

Consumer Perceptions of Recycled Cotton Fabric in Support of Advancing SDG 12: A Developing Economy Perspective

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Abstract:

Developing economy's fashion industry continues to grow with a balance of environmental responsibility and creative expression; however, fast-fashion practices hinder the progress toward circular production systems. Within this context, recycled cotton emerges as a viable solution to reduce textile waste and advance Sustainable Development Goal 12 (SDG 12): Responsible Consumption and Production. However, consumer perceptions and understanding of recycled cotton and the process of influencing its sustainable adoption remains limited. This study explored how individuals perceive recycled cotton fabric and the extent to which their perceptions support sustainable consumption behaviour. This study adopted the Value-Belief-Norm (VBN) theory and the Theory of Planned Behaviour (TPB) as the theoretical framework. An exploratory research design was applied with an interpretivist philosophical standpoint. A qualitative research approach was adopted, while data was collected from twenty-four (24) purposively selected participants, comprising of postgraduate students (16) and educators (8) from South Africa. An interview guide was used to collect data through semi-structured interviews. Thematic analysis using Atlas.TI identified several key themes, namely: reduction in pollution, avoiding landfills, promoting circularity, rejection of fast fashion, education, trust, variability and cost implications of slow fashion. The results indicate that participants' perceptions about recycled cotton fabric are anchored on environmental textile benefits, knowledge shaping sustainability choices, trust, variability and cost implications as barriers for utilising recycled cotton fabric. The study concludes with applicable recommendations and future study directions.

Keywords:

Consumer Perceptions, Developing Economy, Recycled Cotton, Sustainable Development Goal 12, Sustainable Fashion

Submitted: 2026-02-25. Revised: 2026-03-25. Accepted: 2026-04-01.

Introduction

Despite studies, including those by Alcantara et al. (2024) as well as Juanga-Labayen et al. (2022), that have explored the technical processes of textile waste management, such as reduction, reuse, and recycling strategies, there is a significant research gap in South Africa regarding consumer perceptions of recycled cotton fabric, in general. Consumer perceptions refer to the way individuals interpret, evaluate, respond to product information based on their values, and experiences toward sustainable fashion (Y. Hong et al., 2024). The extant studies mainly provide production-side frameworks, while neglecting the psychological, cognitive, cultural, and educational elements that affect sustainable consumption.

Resultantly, South Africa has initiated a shift from the linear paradigm of produce, consume, and dispose towards a circular economy that promotes sustained product utilisation and recycling (United Nations in South Africa, 2022), indicating a promising use of recovered cotton fabric. Recycled cotton fabric refers to fibres reclaimed from pre-consumer and post-consumer textile waste that are mechanically or chemically processed into new yarn or fabric, reducing dependence on virgin fibres and conserving natural resources (Arafat & Uddin, 2022; UNEP, 2025). Foroozesh (2021) points out that several clothing items are acquired with no comprehension of their material origins, hindering customers' ability to connect meaningfully with sustainable alternatives. This research addresses the gap in developing countries, customer views, and attitudes when it comes to the continuous use of recycled cotton fabric. This study aims to explore the perspectives of fashion students and educators, who are key figures in influencing future industry standards and practices (Arafat & Uddin, 2022). In addition, Arafat and Uddin (2022) emphasise the significance of this effort, observing that consumers' uncertainty about the quality, durability, and adoption of recycled fabrics remains a substantial obstacle to their wider low continuance use.

The results from this study may facilitate the creation of more impactful sustainability initiatives and contribute to more focused curriculum development in fashion education and clothing productivity infused with sustainability best practices. This initiative is consistent with the global objective of Sustainable Development Goal 12 (SDG 12): Responsible Consumption and Production, which aims to ensure sustainable management of natural resources and promotion of responsible consumption and production patterns (United Nations, 2023) are achieved by 2030. SDG 12 advances sustainable fashion by promoting circularity, transparency, and responsible sourcing, aligning with consumer awareness and sustainable lifestyle changes (Castellano et al., 2024). Despite South Africa's initial progress in embracing circular economy ideas, a more profound comprehension of public and professional perceptions of recycled materials might provide novel insights for future decision-making in the fashion industry.

The United Nations defines sustainability as development that meets the needs of the present without compromising the ability of future generations to meet their own (Dixit & Chaudhary, 2020). This principle forms the foundation for the Sustainable Development Goals (SDGs), particularly SDG 12, which promotes responsible consumption and production. The fashion and textile industry remains one of the most environmentally damaging sectors globally, producing nearly 92 trillion tonnes of waste annually and contributing to severe ecological degradation (UNEP, 2025). The fashion industry further accounts for 10% of global carbon emissions and 20% of global water pollution, with 85% of textiles ending up in landfills each year (Bailey et al., 2022; Maiti, 2025). Cotton is one of the most widely used natural fibres, contributing to approximately 25% of total fibre consumption worldwide, exacerbating water depletion and chemical pollution (Ragab et al., 2024).

