A conceptual framework for understanding consumer intention and behaviour towards recycled clothes

Yong Azrina Ali Akbar[*a], Azyyati Anuar[b], Fatihah Norazami Abdullah[c], Rosliza Md Zani[d]

[a,b,c,d]*Faculty of Business and Management, Universiti Teknologi MARA Kedah, Malaysia*

ARTICLE INFO	ABSTRACT
	Recycled clothing has emerged as a critical component of circular economy initiatives, offering a pathway to reduce ecological impacts by decreasing reliance on virgin resources and minimising waste. However, a notable gap persists between consumers' intentions to purchase sustainable fashion and their actual purchasing behaviour, posing a significant barrier to widespread adoption. This study aims to develop a comprehensive conceptual framework to examine the key factors influencing consumer intention and behaviour towards recycled clothing. Drawing on established behavioural theories, including the Theory of Planned Behaviour (TPB) and the Value-Belief-Norm (VBN) theory, the framework integrates environmental consciousness, perceived benefits, and social norms as critical determinants of consumer intention. Furthermore, the study explores the moderating roles of socio-demographic factors, such as age, income, and education, and situational factors, including the availability of recycled clothing, which influence the translation of intention into behaviour. By providing insights into the dynamics of sustainable consumer behaviour, this research highlights opportunities for targeted interventions that align consumer values with accessible and appealing sustainable fashion options. The proposed framework aims to guide stakeholders in designing effective strategies to bridge the intention–behaviour gap, thereby fostering the adoption of recycled clothing and advancing sustainability within the fashion industry. This study underscores the importance of integrating theoretical and practical approaches to promote environmentally responsible consumer practices.

1. Introduction

The fashion industry has faced increasing pressure to adopt sustainable practices due to its substantial environmental impact, which includes resource depletion, waste generation, and carbon emissions. This sector is responsible for approximately 8% to 10% of global carbon emissions and significantly contributes to industrial effluent and marine microplastic pollution (Kim et al., 2021). In response, recycled clothing

has emerged as a critical strategy to mitigate the sector's ecological footprint. This transition towards sustainability is driven not only by industry initiatives but also by rising consumer demand for eco-friendly products and heightened environmental awareness (Ney et al., 2022). Consumers are increasingly selective, preferring brands that align with their principles of environmental and social responsibility.

Despite this shift, a significant gap remains between consumers' favourable intentions to purchase recycled clothing and their actual purchasing behaviour (Sedej & Toroš, 2023). Understanding this discrepancy is crucial for promoting sustainable consumption within the fashion industry, as it offers insights into the factors that motivate consumers to align actions with their stated intentions. Thus, it is vital to examine the factors influencing consumer behaviour and intention towards purchasing recycled clothing to foster a more sustainable fashion ecosystem.

Although research on sustainable fashion consumption is growing, there remains a significant gap in understanding how consumer intentions translate into actual behaviour, particularly regarding recycled clothing. Previous studies have explored perceived barriers such as higher costs, limited availability, and a lack of awareness of the benefits associated with recycled clothing (Sun et al., 2024). Social norms and societal pressures often inhibit consumers from acting on their sustainable intentions, as people tend to conform to dominant buying behaviours (Lu, 2022). Moreover, consumers' decision-making processes are influenced by factors such as convenience, marketing messages, personal identity (Semba et al., 2020; Bukhari et al., 2018), consumer attitudes (Sun et al., 2024), perceived values and quality (Bukhari et al., 2018), as well as environmental consciousness and knowledge (Cavender, 2018). However, the transition from intention to actual behaviour remains insufficiently explored.

