Investigating consumer behaviour for environmental, sustainable and social apparel

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Abstract:

Purpose: The purpose of this study is to investigate consumers' perceptions of and consumer behaviour towards apparel labels and environmental, sustainable and social apparel. **Design/methodology/approach:** Quantitative research was conducted, and empirical data were collected from 399 US consumers. **Findings:** Findings indicate that consumers expressed positive sentiments towards apparel sustainability, yet they lacked knowledge about socially and environmental practices within the apparel industry. Overall, it is apparent that the respondents have an interest in environmental and social labelling; but they are not aware of brands that sell these types of garments nor their validity. It was also found that consumers may not have much knowledge regarding environmental, sustainable and social apparel or their meanings. **Originality/value:** By surveying the consumers about their perspectives on apparel labels and environmental, sustainable and social apparel, valuable market information was obtained. Sustainably and ethically produced garments are of demand as transparency in the apparel industry grows. Brands looking to become more transparent about their production methods will need to find new ways to reach their target market by accurately labelling products and educating their consumers about these label claims.

Keywords: apparel industry | apparel label | eco-label | sustainability | sustainable apparel | US consumers

Article:

Introduction

The fashion industry alone is one of the world's worst global polluters following the oil and gas industry (Conca, 2015, December 3). There has been an increasing number of apparel brands producing fast-fashion apparel items. These brands tend to focus on quick supply chains to bring the newest fashions to the consumers as fast as possible. This leads to garments that are only designed to last through a season and are typically made of lesser quality. These designs with speed to market business models are harmful to the environment as the amount of waste produced during the manufacturing process is increased. Recently, ethical and sustainable initiatives are growing more common within the apparel market, along with an increase in consumer interest in purchasing from companies that are transparent and uphold sustainable and ethical practices. Apparel labelling is one of the main ways that a consumer can learn about the products they are interested in purchasing. Many companies are recognizing the opportunity to connect with consumers through social media platforms such as Instagram and YouTube to educate consumers about apparel labelling and strengthen brand loyalty. Brands looking to be successful in sustainable apparel production will need to both educate consumers about their Corporate Social Responsibility (CSR) values and market their products appropriately with the justified value of being made ethically and sustainably.

According to McKinsey and Company's report entitled “The State of Fashion 2020” (Amed *et al.*, 2019), sustainability and transparency are the topics that consumers have rising concerns about and are pressuring apparel brands to make a change. Apparel brands are responding to consumer interest in transparency on issues such as product origin, production methods and environmental impacts (Hustvedt and Bernard, 2008). This has led to an increasing amount of sustainable and ethical fashion being designed and produced.

Eco-labels allow consumers to learn more about the origins and production methods of a garment of clothing. It can be confusing and difficult to make environmentally responsible purchase decisions by simply looking at a textile product. Consumers looking to purchase these types of garments should consider the fibre production, product manufacturing process and what will happen to the garment during and after its useful life (Chen and Burns, 2006). Eco-labels are being introduced into the market, which requires manufacturers to meet specific requirements before they can call their products “green” or ethically produced (Bocken and Allwood, 2012). Eco-labels may include claims such as made in the USA, 100% cotton, organic, ethically sourced, recycled, environmentally friendly, recycled materials, locally produced, good working conditions and/or fair trade.

There is a lack of relevant research on consumers' perspective of apparel labelling regarding sustainability and ethical production. The purpose of this study is to explore how consumers, including different age groups, are shaping the current and future sustainable apparel marketplace. This study focuses on consumer consciousness about the information on apparel labels (Goswami, 2008). Findings from this study will provide vital information for the industry in that the data collected express consumers’ behaviour and beliefs regarding environmental and social garment labelling. In the following section, the relevant literature review and the research questions are presented. Subsequently, the research method is described, followed by data analysis and results. Finally, the paper discusses the results, implications and future study directions.

Literature review

The State of sustainable and ethical fashion

The current state of the apparel industry is quickly changing as brands aim to keep up with the demands of the consumer marketplace. John Anderson, President and CEO of Levi Strauss and C.O., states that “For the fashion industry to be sustainable economically, it must be sustainable socially and environmentally too" (Forum for the Future, 2019). Companies have many opportunities to keep up with the fast-paced market; this can be done by listening to consumer desires and acting upon them through transparency. They will need to focus on consumer wants, such as taking an active stance on social issues, sustainability and demands for transparency.

The apparel and textile industries are among the top leaders in social and environmental issues, which have led to increased attention and concern surrounding the sustainability topic. Consumers need to have a base knowledge of these issues in order to make prepared and informed purchase decisions. With this knowledge, they can change their attitudes regarding sustainable apparel and, therefore, their purchase behaviour (Su *et al.*, 2019). Younger generations specifically are becoming more aware of environmental issues along with the impact that apparel consumption has due to their connection and usage of the Internet and various social media.

