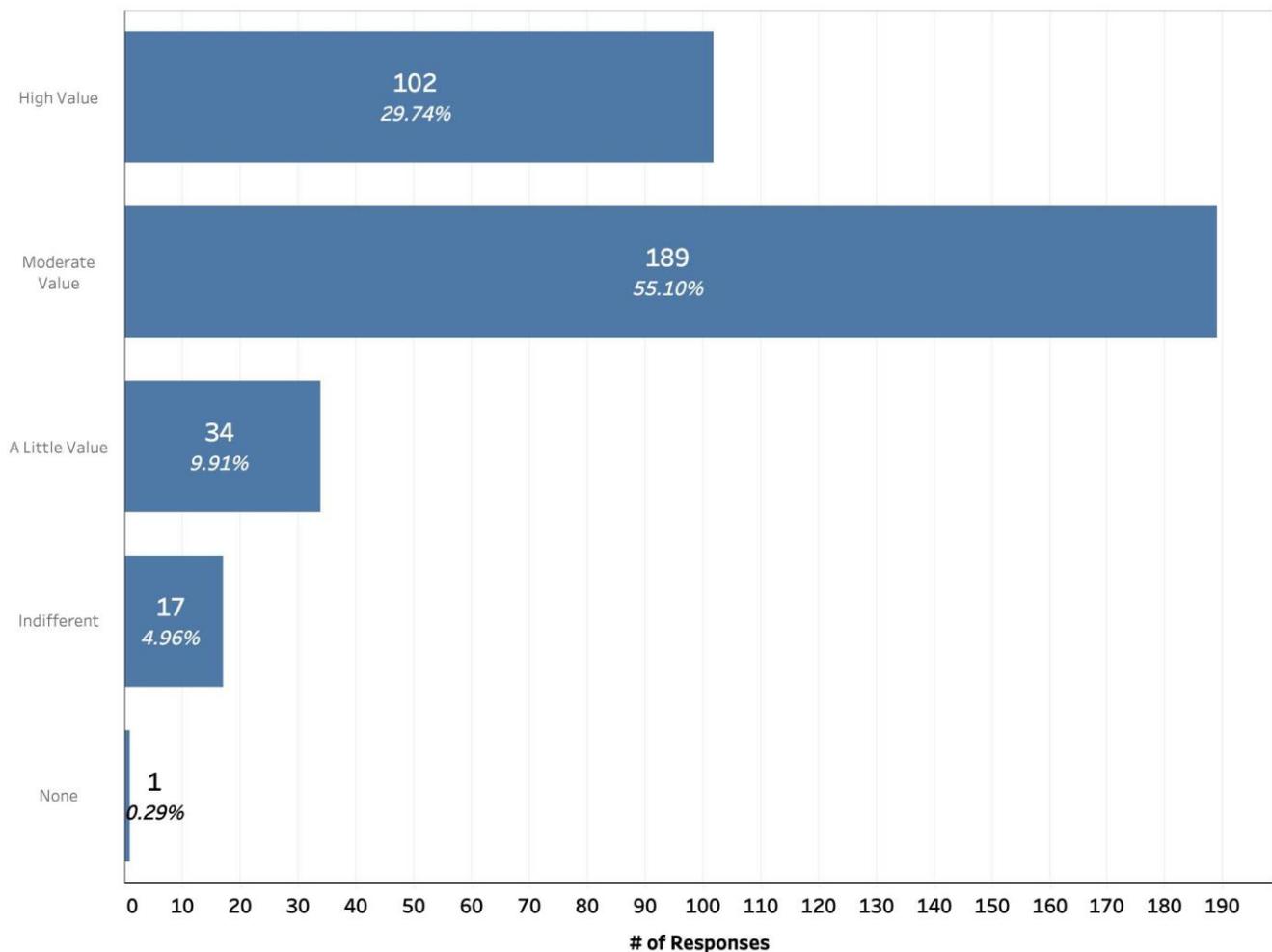
The survey is comprised of thirteen questions directly pertaining to the proposed concept of up-cycled clothing and five demographic questions that we felt it necessary to ask in hopes of painting a clear picture of who our target market is. After publishing the survey, team members distributed the survey through multiple avenues. Email blasts were sent to fellow University Students and Professors, the survey link was posted on LinkedIn and other social media platforms, along with direct messaging the survey to all peoples possible. These efforts resulted in the gathering of over 400 completed surveys, thus giving the team a large enough sample to begin drawing conclusions on the potential success of the proposed business line.