Integrating these factors into a comprehensive framework that connects intention and behaviour in recycled clothing consumption remains limited. This is crucial, as multiple studies have consistently highlighted the gap between positive intentions and actual behaviour concerning sustainable products (Juanga-Labayen et al., 2022). Furthermore, current literature lacks clarity regarding the factors that may moderate or mediate this relationship. These include socio-demographic characteristics such as age, gender, income, and education (Arangdad et al., 2019); perceived behavioural control, referring to an individual's confidence in executing a behaviour (Fatih Sudin et al., 2023); situational constraints like the availability of recycled clothing and ease of access (Park & Ha, 2014); and environmental awareness and knowledge (Rotimi et al., 2023). Additionally, personal norms—internalised beliefs about right and wrong—and social influences—unwritten societal rules—may also moderate the intention–behaviour link (Hassan et al., 2022). Thus, developing a comprehensive framework is essential for a deeper understanding of consumer dynamics and offering practical insights to promote sustainable consumption within the fashion sector.

Existing research shows that strong intentions towards sustainable fashion do not always translate into actual purchases, leading to what is known as the intention–behaviour gap (Park & Lin, 2020). This study proposes a conceptual model that identifies the key determinants of consumer intention and explores the moderating and mediating factors influencing the transition from intention to behaviour. Drawing insights from behavioural theories such as the Theory of Planned Behaviour (Ajzen, 1991) and the Value-Belief-Norm Theory (Stern, 2000), this study seeks to fill a critical void in the literature by providing a comprehensive understanding of the drivers and barriers to recycled clothing adoption, ultimately assisting stakeholders in developing targeted strategies to promote sustainable consumer behaviour.

Specifically, this study aims to develop a comprehensive conceptual framework linking consumer intention and behaviour regarding recycled clothing. It examines critical factors affecting consumers' intention to purchase recycled clothing—including environmental awareness, perceived benefits, and social norms—while also considering the moderating roles of recycled clothing availability and socio-demographic factors.

By addressing the significant research gap in sustainable fashion literature, this study contributes a distinct framework that moves beyond traditional models. While previous studies acknowledged the intention–behaviour gap (Wiederhold & Martinez, 2018; Rausch & Kopplin, 2021), they often treated

intention and behaviour separately or relied heavily on established models like TPB without integrating broader contextual influences. This study synthesises elements from TPB, VBN, and Norm Activation Theory (Schwartz, 1977), incorporating both internal factors (e.g., environmental consciousness, perceived behavioural control) and external factors (e.g., social norms, product availability, affordability) to explain consumer behaviour in recycled fashion. By doing so, it reflects the complex, multidimensional nature of consumer decision-making in sustainable fashion (Song & Ko, 2017), advancing theoretical understanding while offering actionable insights.

This article is organised into five major sections. Following the introduction, the literature review explores existing research on consumer intentions, behaviours, and recycled clothing, providing the theoretical foundation for the proposed framework. The Conceptual Framework Development section outlines the framework components and hypothesised relationships. The discussion interprets the findings, focuses on theoretical and practical implications, and offers insights for stakeholders promoting recycled apparel. Finally, the conclusion summarises the study's findings, acknowledges limitations, and suggests future research directions. This systematic structure ensures a clear narrative flow, guiding readers through the study's conceptualisation, framework development, and implications.

2.   Literature review

1.1 The recycled clothing concept

Recycled clothing refers to garments created from pre- and post-consumer materials, worn clothing, or reused textile waste and fibres regenerated from these sources. This practice extends the life cycle of textiles by turning used items into new products, thus reducing the need for virgin resources (Khan et al., 2025). Within the framework of sustainable fashion, recycled clothing forms a pillar of the circular economy, which seeks to minimise waste and maximise resource efficiency through recycling, upcycling, and responsible consumption (Global Fashion Agenda, 2021).

Recycled clothing addresses environmental issues caused by fast fashion, such as greenhouse gas emissions, overconsumption of raw materials, and the generation of massive textile waste (Niinimäki, 2018). Beyond environmental benefits, recycled clothing appeals to the growing consumer demand for ethically produced and sustainable fashion goods (ThredUp, 2021).

As both companies and consumers increasingly recognise their roles in advancing corporate social responsibility and sustainability, recycled clothing continues to gain prominence (Vătămănescu et al., 2021). However, realising its full potential requires strategic efforts by fashion brands to ensure product quality, style, and availability, as well as a deep understanding of consumer attitudes and behaviours (Moorhouse, 2020). Consequently, recycled clothing represents a key strategy for steering the fashion industry toward more environmentally responsible practices.