Apparel production not only causes environmental issues such as pollution and energy consumption but also lends itself to several social issues that must be addressed when discussing the impact of the industry. These issues include but are not limited to working conditions, working hours, child labour and exploitation. Many of these issues have been brought to light through Rana Plaza disaster in Bangladesh which killed more than 1,100 people (Amed *et al.*, 2018). Due to the surrounding news and broadcasting of the event, consumers are increasingly demanding to know where and how their products are being made (Amed *et al.*, 2018).

CSR is the practice of companies addressing and reporting sustainability-related issues. Factors that affect US consumer's intentions to patronize retail apparel brands engaged in CSR practices were studied by Diddi and Niehm (2017). Their findings suggested that moral norms, subjective norms and attitudes were all important predictors of the US consumer's intention to patronize retail apparel brands engaged in CSR. They also proposed that for retail apparel brands to increase consumer awareness of their socially responsible business practices, they should integrate CSR-related information in their strategic marketing activities (Diddi and Niehm, 2017). This indicates that consumers are willing to patronize retailers that are engaged in socially responsible business practices. However, the literature indicates that generation Y or the millennial generation are more sceptical about apparel labels and promotional CSR messages than other previous generations (Bhaduri and Ha-Brookshire, 2011).

Apparel labelling

Labelling is only one step in the entire process of producing and consumption of a garment; however, such labelling has the ability to inform consumers of the products origins and also provide information about how to care for the garment in order for it to have less impact on the environment throughout the garment's lifetime (Thomas, 2018). The International Association of Textile Care Labelling has developed a series of label instructions entitled Clevercare™. This labelling system advises consumers on ways that they can care for their garments in a more environmentally conscious manner (Ginetex, 2019; Thomas, 2018).

Labelling systems such as the one outlined above are beneficial in reducing the negative environmental impacts that come along with apparel consumption. This further provides information to consumers regarding how to care for their garments to create a more sustainable future.

While many brands are changing their production methods to become more transparent regarding their sustainable practices, not all companies are doing the right thing. Research has found that consumers may form negative attributions about the motives of the company when they see discrepant green advertising and corporate performance (Nyilasy *et al.*, 2014). This indicates further the importance of brand transparency to increase consumer trust in a firm's initiatives. Sustainable apparel labels, including environmental and social labels, will need to be accurate and trustworthy to add value to customers during the purchase decision.

Eco-labelling programs

With the emergence of consumer demand for transparency concerning where their clothes are coming from and how they are being produced, many eco-label programs were created internationally to provide meaningful information to the consumers regarding the social and environmental aspects of the product. The purpose of eco-labelling is to make it easier to identify less harmful and more sustainably preferable alternatives to purchasers. Eco-terms frequently used in the current marketplace include: environmentally friendly, eco-conscious, eco-friendly, nature-friendly, ethical, organic, sustainable, green, responsible, ecologically clean, envirosafe and ecologically innocuous (Hahn-Petersen, 2018). These terms are used to describe products that claim to cause reduced or no harm to the environment. There is a concern that this creates confusion for the consumers due to a lack of specificity and credibility. However, there are multiple labelling programs that are credible and provide accurate information, such as those discussed below.

The Eco-label Index is a global directory of eco-labels that provides reliable and accessible information to help buyers and sellers use labels more effectively. There are currently over 450 eco-labels in 199 countries and covering 25 industry sectors according to the eco-label index (Ecolabel Index, 2019). This provides clarity and direction for consumers to learn more about labelling programs that are trustworthy within a multitude of programs offering unclear and unregulated labels. It is common for environmental labelling used on products with the intention of providing information on their environmental characteristics to include different categories (D'Souza *et al.*, 2007). For example, in Australia, there are different classifications of environmental labels, Type I, Type II and Type III developed by the Strategic Advisory Group (D'Souza *et al.*, 2007). Type I labelling deals with third party assessments of the firm's environmental standards. Stakeholders are responsible for setting the criteria using a process that involves the industry and consumers. Once the product reaches the threshold it then qualifies for the label. This is more reliable to consumers due to the party using an independent verification process beyond that of the manufactures' claims. Type II labelling refers to labels which include general claims in written or symbolic form, such as “recyclable” and/or “ozone friendly”. This type of labels is often seen on product labels for marketing communication. Type III environmental labelling is a more in-depth version of Type I labelling in that it requires testing by an independent third party who collects life cycle inventory data and assesses it against natural indicators such as air emissions and energy usage (D'Souza *et al.*, 2007).

Although labelling programs such as the one described above provide credible labelling within the marketplace, it has been found that consumers have poor knowledge of eco-labelling and are only aware of generic labelling using terms such as "biodegradable" and "recyclable" (D'Souza *et al.*, 2007). Promoting eco-labelling programs and standards are key to creating further transparency and upholding sustainable and ethical practices within the apparel industry. The below programs are leaders in the apparel industry. Not only do they focus on providing labelling systems, but they also support and promote sustainable and ethical manufacturing beginning at the farm where the fibres are produced and ending at the end consumers.