### ***Section 1: Consumer Market Knowledge***

The first three questions were designed to gauge consumer interest and prior knowledge in the concept of up-cycling. The first question asked was “what is your initial reaction to this concept?” Of the multiple-choice options given, 87% of respondents stated they felt positively towards the proposed concept, with only 13% of respondents feeling indifferent or negative. The next question asked was about the consumers' familiarity with up-cycling and 87% of respondents stated they have some level of familiarity with up-cycling. In the next question we

wanted to understand how consumers value this concept, not monetarily, but practically speaking. 94.5% of total survey respondents answered that up-cycling has some level of practical value. 55.10% of respondents stated that the concept held moderate value, whereas 29.74% assigned prominent levels of practical value to the concept. These responses lead us to the conclusion that most consumers knew what upcycling was, had positive initial reactions to the

### WHAT IS YOUR PERCIEVED VALUE OF THIS CONCEPT?



concept and saw at least some practical value in the concept.

The next section of the survey our sample items were strategically used in the survey to gather the following information. When inquiring about the price consumers would be willing to

pay for a given product, the team included a picture of the product, and a multiple-choice format was used. The questions were the same for every product, first question went as stated, “how much do you think an up-cycled good, such as this one, sells for?” The question was worded intentionally to make respondents think and allow space for thought. The second question per each item asked, “would you buy this for yourself or someone you know?” This question had two multiple-choice answers, yes or no. The lack of neutral choice forced respondents to pick a well-defined response that would be useful.

### *Section 2: Upcycled Product Impression*

The first product, a skirt with pockets sewn onto the front, received the following feedback. When asked what consumers thought the skirt sold for, 41.88% of respondents answered “\$25 - \$49” and 35.9% answered that it sold for between \$10 and \$24. When asked whether they would buy the skirt for themselves or someone they know around 66% of respondents said “No”. The low monetary value assigned to the skirt, partnered with the lack of interest in purchasing could lead to the conclusion that the skirt may not be a viable product on the market.

	\$1 - \$9	\$10 - \$24	\$25 - \$49	\$50 - \$74	\$75 - \$99	\$100 - Up
No	19 5.41%	92 26.21%	84 23.93%	25 7.12%	8 2.28%	2 0.57%
Yes	2 0.57%	34 9.69%	63 17.95%	17 4.84%	5 1.42%	

*Pocket Skirt Survey Results*

The second product, a blue T-shirt, received the following feedback. When asked what consumers thought the shirt sold for, 58.4% of respondents answered “\$10 - \$24” and 16.81% answered that it sold for between \$1 and \$9. When asked whether they would buy the shirt for themselves or someone they know around 65% of respondents said “No”. The low monetary

value assigned to the shirt, partnered with the lack of interest in purchasing could lead to the conclusion that the shirt may not be a viable product on the market unless priced under \$10.

	\$1 - \$9	\$10 - \$24	\$25 - \$49	\$50 - \$74	\$100 - Up
No	45 12.82%	129 36.75%	42 11.97%	7 1.99%	2 0.57%
Yes	14 3.99%	76 21.65%	30 8.55%	6 1.71%	

*Blue T-shirt Survey Results*

The third product, a quarter-zip jacket with patches sewn onto the sleeves, received the following feedback. When asked what consumers thought the quarter-zip sold for, 47.58% of respondents answered “\$25 - \$49” and 17.38% answered that it sold for between \$50 and \$74. When asked whether they would buy the quarter-zip for themselves or someone they know 72.45% of respondents said “Yes.” The higher monetary value assigned to the quarter-zip, partnered with the prominent level of interest in purchasing could lead to the conclusion that the quarter-zip may be a worthy addition to the Goodwill Industries of Akron product line, certainly more so than the skirt or the t-shirt.