1.1 Consumer intentions and behaviours

Understanding consumer intentions and behaviours toward recycled clothing is essential for promoting sustainable consumption. The Theory of Planned Behaviour (TPB) by Ajzen (1991) is a widely applied framework positing that intention is the primary predictor of behaviour, influenced by attitudes, subjective norms, and perceived behavioural control. According to Kumar et al. (2022), attitudes, subjective norms, and perceived behavioural control positively influence educated youth's intention to purchase recycled clothing. The Value-Belief-Norm (VBN) theory offers another important perspective, suggesting that personal values and environmental beliefs create a moral obligation that drives pro-environmental behaviour (Stern, 2000). The VBN theory highlights how values such as environmental concern and altruism shape consumer intentions to engage in sustainable consumption.

Research shows that while both TPB and VBN theories provide valuable insights into consumer behaviour, positive intentions do not always result in actual purchases. Barriers such as high costs, limited availability, and misconceptions about product quality often deter sustainable choices (Rotimi et al., 2023). Integration of these theories suggests that interventions focused on improving attitudes, enhancing perceived control, and reinforcing social norms could effectively bridge the intention–behaviour gap (Grimmer & Miles, 2014). For stakeholders aiming to promote sustainability in fashion, a thorough understanding of how attitudes, perceived control, and personal values interact is vital to fostering behavioural change.

1.1 The gap in intent-behaviour

The intention–behaviour gap—the disconnect between consumers' stated intentions to purchase sustainable products and their actual purchasing behaviour—is particularly evident in recycled clothing. Studies have consistently shown that although consumers express strong interest in sustainable fashion due to environmental awareness and ethical considerations, this often fails to translate into actual purchases (Zhang et al., 2021; Joy et al., 2012; Niinimäki & Hassi, 2011).

Several barriers contribute to this gap, including perceived high costs (Rausch & Kopplin, 2021), limited availability (Diddi et al., 2019), and doubts about the quality and style of recycled clothing (Wagner & Heinzel, 2020). Moreover, factors like convenience, habitual behaviours, and social pressures significantly influence consumer actions (Joseph, 2019). Lee et al. (2017) found that when consumers experience a misalignment between their values and their purchasing decisions, they may rationalise their behaviour through cognitive dissonance, thus justifying not purchasing sustainable products. This underscores the complexity of bridging the gap and the need for interventions that target both structural and psychological barriers.

1.2 Elements affecting intention and behaviour

A complex interplay of internal and external elements influences both intention and behaviour when consumers choose recycled clothing. Perceived behavioural control, as proposed by the Theory of Planned Behaviour, primarily determines whether consumers feel competent about buying sustainable items; greater perceived control corresponds with stronger intentions to purchase recycled clothing (Liu, 2024). Customer attitudes toward recycled clothing, shaped by personal values, beliefs about environmental sustainability, and past experiences (Busalim et al., 2022), significantly influence their purchasing behaviour (Nurzaman, 2023). Societal norms, understood as perceived social pressure to perform or not perform a particular behaviour, encompass both injunctive norms (what others think one should do) and descriptive norms (what others are actually doing) (Cialdini et al., 1990). These norms exert significant influence, as individuals often align their actions with those of their peers, creating a social impact that can either encourage or discourage the purchase of sustainable fashion (Gonçalves et al., 2022).

Environmental consciousness is defined as an individual's awareness of environmental issues and their concern for the consequences of their actions on the natural environment (Mostafa, 2007). Consumers who are aware of the environmental impacts of their decisions are more inclined to engage in sustainable activities; thus, awareness of environmental problems and the advantages of recycling is crucial (Debrah et al., 2021). Perceived benefits refer to consumers' subjective evaluations of the positive outcomes associated with purchasing recycled clothing, including environmental impact reduction, cost savings, and contributions to ethical consumption (Biswas & Roy, 2015). However, personal hurdles, such as lack of accessibility (Sener et al., 2022), affordability (Bahl, 2023), and misunderstandings about the quality of recycled clothing (Koszewska, 2018), hinder actual purchase behaviour. These barriers highlight the need for initiatives that not only educate consumers about sustainable options but also improve access to affordable, high-quality recycled clothing.