On the other hand, recycled cotton has emerged as a sustainable textile alternative that aligns with the principles of SDG 12 by promoting responsible production and consumption practices. Derived from post-consumer or pre-consumer textile waste. Recycled cotton significantly reduces resource consumption, carbon emissions, and landfill waste (Nxtile, 2024). Despite these advantages, only 1% of cotton textiles in South Africa are recycled into the supply chain (ENSafrica, 2024), reflecting limited progress toward circular fashion practices. While international studies have focused on the technological and industrial processes of recycling (Alcantara et al., 2024), thus remains a gap in understanding consumer perceptions, that is, how individuals interpret, evaluate, and act toward sustainable recycled cotton fabric (Kim et al., 2021).

The lack of consumer awareness surrounding recycled fabrics and their environmental benefits contributes to slow adoption rates (Monyaki & Cilliers, 2023). This study addresses this problem by exploring how fashion students and educators perceive and engage with recycled cotton fabric, given their role in shaping the future of sustainable fashion. The research seeks to explore the cognitive, cultural, and moral factors impacting their perceptions and to identify barriers to accepting sustainable fashion practices. Addressing the prevailing issues contributes both theoretically, by filling the knowledge gap around sustainable consumption behaviour, and practically, by offering recommendations to support the integration of circular textile practices into fashion education and industry operations. Ultimately, the study aligns with SDG 12's global vision of reducing waste and fostering conscious, long-term sustainable consumption within South Africa's fashion landscape. Hence the research question guiding this study is:

How do consumer perceptions regarding the use of recycled cotton fabric contribute to the advancement of Sustainable Development Goal 12 in a developing economy?

Research Questions:

- RQ1: How can the use of recycled cotton in fashion contribute to achieving sustainable consumption linked to SDG 12?
- RQ2: How do consumer perceptions impact consumer attitudes towards sustainable slow fashion?
- RQ3: How does consumer knowledge of SDG 12 impact sustainable fashion purchase decisions?
- RQ4: What existing challenges prevent consumers from using recycled cotton-based apparel that aligns with responsible consumption and production?

Literature Review

Sustainability in Fashion: Environmental, Social, and Economic

The United Nations' 2030 Agenda for Sustainable Development highlights the convergence of environmental, social, and economic objectives (Jha, 2018). Among the seventeen SDGs, SDG 12 is primarily concerned with enhancing resource efficiency, eliminating waste, and promoting sustainable consumer habits. These goals are relevant to the fashion industry, since recycled cotton exhibits innovation that tackles both environmental, social and economic problems (Castellano et al., 2024).

The sustainability framework is usually portrayed as three interrelated pillars. Figure 1 presents the pillars.



Figure 1: The three main pillars of sustainability (Source: Joyram (2022))

As shown in Figure 1, the environmental pillar aims to mitigate pollution and resource depletion (Mensah, 2019). The social pillar encourages justice and inclusion through ethical sourcing and consumer education (K. Wang et al., 2024). The economic pillar fosters resource efficiency and long-term economic prosperity (Dalampira & Nastis, 2020). Despite their general complementarity, conflicts exist between them. For example, Simon (2023) observes that economic considerations usually trump environmental aims in underdeveloped nations, impeding progress towards sustainability. Though recycled cotton is not only an eco-friendly material, but also a vehicle for social equity and economic sustainability.

The Global Fashion Industry's Impact on the Environment

The global fashion industry contributes about 10% of carbon dioxide emissions, making it one of the most resource-intensive sectors worldwide (Shedlock & Feldstein, 2023). Despite the growing calls for sustainability improvement, only 25% of clothing is recycled, with the remainder entering landfills and incineration (Juanga-Labayen et al., 2022). A landfill is a location where waste items are buried (UNEP, 2025). High-income regions such as Europe and North America are particularly responsible for overproduction and textile waste, largely driven by the fast fashion business model (United Nations Statistics Division, 2023). In Europe, approximately 4 million tons of textiles are discarded annually, with less than 30% collected for recycling (European Environment Agency, 2022). Similarly, in the United States, more than 11 million tons of textiles enter landfills each year, making it one of the largest generators of clothing waste globally (United States Environmental Protection Agency, 2023). In Asia, rapid industrialisation in countries such as China and Bangladesh has intensified environmental pressures, with significant water pollution and carbon emissions linked to large-scale textile production (Remy et al., 2016).

These global challenges highlight the urgency of adopting sustainable materials such as recycled cotton, yet the dynamics of textile waste and sustainability take on distinct characteristics in Africa, which is discussed further in the following section.

The African Fashion Industry's Impact on the Environment

Rising urbanisation and the imports of fast fashion have increased waste issues across the continent. In Ghana, for example, the Kantamanto market receives thousands of tons of second-hand clothing from Europe and North America each week, with over 40% ending up producing major landfill and water pollution problems (Acquaye et al., 2023). Similarly, countries such as Kenya and Nigeria are witnessing an influx of low-quality fast fashion items that cannot be reused or recycled, placing further strain on already limited African waste management systems (Andreadakis & Owusu-Wiredu, 2023). These patterns show how Africa acts as both a client and a dumping ground for unsustainable fashion.