	\$1 - \$9	\$10 - \$24	\$25 - \$49	\$50 - \$74	\$75 - \$99	\$100 - Up
No	6 1.71%	39 11.11%	33 9.40%	11 3.13%	4 1.14%	1 0.28%
Yes	3 0.85%	56 15.95%	134 38.18%	50 14.25%	12 3.42%	2 0.57%

*Quarter Zip Survey Results*

The fourth and final product, a pencil pouch made of reclaimed denim, received the following feedback. When asked what consumers thought the denim pencil pouch sold for, 49.29% of respondents answered “\$10 - \$24” and 25.92% answered that it sold for between \$1 and \$9. When asked whether they would buy the pencil pouch for themselves or someone they know 26.77% of respondents said “No.” However, 73.23% of respondents stated they would

purchase the pouch. This response indicated to the team that the pouch could be a viable product for Goodwill Industries of Akron if they are willing to reclaim denim to assemble the pieces. It is worth noting that the process of reclaiming denim from jeans is time-consuming and can be expensive when factoring in labor costs.

	\$1 - \$9	\$10 - \$24	\$25 - \$49	\$50 - \$74	\$75 - \$99	\$100 - Up
No	29 8.26%	47 13.39%	13 3.70%	4 1.14%	1 0.28%	
Yes	62 17.66%	126 35.90%	51 14.53%	15 4.27%	2 0.57%	1 0.28%

#### *Denim Pouch Survey Results*

### ***Section 3: Environmental Sustainability***

Following this series of questions, the team sought to gain a better understanding of how respondents view environmental sustainability. When polled on the importance of environmental sustainability the results were positive, however not to an extreme extent. Only 9% of survey participants stated that sustainability was extremely important to them. The largest percentage of respondents stated that sustainability was “moderately important” to them. This concept is a major driver behind the desirability of up-cycling goods, so a low emphasis on environmental sustainability could be connected to a lower desire for up-cycled products.

The fast fashion, consumer industry promotes single use, unsustainable trends. A vast majority of the survey participants stated they currently reside in a zip code within the state of Ohio. Could it be possible that in Ohio, fast fashion has won the hearts and minds of the population? Figure 6 better visualizes the spread of responses collected when survey respondents were asked about the level importance that environmental sustainability holds in their everyday lives.

#### ***Section 4: Demographic Questions***

As with any effective survey we also included several demographic questions to help us find out what the common factors between our participants are. We included questions inquiring about the participants' age, gender, ethnicity, education level and the zip code of their current residence. With this data we were able to see where most of our data came from. Since our main source of survey distribution was an email blast through the University of Akron, it was not surprising that 85.67% of our participants were between the ages of 18 and 25 and 66% of our participants declared that they had some college education. This is worth noting as it does not represent a thorough sample of potential consumers. On the contrary 40% of our participants were male and 60% identified themselves as female. This is a commonly accepted ratio for gender identity representation.

Another detail worth noting about our sample is the lack of ethnic diversity. 90% of our survey participants identified themselves as White/Caucasian. This does not align with the current ethnic breakdown of the city of Akron where 40% of residents identify as non-white and 30% of all Akron residents identify as Black. (U.S. Census Bureau, 2022) We do not believe that this lack of demographic diversity completely invalidates the data, but it is important to acknowledge this potential limitation of the data set to describe a well-rounded group of potential consumers.

### **3. Online Focus Group**

#### ***Focus Group Methodology***

Our team conducted a focus group where we were looking to gain insights into the public's perception and knowledge of upcycling as a concept. We gathered our subjects from our

peers from the University of Akron and we conducted the focus group in an online setting to ease in the recording of the group. There were five people who participated in our group, and we selected each of them based on their different fashion backgrounds. One unique goal for the group was to stimulate discussion regarding our group participants' individual styles so that we could contrast their ideas with the products we had researched. We wanted to get qualitative descriptions of our participants' impressions on the samples we showed them.

The focus group was conducted while our survey was still open to responses as we aimed to have the survey open for an extended period to maximize survey interaction. We divided the focus group into two sections; the first is where we introduced the concept of upcycling, and the second part was where we showed specific examples of upcycled products.

### ***Section 1: Upcycling and Goodwill Impression***

When we introduced upcycling there were very few in the group who were aware of what it entailed. The first question we asked was what was your initial reaction to upcycling? The near unanimous reaction from the group was that there did not appear to be any “drawbacks” to the concept. Some of the perceived benefits that our group members shared were increased access to affordable and trendy clothing, creating an environmentally friendly shopping alternative and helping to fight over-consumption of clothing.