According to Koszewska (2018), many consumers associate recycled goods with inferior quality and remain unaware of the quality and advantages of recycled textiles, which creates a lack of demand for such products. Barrera-Verdugo and Villarroel-Villarroel (2022) emphasize the importance of educating buyers about the attributes of sustainable apparel, such as its quality and style, as these factors can significantly influence their purchasing decisions.

Policymakers and marketers need to develop targeted interventions that address various aspects of consumer behaviour toward sustainable consumption. These interventions include running educational programs that highlight the environmental effects of consumer decisions, supporting positive attitudes through ethical marketing, and removing personal obstacles through improved product accessibility and affordability (Gam et al., 2010). Encouraging community involvement around sustainability can also help build a favourable atmosphere that motivates customers to adopt sustainable behaviours (Gallo et al., 2023).

Several underlying hypotheses sufficiently support research on consumer intention and behaviour toward recycled clothing. Developed by Ajzen (1991), the Theory of Planned Behaviour (TPB) posits that attitudes toward behaviour, subjective norms, and perceived behavioural control affect behavioural intentions, thereby guiding individual behaviour. This framework is particularly important for understanding how consumers' views on sustainability and recycling influence their intention to purchase recycled clothing.

The Value-Belief-Norm (VBN) Theory offers a similar perspective, asserting that personal values and beliefs about environmental issues create a sense of moral obligation that drives pro-environmental action (Stern, 2000). The Norm Activation Theory (NAT), which emphasises the role of social norms in motivating individuals to act according to their values and beliefs, reinforces this point and highlights the influence of societal expectations on consumer behaviour (Schwartz, 1977). Furthermore, the Elaboration Likelihood Model (ELM) helps explain how consumers process information about recycled apparel. It distinguishes between consumers who carefully evaluate information (central route) and those who rely on peripheral cues such as branding and packaging (Petty & Cacioppo, 1986).

Together, these theories provide a robust framework for analysing the diverse factors that influence consumer intentions and behaviours toward recycled clothing. They assist researchers and practitioners in developing effective strategies to promote sustainable fashion consumption.

Several theories thus offer a strong foundation for describing the factors influencing consumer intention and behaviour in this area of research. According to the TPB (Ajzen, 1991), attitudes, subjective norms, and perceived behavioural control shape consumers' intentions to purchase recycled clothing. Attitudes represent consumers' evaluations of the environmental benefits of recycled clothing, while subjective norms relate to societal pressures or incentives to make sustainable choices. Perceived behavioural control concerns consumers' perceptions of their ability to access and purchase recycled clothing (Park & Ha, 2014).

The VBN Theory complements this by emphasising how personal values and environmental beliefs activate a sense of moral obligation, motivating pro-environmental behaviour (Stern, 2000). Yıldırım and Semiz (2019) highlight that personal norms, directly influenced by environmental beliefs, significantly drive pro-environmental activities. This suggests that consumers are more likely to act in accordance with their moral duty to support ecological practices, such as purchasing recycled clothing.

These theoretical frameworks greatly affect consumers' perceptions and intentions toward sustainable living. Finally, the Elaboration Likelihood Model (ELM) distinguishes between consumers who carefully consider sustainability information and those who rely on external cues like brand reputation or product aesthetics (Manca et al., 2019). Taken together, these theories illustrate how attitudes, social influences, perceived control, and cognitive involvement interact to shape consumer behaviour toward recycled clothing.