The Better Cotton Initiative. The Better Cotton Initiative (BCI) is a not-for-profit organization that aims to make global cotton production better for the individuals who produce it and better for the environment in which it grows. They are the largest cotton sustainability program in the world and partner with over two million cotton farmers in 21 countries (Better Cotton Initiative (BCI), 2019). The BCI works with a diverse range of stakeholders across the world and throughout the supply chain to promote measurable improvements for the environment and economies of cotton-producing areas (Better Cotton Initiative (BCI), 2019).

Fairtrade. Fairtrade is a program that strives to alleviate poverty and provide sustainable development for farmers. Fairtrade takes a holistic approach to create long-term partnerships that lead to sustainable and decent livelihoods for the workers and farmers that produce many popular products (Fair Trade USA, 2019). Fairtrade works to set standards to raise the bar on social, economic and environmental standards. The Fairtrade mark is one of the most widely recognized ethical certification labels worldwide (GlobeScan, 2019).

The Oeko-Tex Standard 100. Standard 100 by Oeko-tex is one of the world's best-known labels for textiles tested for harmful substances. (OEKO-TEX, 2019). If a textile carries this label, it signifies that every component has been tested for harmful substances and is harmless in human ecological terms. Every part of an article must comply with the test criteria to gain this label's approval from the coating and outer material to the stitching and zipper (OEKO-TEX, 2019). Their tests are globally standardized and updated at least once a year to stay current with new scientific information (OEKO-TEX, 2019).

The Global Organic Textile Standard. The Global Organic Textile Standard (GOTS) is a leading textile processing standard worldwide for organic fibres and is backed up by independent certification of the entire textile supply chain (The Global Organic Textile Standard (GOTS), 2020). The aim of this standard is to define requirements that ensure textiles are organic from harvesting to socially and environmental manufacturing and then labelled accurately to provide credibility to the end consumers. This standard covers all stages of the supply chain to ensure that textiles are made from at least 70% certified organic natural fibres (The Global Organic Textile Standard (GOTS), 2020).

The Global Recycled Standard. The Global Recycle Standard (GRS) was developed by Control Union Certification in 2008 and turned over to the Textile Exchange in 2011 (Control Union Certifications, 2019). The GRS is an international standard that sets requirements for third-party certification of recycled content, social and environmental practices and chemical restrictions. Their objectives include defining requirements to ensure accurate content claims and good working conditions and that harmful environmental and chemical impacts are minimized throughout the manufacturing process (Control Union Certifications, 2019).

Consumer perceptions of and knowledge about sustainable apparel products

Consumer knowledge of apparel sustainability and related issues such as sustainable fibres and ethical working conditions is associated with their attitude towards sustainable apparel products and brands (Su *et al.*, 2019). Park and Kim (2016) state that it is impossible for the average consumer to differentiate apparel firms' authentic efforts to enhance sustainability and greenwashed messages for marketable solutions. Knowledgeable consumers are more likely to better understand the environmental and social problems created by the business of fast fashion (Park and Kim, 2016).

Transparency has become an increasingly important issue for consumers who want to support brands that are doing good in the world. It was found that 42% of millennials say that they want to know what goes into products and how they are made before they make a purchase decision (Amed *et al.*, 2018). Consumers are becoming more aware of how and where their clothing is being produced and therefore are in search of this information from apparel brands. However, there is still a lack of consumer knowledge regarding socially responsible practices in the apparel industry, yet consumers expressed positive sentiments towards sustainability (Hwang *et al.*, 2015; Su *et al.*, 2019).

Apparel firms use varied forms of socially responsible marketing and promotion to communicate empathy for others, concern for the rights and welfare of others and actions that benefit others (Hyllegard *et al.*, 2014). This includes hang tags and sewn in labels that are typically used to show legally required information such as the fibre content, care instructions and country of origin. The other use of labels and hang tags is to share information such as the brand name, product attributes and brand missions or philosophies.

It has been found previously that retail brands can benefit from stressing social responsibility-related attributes of products through the use of labelling as it influences the purchase decision and willingness to pay for the item (Hustvedt and Bernard, 2010). However, it has also been found that consumers are not willing to sacrifice price and style for responsible apparel items (Gam *et al.*, 2014). Pricing of apparel products has been found to be one of the largest decision factors impacting the consumer's perception of the product and their purchase intention (Tong and Su, 2018). Brands are attempting to combat this by increasing transparency throughout their supply chain to increase the perceived value of a garment (Amed *et al.*, 2018).

Aspers (2008) discussed how ethical and environmental labelling systems could be implemented in fashion garment markets. His research found that consumers are overwhelmed with the amount of information that is provided to them; the addition of environmental or social labelling only further complicates the decision-making process (Aspers, 2008). His proposal is to create a system in which consumers have the choice to pay an additional price for a garment to promote ethical and sustainable initiatives.

Value-based labelling was further studied by Hustvedt and Bernard (2008). They focused on understanding consumer willingness to pay for a garment that was produced in a sustainable and socially responsible manner. Their findings suggest that consumers are interested in knowing about the origins and fibre attributes of products before making a purchase decision. Key findings indicate that consumers are willing to pay more for garments labelled as organic and locally produced (Hustvedt and Bernard, 2008). This suggests that consumers are overall interested in the claims found on apparel items and are willing to pay more for certain attributes outlined on the labelling of the product.