Despite the prevailing issues, African nations are exploring other techniques of sustainability. Starting with Rwanda's 2016 prohibition on importing old clothing has been a political attempt to reduce the country's reliance on international textile waste. Research also reveals that the nation struggles to recycle its own fashion waste (Boykoff et al., 2021). (Agarwal et al., 2023) claim that the African Continental Free Trade Area (AfCFTA) and other regional measures aim to enhance African sustainable textile production. These activities also provide chances to grow recycling businesses and local design economies (UNECA, 2022). However, implementation remains uneven, with most African nations still grappling with underdeveloped textile recycling infrastructures. This underscores the need to explore South Africa's role, as the continent's key fashion market, in encouraging sustainable consumption through understanding consumer attitudes towards recycled cotton.

The South African Fashion Industry's Impact on the Environment

In South Africa, landfill textile waste is one of the most apparent environmental repercussions of the fashion industry because it demonstrates the system's reliance on a linear production model, in which clothes are created, used, and discarded without being reintegrated into circular processes. According to Green Cape (2023), approximately 22% of cotton produced in South Africa ends up as waste, with just 1% recycled into useful textiles. This disparity highlights the lack of circularity in the country's fibre and textile value chain. Most of the wasted apparel ends up in landfills, where it adds to growing waste and puts further strain on already limited waste-management infrastructure (Govender et al., 2023).

According to Govender et al. (2023) South Africa's modest progress towards circularity is hampered by structural impediments such as undeveloped waste-sorting systems, insufficient textile recycling facilities, and a lack of investment in fibre-recovery technologies. Imported low-quality fast-fashion items and second-hand apparel exacerbate the status quo. Andreadakis and Owusu-Wiredu (2023) point out that much of clothing, made of mixed fibre, cannot be recycled locally and consequently ends up in landfills.

The Department of Forestry, Fisheries, and the Environment (2024) is concerned about the growing landfill dependence on lax implementation of extended producer responsibility (EPR) legislation, little industry engagement, and low consumer knowledge of textile disposal. The increasing amount of textile waste in landfills highlights the environmental cost of South Africa's fast-fashion industry, which is still misaligned with SDG 12. To address this growing environmental concern, we must understand consumer perceptions regarding recycling cotton best practices, improve circular-economy infrastructure, increase production responsibility, and raise consumer knowledge of sustainable cotton garment lifespan.

Despite the emphasis on recycling and circularity, there is debate about whether these practices are sufficient. Gojic and Bukhonka (2023) argue that recycling reduces waste and provides practical solutions. Whereas Juanga-Labayen et al. (2022) stipulate that recycling itself requires significant energy and resources, questioning its net benefits. Moreover, Mandarić et al. (2022) argue that sustainable fashion often excludes lower-income consumers, reinforcing inequalities. In contrast, PwC (2022) purports that global brands are beginning to integrate sustainability due to consumer demand, suggesting growing mainstream acceptance. These debates highlight the contested nature of sustainable fashion and show why a study like this nature, focused on consumer perceptions, is imperative to understand its practical relevance.

Theoretical Framework

Theoretical frameworks connect the research to existing theories, concepts, and empirical knowledge, thereby ensuring that new insights are anchored within broader academic discourse. Grant and Osanloo (2014) describe a theoretical framework as the “blueprint” of a study, an organising structure that shapes how the researcher interprets findings, identifies relationships, and situates results within established theory. In qualitative research, it directs the interpretation of data by connecting participants' experiences to pertinent conceptual themes (Creswell & Poth, 2016). This study was underpinned by the Theory of Planned Behaviour (TPB) as well as the Value Belief Norm (VBN) Theory.

Theory of Planned Behaviour

Icek Ajzen established TPB in 1985 and maintains that individuals are more inclined to participate in an activity when they anticipate doing so and believe they control the outcome (Khanam & Nabi, 2025). TPB suggests that consumers with positive attitudes towards eco-friendly clothing, who perceive social approval for their choices and believe they can act, are more likely to buy sustainable products like recycled cotton garments (Rozenkowska, 2023). Figure 2 presents the original TPB and its related constructs.