Table 1. Recent articles related to consumer intention and behaviour on sustainable fashion

Authors & year	Underpinning Theory	Outcome (DV)	Method & sample	Main findings
Şener, Bişkin, and Dündar (2022)	Theory of Planned Behaviour (TPB)	1) Attitude toward recycled content clothing 2) Purchase intention toward recycled content clothing	Conducted a survey targeting female consumers employed in Konya, Turkey. A simple random sampling method was used to select 296 participants	The study found that perceived customer values (emotional, epistemic, and conditional) and environmental concerns significantly influence purchase intentions, though they have a weaker positive effect on attitudes toward recycled content clothing.
Rotimi, Johnson, Hassan, Topple, and Hopkins (2023)	Theory of Planned Behaviour (TPB)	1) Intentions to recycle end-of-life garments 2) Actual recycling behaviour of end-of-life garments	Collected through survey questionnaires distributed across all 8 recognized states and territories in Australia. The study obtained 481 usable responses, which were analysed using structural equation modelling	Attitude, perceived behavioural control, norms, self-identity, eco-literacy, and self-efficacy all affect how Australian customers recycle end-of-life clothing.
Park and Lin (2020)	Theory of Planned Behaviour (TPB)	1) Purchase intention toward recycled and upcycled fashion products 2) Actual purchase behaviour of these products.	250 survey targeting young consumers, who are often fashion-oriented and conscious of their public image.	Consumers support sustainable products, yet they frequently do not buy them due to perceived risks, environmental concerns, and consumer effectiveness.
Hatef & Shukhaila (2019)	Theory of Planned Behaviour (TPB)	Purchase intention toward eco-fashion clothes made from recycled materials.	583 respondents from both East and West Malaysia participated in the survey. The sample included students, non-professionals, and professionals, with a majority being students under the age of 30.	Positive attitudes and perceived behavioural control significantly influence consumers' purchase intentions of eco-fashion clothes made of recycled materials, thereby contributing to a reduction in clothing waste.
Kim, Jung, & Lee (2021)	Consumption value theory	1) Product Attitude 2) Behavioural Intention	Online survey in April 2020, targeting Korean Millennials and Generation Z individuals born between 1985 and 2001. A total of 850 participants completed the survey.	Consumers prioritize emotional value over economic or performance risks when evaluating circular fashion goods, with individualism influencing their perceptions and behavioural intentions.
Chaturvedi, Kulshreshtha, and Tripathi (2020)	Theory of Planned Behaviour (TPB)	Purchase intention toward recycled clothing among Generation Z consumers.	Collected through a survey administered to undergraduate and postgraduate students from five universities across different regions of India, targeting individuals aged 18 to 24 years. 497 usable responses were obtained and analysed.	In a developing economy, generation Z's purchase intention for recycled apparel is much influenced by their willingness to pay, environmental concern, perceived value, and personal standards.

Authors & year	Underpinning Theory	Outcome (DV)	Method & sample	Main findings
Shao and Lassleben (2021)	1) Social Identity Theory 2) Impulse Buying Behaviour	Willingness to participate in used clothes recycling plans (UCRPs) offered by fast fashion brands.	Online survey conducted in May 2019 and January 2020, targeting Chinese consumers who had previously purchased fast fashion clothing. The final sample comprised 564 valid responses.	Personal factors such as environmental attitudes and satisfaction primarily influence consumers' propensity to engage in used clothing recycling initiatives within an omnichannel framework, while organisational arrangements have a less significant impact.
Kumagai (2020)	Theory of Planned Behaviour (TPB).	1) Brand Attitude 2) Purchase Intention	Conducted a survey collecting data from 315 valid samples in Japan	Sustainable plastic apparel enhances brand perception but has conflicting negative impacts on purchase intention, particularly for luxury companies.
Zhang, Wu, Liu, Jiang, Wu, and Yang (2020)	Theory of Planned Behaviour (TPB)	Intention to recycle clothing	Survey administered to residents of Nanjing, China	Although most residents of Nanjing choose to discard or keep outdated clothes at home, their average lifespan of 3.75 years highlights the need for improved disposal practices.
Rausch and Kopplin (2021)	Theory of Reasoned Action (TRA)	1) Purchase Intention 2) Actual Purchase Behaviour	Surveyed 464 German online shoppers thru self-administered questionnaires online across various social media channels and forums.	Attitudes on sustainable apparel influence consumers' buying intentions, but perceived aesthetic risk and greenwashing issues complicate the relationship.