Research questions

This study aims to investigate US consumers' perceptions of and attitudes towards sustainable apparel and apparel labelling from a holistic view. This study offers potential contributions to the literature of sustainable apparel and apparel labelling by empirically addressing the following research questions (RQs):

RQ1. What is the level of consumers' apparel sustainability knowledge?

RQ2. What are consumers' attitudes towards apparel production?

RQ3. What are consumers' perceptions of apparel labelling?

RQ4. What are consumers' perceptions of environmental and/or social labels on apparel products?

RQ5. What are consumers' purchase intentions towards environmentally and/or socially responsible apparel products?

RQ6. What are the effects of social norms in the consumer's decision to purchase apparel from environmentally and/or socially responsible clothing brands?

RQ7. What are consumers' beliefs in their relationship with nature (man-nature orientation)?

RQ8. Are there any differences between consumers in the 18–34 age group and consumers in the 35 and older age group regarding their attitudes towards the importance of environmental and/or social information on apparel labels?

RQ9. Are there any differences between consumers in the 18–34 age group and consumers in the 35 and older age group regarding their perceptions of apparel labelling?

RQ10. Are there any differences between consumers in the 18–34 age group and consumers in the 35 and older age group regarding their perceptions of environmental and/or social labels on apparel products?

Method

A national consumer survey was conducted in the United States to collect quantitative data for this study. The survey consisted of a series of questions aiming to understand consumer experiences and perceptions of apparel labelling, as well as environmentally and ethically produced apparel products. In addition, the demographic questions inquired about the participants' age, gender, race, education level, marital status, income and occupation. Five-point Likert scale was used in the survey questions (1 = Strongly Disagree; 5 = Strongly Agree). Questions used for this survey were adapted from the previous research (Chan, 2001; D'Souza *et al.*, 2007; Dickson, 2001; Diddi and Niehm, 2017; Goswami, 2008; Hustvedt and Bernard, 2010; Hwang *et al.*, 2015; Ma and Lee, 2012; Park and Kim, 2016). The survey was created using Qualtrics and distributed through Amazon Mechanical Turk (MTurk), a crowdsourcing website where participants can perform anonymous tasks for researchers. Five hundred data were collected; however, there was a total of 399 useable responses collected from this survey.

Results and discussion

Respondent profile

Table 1 shows the profile of the sample respondents. Participants aged 18–24, 25–34, 35–44 and 45 and older accounted for 13.8%, 51.6%, 19.8% and 14.8% of survey takers. 55.6% of the respondents are male and 43.6% are female. In terms of racial or ethnic background, 50.1% of the respondents are Asian, 35.1% Caucasian and 6% Black or African American. Educational levels varied among the respondents, with 38.6% having a 4-year degree, 17.8% having a master's degree and 15% having some college. Slightly over half of the respondents are married at 50.9%, followed by those never married at 37.6%. Most respondents answered that for the previous year, their total household income was from $25,000 to $49,999 at 27.8%, followed by $50,000 to $74,999 at 26.1%. The respondents had a wide range of occupations, as shown in Table 1.

Table 1. Investigating consumer behavior

Characteristics	Frequency	Percent
Age		
18–24	55	13.8
25–34	206	51.6
35–44	79	19.8
45–54	43	10.8
55–64	15	3.8
65–74	1	0.3
Gender		
Female	174	43.6
Male	222	55.6
Gender variant/Non-conforming	1	0.3
Prefer not to answer	2	0.5
Race		
American Indian or Alaska native	9	2.3
Asian	200	50.1
Black or African American	24	6
Caucasian	140	35.1
Hispanic	15	3.8
Other	11	2.8

Characteristics	Frequency	Percent
Education		
Less than high school	1	0.3
High school graduate	39	9.8
Some college	60	15.0
2-year degree	27	6.8
4-year degree	154	38.6
Master's degree	71	17.8
Professional degree	42	10.5
Doctorate	5	1.3
Marital status		
Married	203	50.9
Widowed	6	1.5
Divorced	16	4
Separated	17	4.3
Never married	150	37.6
Other	7	1.8
Income		
Less than $25,000	90	22.6
$25,000 to $49,999	112	28.1
$50,000 to $74,999	104	26.1
$75,000 to $99,999	59	14.8
$100,000 to $149,999	25	6.3
$150,000 and over	9	2.3
Occupation		
Agriculture, forestry, fishing and hunting	14	3.5
Arts, entertainment, and recreation	24	6.0
Computer, electronics. telecommunications related	52	13.0
Construction	17	4.3
Education	32	8.0
Finance and Insurance	30	7.5
Government and Public Administration	7	1.8
Health Care and Social Assistance	31	7.8
Homemaker	17	4.3
Hotel and Food Service	13	3.3
Information Services and Data Processing	53	13.3
Legal Service	5	1.3
Manufacturing	26	6.5
Retail and Wholesale	20	5.0
Scientific or Technical Services	9	2.3
Software	17	4.3
Transportation and Warehousing	6	1.5
Others	26	6.5
Total	399	100

Table 2. Purchase experience

	Percentage	
Purchase experience	**Yes**	**No**
Have you ever purchased environmentally and/or socially responsible clothing product(s) during the last 5 years?	78.2	18.5

The results of the survey were analysed for overall responses and by age groups to answer the research questions outlined above. Each of these questions aims to understand the current state of consumers within the apparel industry and their consumer experience regarding sustainable, environmental and social apparel and apparel labelling. It was found that 78.2% of the respondents have purchased environmentally and/or socially responsible apparel in the last five years and 18.5% have not (Table 2).