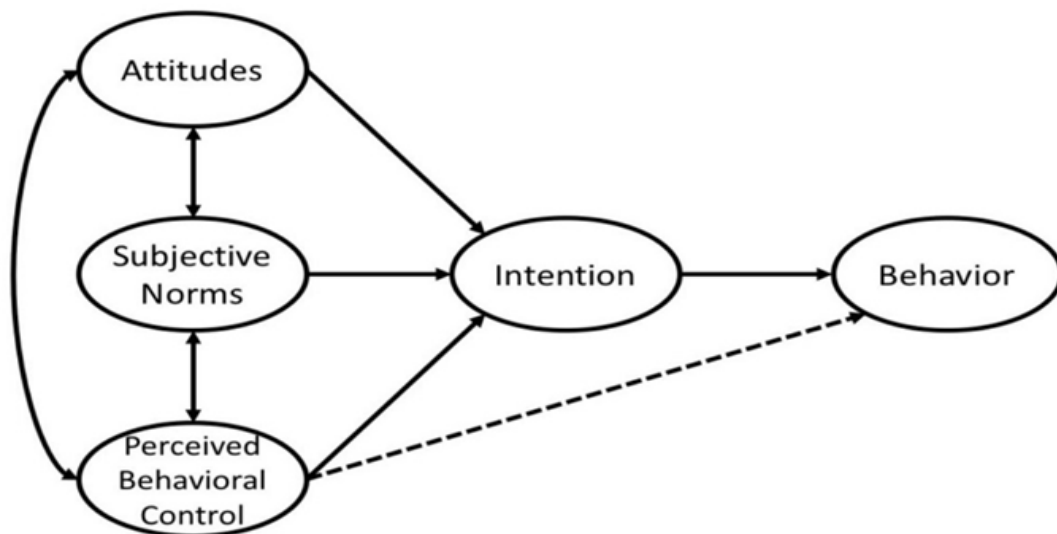


Figure 2: The theory of Planned Behaviour (Source: Rozenkowska (2023))

This study draws on TPB to explore the connection between how consumers perceive sustainability and how these perceptions shape their sustainable fashion behaviour. Yet, the framework does not fully capture the emotional and cultural dimensions of fashion. Clothing decisions are rarely purely rational; they are tied to identity, impulse, and personal expression (Jacobs et al., 2020). In South Africa, additional barriers such as affordability and limited access to sustainable options further complicate consumer choices (Magwegwe & Shaik, 2024). Similar patterns have been observed in studies from Asia, Europe, and South America, where positive attitudes toward sustainability often clash with everyday financial realities and systemic limitations (Jacobs et al., 2020; Kumar et al., 2021).

Value Belief Norm (VBN) Theory

The VBN theory, developed by Paul Stern in the 2000s, emphasises how values, ecological worldviews, and personal norms influence pro-environmental behaviour (Alashiq & Aljuhmani, 2025). VBN suggests that individuals act sustainably when they are aware of environmental consequences, feel personally responsible, and perceive a moral obligation to act (Batool et al., 2024). Figure 3 presents VBN and its underpinning constructs.

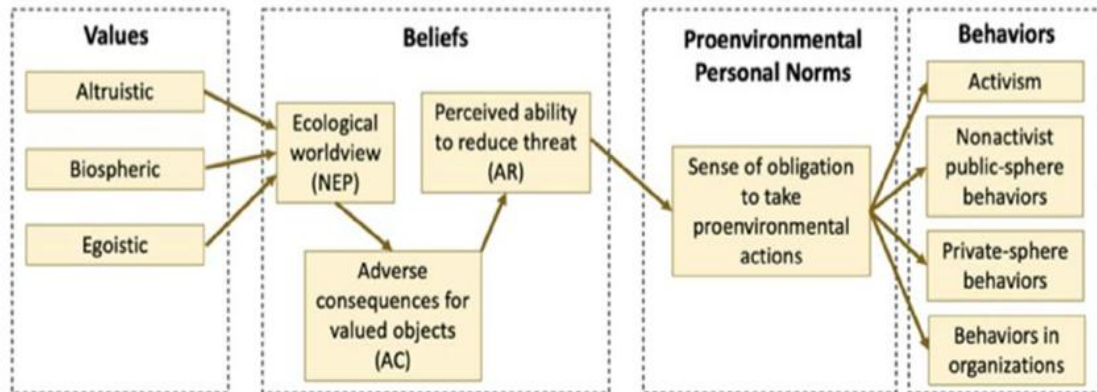


Figure 3: Value-Belief-Norm (VBN) theory (Source: Batool et al. (2024))

In the context of fashion, VBN explains why consumers who prioritise ecological and social values may favour sustainable options, such as recycled cotton, even if these are less convenient or more expensive (Alashiq & Aljuhmani, 2025). Arias et al. (2022) found that values strongly predict eco-fashion purchasing. Medapati and Mohan (2025) found that awareness of environmental consequences increases sustainable consumption among young consumers. Al Mamun et al. (2022) established that moral norms influence the adoption of sustainable fashion. In the South African context, where accessibility and cost remain barriers, VBN is particularly useful. It highlights how moral obligations and values can motivate consumers to adopt recycled cotton despite systemic constraints. However, VBN underestimates the weight of economic pressures, meaning that values alone cannot explain behaviour without structural support.

Methods and Data

This study was guided by the interpretivist paradigm, which emphasises the process of understanding how individuals construct and negotiate meaning in their social worlds (Du Plooy-Cilliers et al., 2021). Interpretivism rejected the notion of one objective reality; instead, it acknowledged that multiple realities exist, shaped by culture, experience, and context (Alharahsheh & Pius, 2020). The adoption of interpretivism reflected the aim of this study: to understand the ways in which South African fashion students and educators perceived recycled cotton fabric. Unlike positivism, which focuses on measurement and generalisability, interpretivism enables the researcher to engage with lived experiences and uncover the reasons behind empirical behaviour and perceptions.