The second question that we asked was how interested are you in shopping at the Goodwill stores in Akron? Three of our five participants said that they are not interested in shopping at Goodwill because they are “nervous about wearing other people’s clothes.” One of the participants claimed that they were a germaphobe and they had cleanliness concerns about purchasing secondhand clothing in general. Several of the other group members agreed with the germophobic participant when it came to his cleanliness concerns. However, two of the subjects

said that they do shop at Goodwill often. One of the interested subjects resells thrifted vintage clothing online and the other said that they can find “unique” pieces in secondhand clothing stores.

### ***Section 2: Upcycled Goods Examples***

We showed the group pictures of five example upcycled products, many of the same pictures that we included in our survey. We tried to show a variety of items at different price points and distinctive styles. As we moved through the examples, the reviews were mixed, with very few products getting resounding positive responses. The most popular item that we showed were a pair of bell-bottom corduroy pants with floral accents at the bottom of the pant legs. Some of the descriptions for this piece were “stylish” and “expensive-looking.” Four of our participants said that they would purchase the product and were willing to pay within the range of \$70 - \$80. One interesting comment given by a participant was how much the material choice on the accent would deter them from purchasing the piece. They did not like the floral pattern but did like the style of the pants and would consider purchasing a pair if the accent were “milder.”

Another interesting discussion that the focus group had was about the denim pencil pouch. This was popular among the group as all six of the participants said that they would purchase it for themselves or for someone that they know. Two of them said that they would pay up to \$20 for it, which is \$5 more than the listed price on Etsy. Not only did the group members appreciate this style of product, but they also said that they would consider purchasing other non-clothing items made of reclaimed denim materials. One participant mentioned upcycled throw pillows as an interesting home décor option and it was clear that the group was excited about the idea of reclaimed denim.

One item that did not capture the attention of the group was a tee shirt with a denim pocket on the front and two other small denim accents on the side of the shirt. This piece generated strong negative reactions from the members of the group with even the word “ugly” being offered by a particularly impassioned participant. Two subjects cited the denim patchwork to be the reason for their distaste of the piece and two subjects thought the base shirt was too “comfy-looking” and insisted that they would not wear the shirt in public. Three of the subjects said that they would buy the shirt, but their positive reactions were not as fervent as the condemning reaction from the other members of the group.

### ***Conclusions***

Our focus group was a success in the fact that we were able to have a valuable discussion with one demographic about what they thought about upcycling. Overall, it felt like the group thought that upcycling was a unique concept that had a lot of potential, but many of the members were unimpressed with the samples that we showed them. The members had difficulty seeing themselves as the primary users of the upcycled products as a common phrase used in the group was “that would look cool on someone else.” However, there were a few exceptions to this theme. The bell-bottom corduroy pants were resoundingly popular among the group. The reclaimed denim pencil-pouch was also popular.

## **4. In-Person Interview Results**

### ***Interview Methodology***

Another one of the primary research methods that our team wanted to utilize was individual interviews where we could hear our target demographics thoughts on the type of upcycled products that we are considering manufacturing. In contrast to the focus groups which were conducted online, we felt it was imperative to get tangible clothing samples in front of

potential consumers so that they could provide fully informed opinions. We interviewed nine individuals between the ages of nineteen and twenty-five that we sourced from a local young adult ministry at a nearby church in Fairlawn. The format of the interviews was designed to get objective opinions on the likelihood of the interviewee to wear the articles of clothing that we showed them. We did not explain that the samples were upcycled or any of the context behind the research we were conducting until after they had critiqued the pieces.

We selected these ten interviewees with a few criteria in mind. We made sure to have interviewees with different socio-economic statuses, diverse cultural backgrounds, and a wide range of ages within the demographic that we were focusing on. We interviewed nine individuals four of which were female and the remaining five were males. We were familiar with all the individuals that we interviewed and were intentional about selecting a sample of participants with a range of fashion awareness. There were people in the study who described their fashion as “athletic,” “preppy” or “basic” and others who described their personal style as “unique” and “artistic.” There were people who spend a lot of time considering the clothes that they wear and others who are more relaxed about their fashion standards.