RQ1: What is the level of consumers' apparel sustainability knowledge?

This research question aims to understand the participants' level of knowledge regarding sustainable apparel products and the environmental and social impacts of the industry. Descriptive analysis indicates that overall, participants agreed that they were knowledgeable about sustainability within the apparel industry (Table 3). Consumers are more knowledgeable about social equity issues than environmental issues in the fashion apparel industry. However, consumers know more about eco-friendly apparel brands than socially responsible apparel brands. Table 3 indicates that consumers are aware of sustainability issues within the industry yet are less aware of brands or businesses that are engaged in sustainable and ethical practices.

Table 3. Consumer's apparel sustainability knowledge; mean and standard deviation

Apparel sustainability knowledge	**Mean**	**Standard deviation**
I am knowledgeable about social equity issues (e.g. working conditions of factory workers, fair wage for factory workers) in the fashion apparel business	3.73	1.05
I understand the environmental impact of apparel products across the supply chain	3.61	1.118
I am informed about environmental issues (e.g. eco-fashion, environmental impact of clothing manufacturing) in the fashion apparel manufacturing business	3.59	1.088
I am informed about child labour/sweat shop issues in the fashion apparel manufacturing business	3.58	1.051
I am knowledgeable about apparel brands that sell environmentally-friendly products	3.57	1.129
I know more about socially-responsible apparel business than the average person	3.34	1.161

RQ2: What are consumers' attitudes towards apparel production?

This research question is to understand consumers' overall attitudes towards apparel production (Table 4). Most respondents felt that factory workers who produce apparel products should be paid a fair wage (M = 4.23, SD = 0.872). Consumers felt neutral when asked if they feel that they can do something about sweatshops with the mean at 3.11. The results indicate that consumers do not feel strongly that they have an ability to make an impact on where or how their garments are being produced, such as sweatshops in apparel production. However, respondents feel that individual apparel consumers can improve the environment and are concerned about the impact of clothing production.

Table 4. Consumer's attitudes towards apparel production; mean and standard deviation

Attitudes towards apparel production	**Mean**	**Standard deviation**
Factory workers who make apparel products should get paid a fair wage	4.23	0.872
I am concerned about issues affecting workers in clothing manufacturing business	3.94	0.912
I believe there is a lot that individual apparel consumers can do to improve the environment	3.84	0.981
I am concerned about the impact of clothing production on the environment	3.78	1.056
There is nothing I can do about sweatshops	3.11	1.228

RQ3: What are consumers' perceptions of apparel labelling?

Apparel labelling is important to consider when understanding the consumers' purchase intention. Labels are used to provide information about a product to consumers. The results (Table 5) are interesting as the majority of respondents are satisfied with apparel labels (M = 3.73, SD = 0.872), yet they still feel instructions for use need to be included on labels (M = 3.88, SD = 0.978). This may indicate that the respondents are unsure if the labels found on apparel items are trustworthy. In addition to this, data also indicate that many consumers do not spend much time thinking about where their clothes come from or they are likely not to read apparel labels. These behaviours further lead to the idea that consumers are not knowledgeable or informed about environmental and/or social issues within the apparel industry.

Table 5. Consumer behaviour towards apparel labels; mean and standard deviation

Consumer behaviour towards apparel labels	Mean	Standard deviation
Instructions for use need to be included on labels	3.88	0.978
I am satisfied with apparel labels	3.73	0.872
I rely on past experience in purchasing instead of reading the labels	3.66	1.085
Labels on apparel products are accurate	3.62	0.986
I always read labels when I purchase apparel	3.57	1.204
I do not spend much time thinking about where my clothes come from	3.47	1.188
Labels on apparel products are hard to understand	3.27	1.184
I do not really have time to read labels when I am shopping for apparel products	3.15	1.271

RQ4: What are consumers' perceptions of environmental and/or social labels on apparel products?

Consumers' perceptions of apparel labelling are discussed in RQ3; RQ4 seeks to further analyse these perceptions in regards to their perceptions of environmental and/or social labelling of apparel products (Table 6). The largest standard deviation in this set of items is SD = 1.272 (with M = 3.08), indicating that respondents have varying knowledge and understanding of the concepts on environmental and/or social labels of apparel products. This implies that consumers are not knowledgeable about the information provided on sustainable labels. Many respondents also indicated that such labels are hard to understand as the mean is 3.38 for this question item. Consumers generally believe in the sustainability information on apparel labels, but they may not understand the information displayed in environmental or social labels.