Studies on customer attitudes and behaviours toward recycled and sustainable fashion reveal several influencing factors, which vary depending on geography and socioeconomic context (refer to Table 1 above). For instance, Sener et al. (2022) found that perceived value and environmental concern positively influence Turkish women's purchase intentions for clothing with recycled content, although their effect on overall attitudes may be weaker. Rotimi et al. (2023) discovered that a wide range of personal and social variables—including attitudes, perceived control, eco-literacy, self-identity, norms, and self-efficacy—influence Australians' recycling behaviour towards end-of-life clothing. Similarly, Park and Lin (2020) identified an attitude–behaviour gap, where consumers support sustainable products but often fail to purchase them due to environmental concerns and perceived risks.

Hatef and Shukhaila (2019) further emphasised that positive attitudes and perceived control beliefs significantly motivate eco-fashion purchases aimed at reducing clothing waste. Kim et al. (2021) demonstrated that consumers in the circular fashion market prioritise emotional value over economic or performance risks, suggesting that individualistic values significantly shape sustainable consumption behaviours. According to Chaturvedi et al. (2020), Generation Z consumers in developing economies place high importance on environmental concern, perceived value, and personal standards when purchasing recycled clothing. Meanwhile, Kumagai (2020) noted the contradictory effects of sustainable plastic clothing on luxury brand perceptions—while such initiatives may enhance brand attitudes, they could negatively impact actual purchase intentions.

Shao and Lassleben (2021) found that personal environmental attitudes, rather than organisational arrangements, primarily drive consumers' willingness to participate in used clothing recycling initiatives in omnichannel retail environments. Pointing to the need for behavioural change, Zhang et al. (2020) reported that residents in China tend to either keep or discard old clothes at home rather than recycling

them, highlighting a behavioural gap. Finally, Rausch and Kopplin (2021) underscored the complexity of sustainable fashion adoption by showing how aesthetic risk perceptions and concerns about greenwashing complicate consumers' sustainable purchasing decisions. Together, these studies illustrate the multifaceted factors affecting consumer behaviour and reinforce the need for integrated frameworks to understand and bridge the intention–behaviour gap in sustainable fashion consumption.

2.   Research framework development

The theoretical framework for understanding consumer intentions and behaviours toward recycled clothing is primarily based on the Theory of Planned Behaviour (TPB) and the Value-Belief-Norm (VBN) Theory, both of which are widely recognised for their effectiveness in explaining pro-environmental behaviour. Ajzen (1991) formulated the Theory of Planned Behaviour, asserting that attitudes, subjective norms, and perceived behavioural control determine behavioural intentions, which in turn influence actual behaviour.

The TPB offers a framework for understanding how consumers' perceptions regarding recycled clothing—such as perceived environmental benefits and social influences—translate into purchasing intentions. Research applying TPB in the context of sustainable fashion has investigated elements such as environmental concern, social influence, and perceived behavioural control, which shape consumers' intentions to purchase recycled clothing (Jin et al., 2024). Studies demonstrate that attitudes toward recycled clothing, subjective norms, and perceived behavioural control significantly affect purchasing intentions, highlighting the relevance of TPB in this context (Rodrigues et al., 2023).

Complementing TPB, Stern (2000) developed the VBN Theory, which posits that personal values and environmental beliefs create a moral obligation that drives environmentally significant behaviours. By focusing on the internalised values that often underlie sustainable consumption decisions, the VBN Theory enriches the discussion and underscores the role of moral and ethical considerations in shaping opinions about recycled clothing (Ghazali et al., 2019).

Together, TPB and VBN provide a comprehensive framework for examining both internal and external influences on consumer decision-making in sustainable fashion. This integrated approach offers valuable insights for theoretical advancement and practical intervention strategies (Chen, 2021).