We purchased five articles of upcycled clothing from the online store Etsy that were created by artists out of mostly thrifted material, which we utilized in our online survey and focus group previously. We feel the selected designs were interesting and represented an exhaustive selection of the type of products available on the market. We also feel that the pieces selected for Goodwill would be realistic to manufacture without specialized equipment or substantial amounts of capital investment. We asked our interviewees two questions about the samples that we showed them, on a scale from one to ten how likely are you to wear this piece and on a scale of one to ten how positive would your reaction be if you saw someone else

wearing this piece in public? For the sake of this analysis, we will refer to these two questions as “self-use” and “others-use.” With these two questions, we hoped to see how feasible an option upcycled clothes were to potential consumers in the young adult demographic. Below are the results from the interviews we conducted. We will also break down the feedback for each of the samples individually. All descriptions in quotes are verbatim descriptions provided by our participants.

	Subject 1		Subject 2		Subject 3		Subject 4		Subject 5		Subject 6		Subject 7		Subject 8		Subject 9		
	SELF	OTHERS																	
Denim Pocket Tee	10	10	7	8	9	9	3	10	7	7	8	9	10	10	8	10	6	10	8.4
Gray Sweater	7	7	3	4	3	7	3	8	2	7	3	6	3	7	1	2	6	7	4.8
Pocket Skirt	10	10	1	8	1	8	8	8	7	8	3	6	1	6	1	4	7	8	5.8
Flared Jeans	10	10	3	3	1	4	7	8	10	10	5	9	1	8	1	8	6	9	6.3
Geometric Tee	4	5	5	6	6	8	2	6	4	6	3	7	5	7	8	8	5	8	5.7
AVERAGE	8.3		4.8		5.6		6.3		6.8		5.9		5.8		5.1		7.2		

Figure 1: A breakdown of the scores that each subject gave for each piece. Noticeably high scores of 9 or 10 are highlighted green while lower scores are highlighted red. Each subject’s average impression score for all the pieces is included in the final row in the table.

**Sample 1: Denim Pocket Tee Results**

The denim pocket tee was undoubtedly the most popular of all the samples that we showed our interviewees. The piece was simply constructed with the alterations being limited to a simple addition of an embroidered denim pocket. The base shirt was purple with small stripes running horizontally. The average score for this sample for both personal use and others-use reactions was 8.3, with around 40% of the responses being the maximum positive response of 10. Two of our female participants observed that the sample was “masculine” and said that they would not choose to wear the piece themselves, however the other two female participants noted that they loved the “accent” of the embroidery style and appreciated the “homemade” style of the denim pocket. It is worth noting that the disapproving female subjects said that the sample would

be better suited on a masculine model and were impressed with the shirt. One subject claimed that the shirt was “average enough that anyone could wear it.”

The male participants of the interviews were extremely impressed with the denim pocket shirt and gave it an average score of 8.7 across all male participants. There were many positive comments on the denim pocket and how it contrasted with the material of the base shirt. It is fascinating that all the critiques on the piece were based on the style of the base shirt rather than the alterations applied by the artist. In fact, every participant had at least one positive comment on the denim pocket or the embroidery. This is fascinating as it directly contradicts our findings in our focus group research where we found a similar product to be unfit for the same demographic. In the focus group the denim pocket tee that we showed them sparked strong negative reactions, especially directed toward the pocket.

### ***Sample 2: Gray Sweater Results***

As opposed to the denim pocket tee, the grey sweater was the least popular out of all the samples that we showed. The sweater is divided into two sections. The top half is a three-quarter length sleeved crewneck sweater, and the bottom half is made up of a darker gray fleece material. The division of materials begins around the lower midriff of the piece. It scored an average score of 4.8 across all nine participants with an average score of 3.4 for personal use.

Our participants could not see themselves wearing this piece in any capacity and would also respond neutrally if they saw one of their peers wearing the piece in public. The others-use reaction for this piece was 6.1 and many participants claimed that they could see someone pull it off if it were styled “correctly,” but it was simply not their preferred style of clothing. Some of the more fashion forward female participants also said that they would wear the sweater around the house “purely for comfort” but would not wear it in public.