Table 6. Consumer behaviour towards environmental and/or social labels; mean and standard deviation

Consumer behaviour towards environmental and/or social labels	Mean	Standard deviation
I generally believe in the environmental and/or social information on apparel product labels	3.78	0.869
I believe that the information on environmental and/or social labels of apparel products is accurate	3.56	0.932
I am satisfied with the environmental and/or social labels on apparel products	3.56	0.983
Environmental and/or social labels on apparel products are hard to understand	3.38	1.185
I do not understand the concepts on environmental and/or social labels of apparel products	3.08	1.272

RQ5: What are consumers' purchase intentions towards environmentally and/or socially responsible apparel products?

The question items in Table 7 aim to understand consumers' purchase intentions towards environmentally and/or socially responsible apparel products along with which terms influence the purchase decision (Table 7). The results imply that consumers would make an extra effort to purchase clothing from environmentally and/or socially responsible brands. Consumers intend to purchase sustainable clothing, but their willingness to pay more for environmentally and/or socially responsible apparel products is not high (M = 3.65, SD = 1.176). There is a gap between consumer's intention to purchase and their willingness to pay more for sustainable apparel products.

Table 7. Purchase intention; mean and standard deviation

Purchase intention	**Mean**	**Standard deviation**
I will purchase environmentally and/or socially responsible clothing products	3.90	0.955
I will make an extra effort to purchase clothing from environmentally and/or socially responsible clothing brands	3.84	1.039
Before making a purchase, I will read the clothing label to see if it is environmentally and/or socially responsible	3.88	1.108
I will pay more for clothing from environmentally and/or socially responsible clothing brands	3.65	1.176
I am more likely to purchase clothing that is labelled “Environmentally Friendly”	4.0	0.982
I am more likely to purchase clothing that is labelled “100% Cotton”	3.96	0.962
I am more likely to purchase clothing that is labelled “Ethically-Sourced”	3.87	1.035
I am more likely to purchase clothing that is labelled “Recycled”	3.78	1.038
I am more likely to purchase clothing that is labelled “Made in the USA”	3.77	1.029
I am more likely to purchase clothing that is labelled “Organic”	3.77	1.088

The second part of this research question focuses on terms in which consumers are more likely to purchase such apparel items. The terms “Environmentally Friendly”, “100% Cotton” and “Ethically-Sourced” had the highest mean scores (4.0, 3.96 and 3.87 respectively). Terms such as “Recycled”, “Made in the USA” and “Organic” had mean scores of 3.78, 3.77 and 3.77 respectively. This indicated that apparel labels that include the terms “Environmentally Friendly”, “100% Cotton” and “Ethically-Sourced” would possibly be of higher interest to consumers. This is partially in contrast to a previous study by Cotton Incorporated's 2013 survey (Cotton Incorporated, 2013) in which the terms “100% Cotton” and “Made in the USA” are most likely to influence their apparel purchase decisions had the highest consumer interest, while “Ethically-sourced” and “Recycled” had the lower consumer interest.

RQ6: What are the effects of social norms in the consumer's decision to purchase apparel from environmentally and/or socially responsible clothing brands?

Social norms are an important factor in consumers' decision-making process and, therefore, must be considered. This is equally true when it comes to their decisions to purchase apparel products that are environmentally and/or socially responsible. Table 8 reports the results associated with consumer perceptions of the impact of social influences. Overall, the effects of social norms on consumer's decision to purchase sustainable clothing are low-medium. The question items show the largest standard deviations, meaning that participants had a wider range of responses and further indicating that social norms vary from person to person. The social factors studied in this section include friends, co-workers, family, social media platforms and celebrities. Social media platforms and family members are more likely to have an effect on consumers than celebrities or co-workers. Celebrities show to have a varying impact on consumers' purchase decisions with SD = 1.415, the highest out of this group of questions. This indicates that while celebrities play a role in the decision-making process of purchasing apparel from environmentally and/or socially responsible clothing brands for some individuals, some other consumers may be turned away by marketing that includes public figures.

Table 8. Social norms; mean and standard deviation

Social norms	Mean	Standard deviation
Social media platforms influence my decision to purchase apparel from environmentally and/or socially responsible clothing brands	3.25	1.338
My family members influence my decision to purchase apparel from environmentally and/or socially responsible clothing brands	3.12	1.333
My friends influence my decision to purchase apparel from environmentally and/or socially responsible clothing brands	3.02	1.325
My co-workers influence my decision to purchase apparel from environmentally and/or socially responsible clothing brands	2.98	1.408
Celebrities influence my decision to purchase apparel from environmentally and/or socially responsible clothing brands	2.95	1.415

RQ7: What are consumers' beliefs in their relationship with nature (man-nature orientation)?

Four question items were asked to understand consumers' beliefs in their relationship with nature – man-nature orientation (Table 9). These results indicate that consumers place emphasis on living in harmony with nature and feel a need to understand environmental issues and act upon them. This is positive as respondents feel that they are part of nature rather than detached from it, indicating a desire to make purchase decisions for apparel products that are produced in sustainable methods for the environment.