This study followed an exploratory research design, ensuring that the employed methodologies were consistent with the research objectives (Saunders et al., 2019). Exploratory research design probed subjects that were not sufficiently examined to gain new insights and recognise emerging patterns (Pawar, 2024). This study employed an exploratory research design to address a problem or topic

characterised by ambiguity or insufficient comprehension (Saka et al., 2023). By adopting the exploratory research design, this study unveiled new insights, pinpointed essential themes, and allowed for comprehension of the fundamental reasons behind consumers' attitudes and behaviours. Exploratory research aimed to examine the "what," "why," and "how" of a phenomenon, uncovering new insights, patterns, and potential pathways for further investigation (Aithal et al., 2022).

Research Approach

Aligned with interpretivism, the study employed a qualitative research approach, which emphasised non-numerical data (Flick, 2022). A qualitative approach was particularly valuable for exploring the subtle cultural and social influences shaping consumer perceptions towards sustainability. It allowed flexibility to adapt interviews to participants' responses and to pursue emerging themes (Creswell & Creswell, 2017; Yin, 2022). In this way, the interpretivist paradigm and qualitative approach were utilised to provide a lens that recognised multiple perspectives, valued context, and uncovered the meanings that participants attached to recycled cotton fabric, to add to new knowledge.

Population and Sample

Population refers to the entire group of individuals or entities sharing characteristics relevant to a study (Creswell & Creswell, 2017; Creswell & Poth, 2016). Defining this group establishes the boundaries of the research and ensures that findings are grounded in a specific, meaningful context (Casteel & Bridier, 2021). Identifying the appropriate population enhances credibility and clarity (Taherdoost, 2021), while providing a basis for selecting participants who can offer valuable insights (Kumar et al., 2021). For this study, the population comprised South African fashion students and educators familiar with sustainability and recycled cotton fabrics, as they are directly involved in fashion education and practice. This combination enabled a balanced understanding, with students offering contemporary perspectives shaped by their learning, while educators contributed their professional experience, ensuring a diverse and informed range of views (Palinkas, 2020).

Deriving from the identified population, a purposive sample of twenty-four (24) participants was drawn to capture depth and variety in perspectives. A sample size of 24 was deemed appropriate for qualitative research, since data saturation typically occurs between twelve and twenty-five participants (Guest et al., 2006).

Research Instrument

This study used an interview guide to collect the required data to address the proposed research questions. The interview guide was demarcated into two main sections. Section A provided the

demographic questions, and Section B addressed sub-questions relating to the four secondary research questions indicated earlier in this study.

Data Collection

Data collection is the systematic process of gathering and measuring information to answer research questions (Taherdoost, 2021). In qualitative research, it is to capture participants' perspectives and meanings in their own words, enabling exploration of complex social issues (Creswell & Poth, 2016). This study used primary data through semi-structured interviews with fashion students and educators. Semi-structured interviews were chosen because they balanced consistency with flexibility, allowing key themes such as perceptions of recycled cotton and sustainable fashion to be explored while allowing unexpected insights to emerge through probing (Bearman, 2019).

The interviews were conducted via Microsoft Teams, recorded with consent, and transcribed in verbatim. Each session lasted thirty to forty minutes, striking a balance between depth and participant convenience. Microsoft Teams was selected not only for its security features (DeJonckheere & Vaughn, 2019), but also because it allowed participation from diverse settings, supporting inclusivity in exploring consumer perceptions toward sustainable fashion. This study received ethical approval from STADIO Higher Education (Reference: Stadio-2025-SSOF-MAS082).

Results

This Role of Participants

The demographic data collected during the interviews revealed the participants' roles in fashion, which shaped their responses to recycled cotton. Sixteen participants were postgraduate students, and eight were educators. This suggests that the findings are primarily grounded in the perspectives of students who represent the future fashion workforce, complemented by insights from educators who shape fashion sustainability teaching and practice. Moreover, from an income perspective all the students were depending on subsistence allowances from family, while four educators earned between R30 000-R35 000 per month, two earned between R36 000-R40 000 per month and the rest earned above R50 000 per month. Resultantly, the income earned by the participants indicates that students may experience affordability challenges, whereas educators earn sufficient income to afford high-end recycled cotton apparel.

Years Involved in Studying or Teaching Fashion

The fashion experience of the participants reported that twelve had between one and five years of being involved in fashion, while eight reported between five and ten years of experience. The rest had more than ten years of experience.

Thematic Analysis

In this research, theme analysis was used instinctively rather than mechanically, acknowledging that meaning is co-constructed through interpretation rather than revealed within the data (McLeod, 2024). Naeem et al. (2023) six-steps process was adopted, which included becoming acquainted with the data, developing initial codes, looking for themes, evaluating and refining them, defining and labelling each subject, and ultimately providing a cohesive analytical report. To ensure inter-coder reliability and trustworthiness, we initially ensured that data was analysed using a methodical coding process that involved two independent coders. Thereafter, the coders got together to discuss differences, compare coding results, and improve the coding scheme. Until a reasonable degree of consensus was reached, this iterative procedure was repeated. Moreover, rigor criteria, such as credibility, dependability, and confirmability, to further improve trustworthiness was applied (Lincoln & Guba, 1985). 1985). Dependability was guaranteed by keeping an audit trail of coding decisions; confirmability was bolstered by reflexive conversations among the researchers; and credibility was enhanced by extended interaction with the data and peer debriefing based on the results obtained from ATLAS.ti. The organised approach described by Braun and Clarke (2006), which emphasizes transparency and consistency in coding procedures, was also followed in the thematic analysis.