Some of the most interesting critiques of this piece were that our subjects did not like the contrasting textures of material and felt as though the sample “did not know what it wanted to be.” Another subject claimed that the piece looked like a “bandana was sewn onto a ripped-up shirt” and that it felt like it was “hand-me-down material.” However, the more fashion forward participants were able to see the potential in the piece and were less harsh in their criticisms. It is worth noting that even this polarizing piece had some upside to the most open-minded members of this demographic and that the disapproval was not unanimous across our sample.

### *Sample 3: Pocket Skirt Results*

The pocket skirt performed well among our female participants. It was an American Eagle corduroy skirt for the base with a pair of simple floral patches sewn onto the front pockets of the piece. With the average score of 7.0 in the self-use score, this was the second most popular sample for the female subjects. Because the use of skirts is traditionally limited to females, the self-use score is not particularly helpful to consider for our male participants, but the average others-use score given by our male participants was a 6.8 which follows closely the number given by our female subjects.

Some of the qualitative descriptions used regarding the skirt were “fashionable,” “sharp” and “unique.” Only one of the female participants had a negative response to the alterations added by the artist. She said that the pockets “should not be there” but the other three female subjects all had positive reactions to the pockets. Of the five male participants, four of them considered the piece to be stylish and could be pulled off by the “right person.” The one male who did not like the piece thought that the added pockets was a “cool” idea but did not like the “execution” of the concept. Overall, this product was moderately popular with our subjects and many of the females could see themselves wearing the piece regularly.

#### ***Sample 4: Flared Jeans***

The flared jeans were another piece that were directed more specifically to the female participants. The only alteration made to the jeans was the sides were slit open at the bottom of the pant leg and the resulting gap in the denim was filled with a colorful floral material. When we look exclusively at the average score given by the female subjects, the flared jeans scored an extraordinarily strong 8.6 and received strongly positive feedback from the females in the study. Two of the female subjects gave a perfect score of 10 for both questions. One of the female subjects that gave the perfect score was a self-described “fashion-aware” individual and the other described her style as “comfortable.” It is interesting that the appeal for this piece transcended the apparent style differences found between our samples.

The male subjects scored the flared jeans similarly to the pocket skirt in the others-use category. The average others-use score for the male subjects was 6.8 which is the same as the average others-use score that the males gave for the pocket skirt. Several male subjects said that they instantly thought of specific females that they knew that would appreciate the flared jeans and the floral accents at the bottom of the pant legs. There were two strong negative reactions from male subjects who described the piece as something out of an “80s sitcom”. Unsurprisingly, every subject, male and female, used some sort of “vintage” or “retro” adjective when describing the pants.

#### ***Sample 5: Geometric Tee***

The final sample that we shared was another t-shirt that we felt could be worn by both masculine and feminine individuals. The base material for the shirt was a dark blue mesh with a geometric patchwork design sewn into the center of the shirt. All three of the patches that made up the design in the center were made of dissimilar materials. The average score for this piece

was a 5.7 so it performed poorly compared to the other samples we showed. There were very few strong negative reactions to the piece and the participant who gave the low self-use score of 3 gave a positive others-use score of 7. They just claimed that they “did not like how the material feels” but that the piece could fit someone else’s “vibe.”

Practically all the negative reactions to the piece were based on the material of the base shirt rather than the alterations made by the upcycling artist. In fact, only one of the subjects found the mesh material of the base shirt fit their sense of style. This was a twenty-five-year-old male subject who self-described his sense of fashion as “athletic.” He also claimed that the geometric pattern on the shirt would make him “more likely” to purchase the shirt as opposed to if it were just a solid color lacking any design altogether.

## 5. Etsy Seller Interviews

Our team also reached out to the upcycling artists who made each of the samples that we used in our personal interviews. We wanted to ask the sellers about the time and costs necessary to produce each product we purchased from them. Our initial message simply let the seller know that their item was purchased to support an honors business thesis project at The University of Akron and that we would appreciate any estimates they could share with us to understand the upcycling business on a deeper level.



Figure 1: Flared Jeans



Figure 2: Geometric Tee



Figure 3: Denim Pocket Tee

For the flared jeans (figure 1), we paid \$35.89. The seller explained that she typically tries to get denim that is already marked on half-price at local thrift stores for around \$3. She stated that from start to finish, the process typically takes about 2.5 hours. However, she enjoys doing crafts and sewing as a hobby as she is now retired and just does it to pass time. She considers her prices to be much lower than similar sellers (Alba Trollinger, March 10, 2022).

