Perceived Green Value (PGV)

Subjects: Business | Others

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Perceived Green Value (PGV) is defined as consumers' overall evaluation and appraisal of products in regards to their perceived environmental and sustainable advantages. This concept derives from consumer perceived value (CPV) theory, which mainly considers two dimensions, which are the functional value (quality, services, price, and convenience values) and the symbolic value (aesthetic, emotional, social, and reputational values) .

athleisure apparel recycled perceived value purchase intention millennials sustainability

1. Introduction

In recent decades, the fashion industry has caused massive environmental pollution due to the rise of fast fashion, defined as less-expensive trendy clothing produced in high volumes [1]. Such destruction equals roughly 17 million tons of textile waste every year, of which only 15% is recycled [2]. Polyester (a.k.a. polyethylene terephthalate (PET)), which is the most commonly used synthetic fiber in textile and apparel products, is a pertinent problem because it is not biodegradable and over five million tons of PET enter the aquatic ecosystems annually, causing tremendous harm to aquatic and human health [3]. Studies show that in 30 years, there will be more PET in the oceans than fish and estimate that 90% of seabirds have already consumed some form of PET waste [4]. Tackling pollution is a complex problem and requires a variety of radical, innovative solutions [5][6][7]. One popular solution has been to recycle polyester into new products such as sustainable apparel [8].

Many consumers have become aware of this phenomenon [9], thus inspiring academia and retailers to study recycling, which creates new, valuable products from waste [10]. Ross [11] found that there was little difference in the physical properties between recycled and virgin polyester. Virgin polyester is a synthesized petrochemical product made through polymerization using non-renewable resources, whereas recycled polyester is made from PET usually found in plastic water bottles and textile waste [11]. Filho et al. [12] stressed that recycling fibers could reduce virgin material production, usage of water and energy, and environmental pollution.

Thus, an increasing number of firms, particularly those in the athleisure apparel and sportswear industry, has begun engaging in developing and using recycled materials [13]. Athleisure apparel refers to comfortable, leisurely sportswear worn in non-athletic settings, with projections to increase over USD 250 billion in market value by 2026 [14][15]. Currently, polyester accounts for approximately 75% of total fiber usage in athleisure apparel and sportswear. Nike is one of the pioneers in promoting the usage of recycled polyester in its shoes and clothing.

Patagonia is a popular, ethical outdoor retailer that utilizes a high proportion of recycled polyester. They were one of the first to create fleece using polyester recycled from plastic bottles in the 1990s [16]. Adidas has also explored recycling, starting with shoes made from recycled ocean plastic waste, of which over 500 million pairs were sold in 2019. Adidas aims to replace all virgin polyester with recycled polyester in its products by 2024 [4].

Numerous collaborative projects such as FIBRESORT, Worn Again, and Pure Waste also started to promote recycling and circular economy/closed loop production [17]. The Pure Waste partnership with the Relooping Fashion initiative promoted using 100% recycled fibers from industrial and textile waste, whereas Worn Again Technologies partnered up with apparel companies like H&M, Sulzer, and Chemtech to optimize production processes [18].

Despite increasing enthusiasm and philanthropic reasoning by businesses and media, market acceptance is the ultimate driving force behind this recycling movement [19]. It is hard to attract buyers and sell products without knowing consumer attitudes and needs [9]. Additionally, product development, branding, advertising, and marketing of recycled fibers are all factors that need to be considered when evaluating consumer demand. Therefore, the purpose of this study was to identify the values perceived by the U.S. female millennial consumers who drive their purchase intentions toward recycled polyester-made athleisure apparel. Results from the study provide apparel retailers and brands with useful insights regarding sustainable products made from recycled materials.

To identify influential factors, the perceived green value (PGV) framework was utilized to guide data collection and analysis. Female millennials born between the years 1981 and 1996 were selected as the cohort because they used to be the primary drivers of fast fashion, but now are major consumers for second-hand fashion and eco-friendly fashion [20][21][22]. A recent national survey showed that 75% of U.S. millennials rated sustainability as one of most important factors to consider while purchasing apparel [23]. Statistics indicated that females made up the majority of athleisure consumers and had been the advocates for the athleisure lifestyle [14][15].

2. Five-dimensional framework

2.1. Functional Value

Functional value refers to the overall performance of a product, and its quality, price, and level of functionality. In terms of functionality, recycled polyester-made products should have equal or similar performance compared to products made from virgin polyester. In recent studies, the functional value, including both quality and price, strongly influenced consumers' intentions to purchase a product. Koller et al. [24] found that perceived functional and economic values are directly related to consumer decision-making on purchasing a product or service. Jiang and Kim [25] noted that the functional value is perceived as a tradeoff or a balance between quality and price. Ganak et al. [20] indicated that the functional value significantly affects U.S. millennial consumers' willingness to recycle their denim products. Therefore, the functional value is of great importance to U.S. millennial consumers in their decision-making process toward recycled polyester-made athleisure apparel. Research Proposition 1 (RP1) is proposed as follows.