Table 9. The man-nature orientation; mean and standard deviation

The man-nature orientation	Mean	Standard deviation
We should maintain harmony with nature	4.23	0.896
Human beings need to understand the ways of nature and act accordingly	4.11	0.84
Human beings are only part of nature	4.09	1.044
Being the master of the world, human beings are entitled to deploy any of the natural resources as they like	3.2	1.389

RQ8: Are there any differences between consumers in the 18–34 age group and consumers in the 35 and older age group regarding their attitudes towards the importance of environmental and/or social information on apparel labels?

To examine whether there are any differences between two different age groups (consumers in the 18–34 age group and consumers in the 35 and older age group) regarding their attitudes towards the importance of environmental and/or social information on apparel products, four *t*-tests were conducted (Table 10). Although consumers in both age groups think label information such as environmental, social, locally grown/produced and "Make in the USA" is important, the *t*-test results indicate that there is a significant difference between the two age groups regarding the importance of environmental information (e.g. organic cotton logo, organic certificate, eco-label, recycled material) on apparel product labels. Compared with millennials (ages 18–34), consumers aged 35 and older place even greater importance on environmental information on apparel labels. Consumers in the two age groups have a similar attitude towards the importance of information concerning social, locally grown/produced and Made-in-the-USA on apparel product labels.

Table 10. Differences in the attitudes towards the importance of sustainable information on apparel labels between consumers in two age groups

	18–34 (*n* = 260)		**35 and older (*n* = 136)**		
Attitudes towards the importance of sustainable information	**Mean**	**Std. dev**	**Mean**	**Std. dev**	***t*-value**
I believe that environmental information on apparel product labels (e.g. organic cotton logo, organic certificate, eco-labels, recycled materials) is important	3.98	0.85	4.18	0.97	–2.069*
I believe that social information on apparel product labels (e.g. "fair trade", "fair labour condition", "good working condition", "ethically sourced") is important	4.03	0.89	4.20	1.01	–1.662
I believe that the information like "locally grown", "locally produced", "US grown" on apparel product label is important	3.91	0.94	4.07	0.97	–1.534
I believe that the information "Made in the USA" on apparel product label is important	4.01	0.99	4.09	1.03	–0.762

Note(s): Valid sample size $N = 396$. *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

RQ9: Are there any differences between consumers in the 18–34 age group and consumers in the 35 and older age group regarding their perceptions of apparel labelling?

To examine whether there are any differences between two different age groups (consumers in the 18–34 age group and consumers in the 35 and older age group) regarding their perceptions of apparel labelling, eight *t*-tests were performed (Table 11). The results indicate statistically significant differences between the two age groups regarding the following statements "I am satisfied with apparel labels" (t (394) = 2.868, $p < 0.01$), "Labels on apparel products are hard to understand" (t (394) = 3.353, $p < 0.001$), "Labels on apparel products are accurate" (t (394) = 3.562, $p < 0.001$) and "I do not really have time to read labels when I am shopping for apparel products (t (394) = 5.252, $p < 0.001$). Compared with consumers aged 35 and older, younger consumers (age 18–34) are more satisfied with apparel labels and more likely to think apparel labels are accurate; however, they are more likely to feel labels are hard to understand and are more likely not to read labels when they are shopping for apparel products (Table 11).

Table 11. Differences in consumer behaviour towards apparel labelling between two age groups

	18–34 (n = 260)		35 and older (n = 136)		
Consumer behaviour towards apparel labels	**Mean**	**Std. dev**	**Mean**	**Std. dev**	***t*-value**
I always read labels when I purchase apparel	3.60	1.16	3.51	1.29	0.675
I rely on past experience in purchasing instead of reading the labels	3.72	1.07	3.54	1.12	1.571
I am satisfied with apparel labels	3.82	0.86	3.55	0.87	2.868**
Labels on apparel products are hard to understand	3.42	1.15	3.00	1.21	3.353***
Labels on apparel products are accurate	3.74	0.99	3.37	0.94	3.562***
Instructions for use need to be included on labels	3.90	0.93	3.86	1.07	0.385
I do not spend much time thinking about where my clothes come from	3.55	1.15	3.33	1.26	1.760
I do not really have time to read labels when I am shopping for apparel products	3.38	1.20	2.69	1.29	5.252***

Note(s): Valid sample size $N = 396$. $*p < 0.05$; $**p < 0.01$; $***p < 0.001$

RQ10: Are there any differences between consumers in the 18–34 age group and consumers in the 35 and older age group regarding their perceptions of environmental and/or social labels on apparel products?

To examine whether there is any difference between two different age groups (consumers in the 18–34 age group and consumers in the 35 and older age group) regarding their perceptions of environmental and social labels, five t-tests were performed (Table 12). The results indicate significant differences between the two age groups regarding the following statements: “Environmental and/or social labels on apparel products are hard to understand” ($t\ (394) = 4.602$, $p < 0.001$), “I believe that the information on environmental and/or social labels of apparel products is accurate” ($t\ (394) = 2.839$, $p < 0.01$), “I do not understand the concepts on environmental and/or social labels of apparel products” ($t\ (394) = 4.762$, $p < 0.001$) and “I generally believe in the environmental and/or social information on apparel product labels” ($t\ (394) = 2.236$, $p < 0.05$). Consumers in the younger age group are more likely to feel environmental and/or social labels are hard to understand than consumers 35 and older (Table 12).