The next piece, the geometric tee found in figure 2, by Etsy seller CreationsZo (Marie-Claude Daoust) cost \$37.61 to purchase. They explained that the most difficult part of the projects is sourcing material at thrift stores to create an eye-catching design. They buy a shirt costing anywhere from \$8 to \$15 and will use other fabrics already on-hand or on clearance from a fabric shop. The stitching process takes anywhere from 30 minutes to one hour to create a shirt like the one we purchased (Marie-Claude Daoust, March 17, 2022).

Lastly, the XL Denim Pocket Tee (Figure 3) cost us \$20 to purchase. This seller tries to go to Goodwill Outlets to buy by the pound to spend less than \$3 per t-shirt used. The costliest and timeliest part of the process is the denim pockets, which usually cost \$4 per pocket. To streamline the process, they collect denim and cut as many pockets as possible with the material they have. The seller also has a nice sewing machine to be able to embroider on the shirts. In total, the seller explained that each shirt costs between \$5-10 to produce (DarnItApparel, March 18, 2022).

All three sellers explained that they must first source items that are within budget and have potential to be resold with little to no damage. Goodwill Industries of Akron has the advantage of getting all products that would be upcycled for free and first dibs. We must also consider the fees Etsy and other platforms take from these sellers. However, Goodwill Industries of Akron already has an online website and an eBay account where they are familiar with the

fees. Goodwill Industries of Akron also has the benefit of the Blue Boutique and experience running a pop-up-shop on the University of Akron campus.

We can use these initial financial analysis findings to project out upcycling revenues, expenses, and the net present value of the project to decide if it will support the Goodwill Industries of Akron mission of addressing the transportation barriers. To move forward with our analysis, we must meet with Nan to figure out cost estimates for transportation (e.g., for a bus pass vs Uber for Business), cost of labor (e.g., if designers will be paid more), estimation of a target hurdle rate for their projects, and ensure Goodwill has the adequate machinery such as sewing machines and yard available to use.

## **6. Financial Projections**

Based on the data and responses we collected in our focus group, survey, interviews, and the Etsy seller messages, we determined that it would be best to focus on two products that have a uniform design such as the t-shirt with an embroidered pocket and the flared jeans. These products are the most time efficient and the inputs for the designs are readily available year-round at Goodwill stores. In our primary research, these two items were also the most favorable to consumer preferences. Goodwill informed us that the wage rate for the skillset required of this job would need to be \$15.60 per hour.

We determined that 8 workers would be appropriate to reach the demand and were then constrained to 16,640 labor hours in a fiscal year (8 workers x 40 work hours x 52 weeks). To project year 1 demand in both scenarios, we estimated 15% of Goodwill's 856,451 customers would be interested in purchasing upcycled clothing. The two scenarios below show the outcomes between the \$5 price increase. We assumed 70% of customers would still be willing to purchase at the price point for case 2. Both scenarios resulted in a profit;

however, the restraints are holding it back from reaching the \$250,000 profit to support the bus pass transportation program.

Case 1 Incremental Analysis		Case 2 Incremental Analysis	
<b>Unit Sales</b>		<b>Unit Sales</b>	
Denim pocket tee units	12,847	Denim pocket tee units	8,993
Pocket tee selling price	\$ 20.00	Pocket tee selling price	\$ 25.00
Pocket tee revenues	256,935	Pocket tee revenues	224,818
Flared Jeans units	7,708	Flared Jeans units	5,396
Jeans selling price	\$ 30.00	Jeans selling price	\$ 35.00
Jeans revenues	231,242	Jeans revenues	188,847
<b>Total Revenues</b>	<b>488,177</b>	<b>Total Revenues</b>	<b>413,666</b>
<b>Unit Expenditures</b>		<b>Unit Expenditures</b>	
Foregone revenues		Foregone revenues	
Clearance jeans 50% off	3.24	Clearance jeans 50% off	3.24
Clearance shirt 50% off	1.49	Clearance shirt 50% off	1.49
Total foregone revenue	(44,116)	Total foregone revenue	(30,881)
Cost of Labor		Cost of Labor	
Wage per shirt	7.80	Wage per shirt	7.80
Wage per jeans	15.60	Wage per jeans	15.60
Total wage expenditure	(220,450)	Total wage expenditure	(154,315)
Marketing expense	(21,000)	Marketing expense	(21,000)
<b>Total Expenditures</b>	<b>(285,566)</b>	<b>Total Expenditures</b>	<b>(206,196)</b>
<b>Net Profit (Loss)</b>	<b>202,611</b>	<b>Net Profit (Loss)</b>	<b>207,469</b>