Generating Initial Codes

According to Nowell et al. (2017), coding involves assigning labels to meaningful extracts of text to organise raw data into manageable categories. In this study, transcripts were coded line by line, with codes reflecting the issues raised in each research question (RQ).

RQ1: Reduces pollution, avoids landfill, promotes circularity.

Participants consistently associated recycled cotton with environmental protection and waste reduction. P12 stated that: “the growth of cotton is one of the highest polluters in the fashion industry ... by not using new cotton, but rather using recycled cotton, I find it more sustainable.” Similarly, P9 explained that: “upcycling cotton that already exists is a better option,” while P6 added that: “you’re not wasting like you’re upcycling. So it’s not going to waste at any point; you’re reusing it again and again.” According to Participant 10: “I find it more sustainable to use recycled cotton instead of new cotton because cotton is one of the biggest polluters.” Participant 8 added: “Recycled cotton promotes circular fashion practices ... avoids landfills.” These views highlight a shared understanding that recycling existing cotton supports circularity in fashion and reduces landfill impact, demonstrating strong environmental awareness consistent with SDG 12’s focus on responsible consumption and production.

RQ2: Timeless/durable, reject fast fashion, transparency preference.

Participants perceived recycled cotton apparel as timeless, sustainable, and ethically superior to fast fashion. P3 stated: "I'm not a big fan of fast fashion...it has a harsh effect on the environment," expressing clear ethical resistance to mass production. Likewise, P24 mentioned: "I would expect upcycled cotton apparel to be more timeless, more sustainable . . . items they can wear for a long time," while P10 added: "I think I prefer the sustainable apparel . . . I do prefer that transparency in my shopping experience." Participant 8 described upcycled apparel as "timeless, sustainable, classic," while Participant 16 contrasted it with fast fashion's destructiveness: "Fast fashion has a harsh effect on the environment." Participant 10 emphasised transparency: "I think I prefer the sustainable apparel.....I do prefer that transparency in my shopping experience." These responses illustrate how participants connect recycled cotton to durability, ethics, and transparency, reflecting a shift toward conscious consumption and a preference for long-lasting, responsibly made cotton fabric clothing.

RQ3: Education changed behaviour, became more conscious, need for awareness.

Knowledge and education were central to shaping participants' sustainable purchasing behaviours. P21 shared: "I might actually make better purchasing choices . . . to buy greener and more sustainable fashion," showing how awareness influences decision-making. P18 reflected: "Throughout fashion school, we did learn about sustainability...it made me think, should I be buying from brands like Shein?" highlighting the impact of formal education and knowing about SDG 12. Likewise, P14 noted: "Once you know something and you become conscious of it...you start to be more aware of the decisions you make." These insights demonstrate that sustainability knowledge fosters self-awareness and responsibility, motivating consumers to align their fashion choices with ethical and environmental values in support of SDG 12.

RQ4: Trust, variability and cost implications

Participants identified costs, limited variety, and trust in authenticity as primary barriers to adopting recycled cotton fabric. P13 highlighted that: "sustainable apparel is more expensive than fast fashion," while P7 explained that: "the high price point doesn't cater to low or middle-income groups it's a niche product." P9 added that: "most recycled apparel is uninspiring, poor design appeal and lack of creativity," which discourages adoption even among interested consumers. These insights indicate that despite positive attitudes toward sustainability, structural barriers such as cost, trust, and aesthetic limitations hinder practical engagement.

Discussion

Environmental Textile Benefits

Participants frequently emphasised recycled cotton's capacity to lower pollution, landfill usage, and water waste, describing it as an environmentally friendly substitute for virgin cotton, while contributing towards SDG12. Castellano et al. (2024) stress the importance of recycled textiles in circular economy initiatives that support SDG 12. Similarly, Arafat and Uddin (2022) discovered that fibre recycling considerably decreases greenhouse gas emissions and water consumption, directly contributing to SDG 12 targets, which aim to minimise waste creation via prevention, reduction, and recycling. The current study demonstrates how ethical ideals and sustainability knowledge influence actions that are consistent with SDG12. Van der Merwe and Chabata (2025) emphasise the benefits of slow fashion, thus the same benefits align with those of recycled cotton usage. Once more consumers adopt and use recycled cotton the benefits to people, planet and the environment will respectively advance SDG12. Participants' commitment to recycled cotton in this research exemplifies global goals by demonstrating how educated, ethically aware consumers can support a circular fashion business that puts SDG 12 into effect. Similarly, Patel et al. (2024) found that consumers often equate recycled textiles with higher quality and reject fast fashion's disposability. Theoretically, such patterns mirror the social-symbolic dimension of the TPB and VBN: favourable attitudes and socially valued sustainability norms support intentions to choose eco-conscious apparel (Banytė et al., 2023; Senoane and Chabata (2026).