Table 12. Differences in consumer behaviour towards environmental and/or social labels on apparel products between two age groups

	18–34 (n = 260)		35 and older (n = 136)		
Consumer behaviour towards environmental and/or social labels	**Mean**	**Std. dev**	**Mean**	**Std. dev**	***t*-value**
I am satisfied with the environmental and/or social labels on apparel products	3.61	0.96	3.47	1.03	1.329
Environmental and/or social labels on apparel products are hard to understand	3.57	1.16	3.01	1.15	4.602***
I believe that the information on environmental and/or social labels of apparel products is accurate	3.66	0.88	3.38	0.96	2.839**
I do not understand the concepts on environmental and/or social labels of apparel products	3.29	1.22	2.66	1.27	4.762***
I generally believe in the environmental and/or social information on apparel product labels	3.86	0.82	3.65	0.95	2.236*

Note(s): Valid sample size $N = 396$. $*p < 0.05$; $**p < 0.01$; $***p < 0.001$

Conclusion

This study investigates US consumers' perceptions of and attitude towards sustainable apparel and apparel labelling from a holistic view. The study profiles consumers' understanding of apparel labelling, environmental and social labels and their knowledge of apparel sustainability. Overall, it is apparent that respondents have an interest in environmental and social labelling yet are not aware of brands that sell these types of garments nor their validity. It was also found that consumers may not have much knowledge regarding sustainable apparel labels or their meanings. This will require brands to educate consumers about their practices and how they label their apparel garments. This is in line with previous research stated in the industry review that consumers have a hard time understanding eco-labels but feel that they can make a difference on the impact of the industry (D'Souza *et al.*, 2007; Hahn-Petersen, 2018). Sustainably and ethically produced garments are of demand as transparency in the industry grows. Brands looking to become more transparent about their production methods will need to find new ways to reach their target market by accurately labelling products and educating their consumers about these claims.

The growing use of environmental, sustainable and social labels suggests consumers have valued more and more on transparency issues regarding apparel product's origin, production methods and environmental impacts (Hustvedt and Bernard, 2008, 2010). The results of this study relate to previous research (Hwang *et al.*, 2015; Su *et al.*, 2019) as consumers expressed positive sentiments towards sustainability, yet they lacked knowledge about social and environmental practices within the apparel industry. The literature argues that to promote environmental and ethical products in contemporary market societies, it is often assumed that consumers should know about the products and their production conditions (Aspers, 2008). The present study extends previous literature by providing an updated profile of consumers regarding their perspective of environmental, sustainable and social apparel. Previous research studies on apparel labelling and sustainable apparel labels focused more on consumer markets in European countries or Australia. Using data collected from US consumers, the study confirms previous literature that customers are uncertain not only about the actual conditions of production but also the different labelling systems (Aspers, 2008; D'Souza *et al.*, 2007). Moreover, each additional label used increases the complexity of product information, making it more difficult for consumers to make well-informed choices.

The data were additionally analysed from an age group perspective. It shows that consumers in the younger age group (18–34) are more satisfied with apparel labelling, which is consistent with what D'Souza *et al.* (2007) found in their study – “label dissatisfaction is higher in the older and middle age groups” (p. 375). However, the present study demonstrates that consumers in the younger age group are also more likely to feel that apparel labels are hard to understand and are more likely not to read labels when they are shopping for apparel products. Regarding environmental, sustainable and social labels, the study results conclude that there are minimal differences in consumers' attitudes towards the importance of environmental and/or social information listed on apparel labels. However, it was found that younger consumers (age 18–34) are more likely to feel that environmental and/or social labels are hard to understand than consumers age 35 and older. This indicates that apparel brands should invest in marketing towards younger consumers regarding their sustainable business practices. Additionally, this may indicate that brands will need to market their sustainability practices through other means than apparel labels. Further marketing, promotion and education efforts are needed in the industry to better communicate sustainable labels with young generations.

While the results of this study provide insights into the development of marketing strategies that could positively influence consumer behaviour towards environmental, sustainable and social apparel, limitations should be addressed. First, there was an uneven age distribution in the data; thus, we only compared two broad age groups (consumers 18–34 and consumers 35 and older). Future research should investigate the differences across more specific generational cohort groups to accurately compare the generational differences in attitudes, perceptions, knowledge and purchase behaviour. Second, there is a limited representation of multiple racial backgrounds as the majority of the respondents identified as Asian or Caucasian. Third, the survey used Likert type questions which allowed respondents to choose "Neither Agree nor Disagree" as a response. This makes it difficult to understand the true representation of the respondents' answers. Future research could include photos of eco-labels or social labels to identify the respondent's knowledge of such labels.

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