RP1: Functional value positively affects U.S. millennial consumers' intentions to purchase recycled polyester-made athleisure apparel.

2.2. Social Value

Social value, when applied to sustainable product purchases, has been found to strongly influence consumers' overall purchase intentions. Moosa and Hassan [26] conducted a study about electric vehicle purchase intentions and found that the perceived social value had a significant, positive effect on customer satisfaction when green innovation was a key attribute. They also discovered that higher popularity or social acceptance of a product generated better product image and acceptance among potential buyers [26]. Customers purposely exhibit their environmentally consciousness beliefs and expect to be publicly praised and perceived with higher status and positivity [27]. On the other hand, if a purchase is not socially approved by other people, this could negatively impact purchase intentions due to cognitive dissonance [28][24]. When this value is applied to recycled polyester-made athleisure apparel, the purchase intention will be higher if the purchases are socially acceptable. Thus, the following RP2 was proposed.

RP2: Social value positively affects U.S. millennial consumers' intentions to purchase recycled polyester-made athleisure apparel.

2.3. Emotional Value

Emotional value involves consumers' psychological state of mind when they use environmentally friendly products, which includes levels of satisfaction and overall feelings. When consumers are satisfied with a product, they will develop loyalty to those products or brands [28]. The level of satisfaction regarding a product is usually associated with environmental and psychological conditions, such as physical stimuli [29] or mental stimuli [30]. If the value of a product does not resonate with consumers' beliefs, they may generate negative emotions toward the product and refuse to purchase. Additionally, the value-as-truism hypothesis states that positive emotions are generated when product values are consistent with people's beliefs [31]. Therefore, emotional value leads to either positive feelings such as excitement, loyalty, and nostalgia, or negative emotions such as guilt, fear, and anger [32]. Despite its seemingly significant impact, several studies found that the emotional value is the least influential value in the PGV framework for eco-friendly consumer behavior [20][29]. Overall, its impact in past research seems to be positive, and therefore the following RP3 was proposed.

RP3: Emotional value positively affects U.S. millennial consumers' intentions to purchase recycled polyester-made athleisure apparel.

2.4. Conditional Value

The conditional value is formed when different situations create different considerations. Time and place are the two most influential factors that affect conditional value [29]. The decision-making process is based on the situational context, which cannot be known in advance. Moreover, conditional value is also affected by external

factors like environment and events, rather than internal factors such as beliefs or opinions. Ganak et al. [20] found that epistemic and conditional values significantly affect consumer satisfaction and loyalty. On the other hand, Moosa and Hassan [26] found that conditional values are not easily formed by consumers unless the conditions are straightforward, accurate, and clear, which may indicate that the conditional value has a less significant impact. However, prior findings indicated that conditional value has a greater influence on consumer satisfaction than emotional and epistemic values toward green product consumption [20][33]. Overall, conditional value has been found to be highly correlated to consumer satisfaction and brand loyalty in terms of environmentally friendly product purchases. Therefore, we proposed RP4 as follows.

RP4: Conditional value positively affects U.S. millennial consumers' intentions to purchase recycled polyester-made athleisure apparel.

2.5. Epistemic Value

Epistemic value is a consumption-related value that impacts purchase intention through a product's creative, novelty, or ingenious benefits. Consumers are attracted to products or services that are innovative, excitingly new, and abundant. When innovative purchasing patterns arise, it signifies consumers' exploratory tendencies and desire for variety. However, people who are obsessed with buying new products are less likely to form brand loyalty but are willing to pay more for new products [20][26][29]. According to Burcu and Seda [29], environmentally friendly product purchases depend upon the product's ability to positively contribute to dimensions of self-transcendence, self-development, openness to change, and conservatism. Ganak et al. [20] found that epistemic value plays an important role in forming U.S. millennial consumers' green behaviors. Therefore, we proposed the following RP5.

RP5: Epistemic value positively affects U.S. millennial consumers' intentions to purchase recycled polyester-made athleisure apparel.

3. Conclusions

Similar to other values, epistemic value relies on consumers being educated and aware of sustainable products and their benefits. Most apparel retailers have a strong social media presence on apps such as Facebook, Snapchat, Instagram, and TikTok. Therefore, it would be efficient to promote their sustainable practices through educational, inspiring, and innovative advertisements. However, products made with recycled materials must deliver similar or better performance than products made with virgin materials to attract and retain consumers. This is particularly true when consumers need to pay a premium for these products. The athleisure apparel market is saturated, so sustainable products must stand out with better advertising and satisfactory performance to gain popularity.

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