For Goodwill to reach the threshold of \$250,000, Goodwill would need to increase the number of employees or improve employee efficiency to make more product in a lesser amount of time. The total production and total labor hours for both price points are outlined in the table below.

Production for 250K Goal Case 1			
	Denim Pocket Tee	Flared Jeans	
Profit / Unit	\$ 10.71	\$ 11.16	
Labor / Unit (hours)	0.5	1	
Projected Annual Demand	12847	7708	
			Totals
Production required for \$250K Profit	17962	7046	25007
Total Labor hours required for \$250K Profit	8981	7046	16027
Annual Profit	\$ 192,370.54	\$ 78,629.46	\$ 250,000

Production for 250K Goal Case 2			
	Denim Pocket Tee	Flared Jeans	
Profit / Unit	\$ 15.71	\$ 16.16	
Labor / Unit (hours)	0.5	1	
Projected Annual Demand	8993	5396	
			Totals
Production Required for \$250K Profit	7606	9376	16982
Total Labor hours required for \$250K Profit	3803	9376	13179
Annual Profit	\$ 119,486.17	\$ 151,513.83	\$ 250,000

## 7. Conclusions

### *General Conclusions and Next Steps*

After combining all our research, both primary and secondary, we have concluded that upcycled clothing is a unique concept with a very niche target market, but it is unfeasible for Goodwill Industries of Akron to implement it at this time. When we were conducting our research, we focused on two questions: is there a demand for upcycled products in the market where the GIA operates and what would it cost to create a new business line for these products? Most of our primary research was targeted at answering the first of these two questions, as we figured it was a non-starter for the GIA to even consider upcycling a valid opportunity.

In our market research we found that there is moderate demand for upcycled products. Our data shows that consumers have positive reactions to the concept, but they struggle to see themselves using the products. There is a low level of willingness to purchase, but an intense sense of hypothetical value. This is a promising trend when considering the future of this concept as it shows an appreciation of upcycling as a fashion choice. There has been growth in the positive reaction to secondhand and modified clothing in the past decade, but it is still too early in the development of this fashion concept to try to present it to the public in the form of a separate clothing line.

When we consider the business aspects of this concept there are many potential hurdles to face as well. Upcycling is a labor-intensive process and would be difficult to standardize in the context of a large network of brick-and-mortar stores. The sheer volume required to operate sustainably is not within the market that the GIA has in their brick-and-mortar stores. However, to combat the limited nature of this market a strong e-commerce approach would be integral if this concept were to be pursued.

As far as the next steps are concerned, it would be best to look further into the capabilities of the GIA and what resources they could leverage to offer this product to their customers. It would also be wise to hire a full-time manager for this project, someone with fashion merchandising experience who keeps up with the current trends and can effectively manage the upcycling process. This manager should be able to partner with product designers and Goodwill employees to create an internal supply chain and manufacturing procedures.

### ***Limitations and Further Research Opportunities***

There are plenty of further research questions that arose from this process. Our research primarily focused on the current demand in the market for upcycled goods but there are many

other aspects that would need to be addressed to have a clear picture of the potential of this idea. One of the most glaring limitations of our research was the lack of diversity in our samples. Our survey, focus-group, and interview participants were all in the youngest age demographic and that does not reflect the average age of Goodwill's customer base. It would be imperative to investigate how older demographics perceive these products.

Another potential research question that would be beneficial is to track the donation supply chain with more detail. If Goodwill is going to use donated goods to manufacture these products, it would be important to know where these goods are coming from. By understanding this, they could find out if there are opportunities for more donations and therefore more profit-making opportunities. Fully grasping the donation supply chain could help Goodwill maximize their utilization of donations in a traditional re-sale setting or even an upcycling application.

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