While awareness of environmental consequences and a sense of responsibility predict green consumption (Hong et al., 2024). Nevertheless, symbolism is not universal since some studies report persistent doubts about the quality and performance of recycled textiles (Wagner et al., 2020) and show that pro-sustainability attitudes do not always translate into purchase behaviour (McNeill & Venter, 2019). In such instances more "attitude-behavior gap" studies are required to provide a more nuanced theoretical contribution.

Positive Sustainability Perceptions

The participants of this study's views align with Fletcher and Tham (2019)'s findings that sustainable garments can foster "emotional durability" by embedding values in use. More recently, Fletcher and Fitzpatrick (2024) found that durability operates symbolically as well as materially, linking sustainability to cultural meaning and identity. Theoretically positive sustainability perceptions remain a key predictor of adopting recycled cotton apparel, aligning with Senoane and Chabata (2026) findings on stimulating consumers attitudes in a positive direction towards adopting pro-environmental behaviour. This is contrary to findings by Cheng et al. (2020) as well as Qing et al. (2022) that emphasise that not most consumers have positive sustainability best practices, while more from government and practice needs

to be done to alter such behaviours towards enabling the attainment of SDG12. In contexts of energy poverty and sustainable product affordability concerns, direct “value–attitude” pathways may be more significant than mediated ones (Qing et al. 2022; Senooane & Chabata 2026). Hence the issue of value derived from recycled cotton needs to be well understood in order to amplify positive sustainable perceptions that can aid in the sacrifice of purchasing recycled cotton in place of non-recycled cotton fabric.

Knowledge Shapes Choices

Knowledge and education emerged as key drivers of sustainable behaviour and fashion choices. Yusliza et al. (2020) maintain that sustainability knowledge directly shapes pro-environmental conduct and aligns with Ahmad et al. (2023), who stress education’s role in promoting eco-friendly decisions. However, ENSafrica (2024) observed that many South Africans remain unaware of fashion’s environmental impact despite recognising SDG 12, revealing an educational divide between fashion students and the general public. Theoretically, TPB enhances perceived behavioural control through a consumer’s knowledge, while in VBN, knowledge activates moral norms that motivate sustainable action. Knowledge also shapes identity: Xu et al. (2022) found that sustainable fashion expresses both ethical and aesthetic values. Yet, as McNeill and Venter, (2019) as well as Joy et al. (2023) argue that awareness alone rarely leads to consistent action, as cost and accessibility often constrain consumers from fully practising their sustainable ideals.

Trust, Variability and Cost Implications

Despite enthusiasm for sustainable fashion, participants identified affordability, limited variety, and mistrust of recycled cotton quality as major barriers. Guria et al. (2024) postulate that there is a prevailing price perception gap, where consumers support sustainability as a principle but resist paying higher prices for it. The United Nations, (2023) reported that such barriers reflect broader economic inequalities. Wang et al. (2023) note that fibre blending techniques used to improve the strength and durability of recycled cotton can compromise its texture and versatility, which often leads to consumer scepticism regarding recycled fabric authenticity and quality.

Theoretically, these barriers reduce perceived behavioural control within the TPB and weaken moral norms within VBN, as cost and quality limitations constrain ethical action. Participants’ frustration reveals an awareness-action gap: they value sustainability but face obstacles that hinder its practice. Addressing such challenges requires making sustainable fashion affordable, diverse, and trustworthy.

Conclusion

In closing this study explored consumer perceptions of recycled cotton fabric in support of advancing SDG 12 from a developing economy (South African) perspective. Applying an explorative research design, underscored by the qualitative research approach, this study obtained four key themes that are empirically critical in understanding consumer perceptions with regards to recycled cotton fabric. The main themes that emerged were environmental textile benefits are crucial when making purchase decisions of recycled cotton, positive sustainable perceptions exist but do not always lead to the adoption of recycled cotton fabric, knowledge of SDG 12 shapes consumer choice of sustainable or non-sustainable cotton fabric but seems knowledge is also affected by lack of trust in retailers, the lack of variability, and cost implications related to acquiring recycled cotton apparel compared to inexpensive fast fashion.

Practical Implications

Recommendation Based on Environmental Textile Benefits

In South Africa, textile-to-textile recycling remains severely underdeveloped. Although environmental awareness is increasing, Green Cape (2023) notes that the country still lacks the large-scale fibre processing infrastructure needed to support a circular textile economy. Within this context, recycled cotton represents a vital opportunity to move sustainability from aspiration to implementation. It offers a practical route to reduce waste, conserve resources, and redefine fashion as a regenerative rather than disposable system. Realising this potential, however, requires coordinated managerial action. Starting with integrating recycled cotton into official textile and manufacturing standards, mandating that a measurable portion of apparel production should use recycled fibre. Investment in regional fibre recovery hubs would strengthen industrial capacity and promote local job creation, while a certification scheme jointly endorsed by the Department of Trade, Industry, and Competition and the United Nations Environment Programme would verify authenticity and build consumer confidence. Together, these initiatives would transform recycled cotton from an emerging innovation into a measurable instrument of sustainable production, firmly advancing the aims of SDG 12.

Recommendation Based on Positive Sustainable Perceptions

Recycled cotton emerged as more than an eco-friendly material; participants described it as authentic, expressive, and connected to identity. This suggests that sustainability operates not only as an environmental principle but also as a cultural language through which individuals communicate values and belonging. Nevertheless, despite its symbolic power, recycled cotton remains marginal in mainstream branding, often overshadowed by superficial sustainability narratives. To strengthen its cultural visibility, managers of fashion brands and creative institutions could collaborate on initiatives

that embed sustainability into everyday consumer experiences. Interactive exhibitions in shopping districts or museums could allow visitors to see the life cycle of recycled cotton garments, from fibre to fashion, transforming sustainability into a participatory experience. Social media campaigns and short documentary features highlighting local artisans who work with recycled textiles could personalise the narrative and make sustainability feel culturally grounded. Partnering with fashion schools to create limited-edition recycled cotton collections would also show how innovation and sustainability can coexist. Collectively, these initiatives would reposition recycled cotton as a symbol of creativity, authenticity, and national identity, advancing South Africa's broader commitment to SDG 12.

Recommendation Based Knowledge Shaping Choice

The results of knowledge shaping choice suggest that while awareness of sustainability exists, it often lacks depth and practical guidance. To transition from awareness to comprehension, knowledge must be institutionalised through systems that reward informed participation by fashion brand managers. With the support of Government agencies, the establishment of a sustainability portal that consolidates verified information about recycled materials, enabling designers, educators, and consumers to access accurate data on fibre origin, processing, and environmental performance would be ideal. This would reduce misinformation and create transparency across the value chain. Similarly, integrating sustainability metrics into retailer product tags, such as water savings, energy use, or waste reduction, would allow consumers to interpret sustainability not as a vague ideal but as a measurable impact.

Industry associations could also develop sustainability competency standards that assess and certify designers, producers, and retailers on their understanding and application of sustainable textile practices. These standards would validate expertise and encourage continuous learning within the industry. By linking sustainability knowledge with professional credibility and career advancement, the fashion sector could move beyond symbolic awareness to measurable accountability and long-term behavioural change.

Recommendation Based on Trust, Variability, and Cost Implications

High costs, limited variety, and lack of trust remain key barriers to adopting recycled cotton apparel. To enhance affordability, fashion managers could invest in local fibre-to-fibre recycling and small-scale manufacturing to reduce production costs and reliance on imports. Retailers can complement these obstacles by offering adaptive pricing and community-based textile return schemes that make recycled garments more attainable. Rather than relying solely on institutional certification, fashion managers could collaborate with local influencers, artisans, and community leaders who act as ambassadors to achieve transparency by demonstrating the real impact of recycled production. To overcome issues of cost and variability, cooperative production models could be introduced, whereby smaller design studios

share access to recycled materials through collective sourcing agreements. Through collaboration, visibility, and inclusivity, recycled cotton could become a trusted, affordable, and culturally expressive material within South Africa's sustainable fashion landscape.

Theoretical Implications

This study contributes to scholarship by extending the discussion of sustainable fashion in support of advancing SDG 12, beyond high-income developed economies, where most studies in this area have been concentrated on. Insights of better understanding underexplored consumer perceptions (educators and higher tertiary students in the fashion industry) promote a more nuanced view towards literature building. The underpinning of TPB and VBN theory can be extended by incorporating variables that emerged from this study to validate future studies, that is incorporating benefits, positive perceptions, trust, variability and cost into the two established theories could enhance their predictive power.

Future Research

It is important to acknowledge several limitations of this study. While the small sample of 24 participants is suitable for a qualitative approach, it naturally limits the generalisability of the findings. Subsequent research may expand upon this study by incorporating a larger and more heterogeneous participant pool, potentially utilising a mixed-method or quantitative research approach, to more comprehensively represent developing economy's consumers. The current sample, made up of only postgraduate students and educators from a private higher education institution, thus limiting perceptions and input from other consumer groups, educational levels, and occupations, would allow future studies to present a fuller picture of consumer perspectives in the context of this study. Another consideration lies in the relatively short data collection period, which also limited more profound engagement. Extending the research timeline or conducting follow-up interviews could help future researchers explore how perceptions develop over time through longitudinal study. Finally, the study's focus on recycled cotton provided conceptual clarity aiding recommendations for action for practitioners and academicians. Exploring other sustainable fibres, such as hemp, bamboo, or recycled polyester, could offer a richer comparison and connect this research to broader sustainability goals beyond SDG 12. Because this study relied on self-reported perspectives, there is also the possibility of social desirability bias. Future research could address this limitation by combining interviews with behavioural observation or case-based data to compare what consumer perceptions are on sustainability with what they do.

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AI Declaration

The authors declare using AI-generated tools responsibly, such as Grammarly to check grammar and Gemini for better language proficiency.