2.1 Framework components: consumer intention formation

Environmental awareness, perceived benefits, and social norms are key elements influencing consumer intentions to purchase recycled clothing. Environmental consciousness reflects a person's awareness and concern about environmental issues, which inspires pro-environmental behaviour and shapes sustainable consumption intentions.

Perceived benefits, including environmental, social, and financial advantages, also play a crucial role. Consumers who believe that purchasing recycled clothing supports environmental protection or social responsibility are more likely to develop strong purchase intentions (Semba et al., 2020). Furthermore, perceived social norms—expectations from peers or society about sustainable consumption—can reinforce these intentions, as individuals in sustainability-oriented communities feel greater pressure to act consistently with shared values (Hosta & Žabkar, 2020).

Based on the preceding discussion, the following hypotheses are proposed:

H1a: Environmental consciousness positively influences consumer intention to purchase recycled clothing.

H1b: Perceived benefits (social and financial) positively influence consumer intention to purchase recycled clothing.

H1c: Perceived social norms positively influence consumer intention to purchase recycled clothing.

2.2 Framework components: moderating factors

In the context of recycled clothing purchases, socio-demographic characteristics and the availability of recycled clothing are important factors that moderate the relationship between intention and behaviour. Socio-demographic variables, such as age, income, and education, significantly influence how intentions are translated into behaviours. Younger consumers, often more environmentally conscious, tend to demonstrate stronger intention–behaviour alignment (Nugroho & Mafruha, 2022). However, lower-income groups may struggle to afford recycled or sustainable clothing if prices remain higher than those of fast fashion alternatives, and availability may be more limited in lower-income areas (Connell, 2010).

Higher education levels are typically associated with greater environmental awareness, enabling consumers to better evaluate marketing claims and actively seek sustainable alternatives (McNeill & Moore, 2015). In addition, the availability of recycled clothing plays a moderating role: even consumers with strong intentions may be unable to act on them if sustainable options are inaccessible (Nguyen et al., 2018). These moderators illustrate the complex nature of the intention–behaviour gap, emphasising the need for tailored interventions that consider demographic and situational factors.

Based on the discussion above, the following hypotheses are formulated:

H2a: Sociodemographic factors (age, income, education) moderate the relationship between consumer intention and actual purchasing behaviour

H2b: The availability of recycled clothing moderates the relationship between consumer intention and actual purchasing behaviour.

2.3 Framework components: behaviour

The relationship between intention and behaviour is a critical aspect of understanding consumer actions, particularly in the context of purchasing recycled clothing. Intention reflects a consumer's willingness or plan to buy recycled clothing, influenced by factors such as environmental awareness, perceived benefits, and social norms (Chaturvedi et al., 2020). Behaviour, on the other hand, refers to the actual execution of that intention—such as making a purchase online or in-store. However, studies have highlighted the existence of a gap between intention and behaviour, often caused by perceived risks, situational constraints, or lack of access to sustainable products (Park & Lin, 2020). Understanding these dynamics is essential for designing strategies that encourage consumers to act on their positive intentions and thus promote sustainable consumption practices.

2.4 Hypothesized relationship

The conceptual framework proposes multiple relationships that clarify the development and execution of consumers' intentions and purchasing behaviours regarding recycled clothing. Environmental consciousness, perceived benefits and perceived social norms positively influence consumer intentions to purchase recycled clothing, as consumers motivated by eco-consciousness and personal values are more likely to form sustainable purchase intentions (Kim & Lee, 2023; Lin & Chen, 2022). Furthermore, sociodemographic factors and the availability of recycled clothing act as moderating variables that influence the strength of the relationship between intention and purchasing behaviour. Studies found that younger consumers who demonstrate greater environmental awareness or live in areas with easy access to recycled fashion show a more pronounced correlation between their intentions and purchasing behaviours (Olwoch et al., 2023; Conner & Norman, 2022). The diagram (Figure 1) illustrates the conceptual

framework of the relationship between consumer intention and purchasing behaviour, moderated availability of recycled clothing and sociodemographic factors.
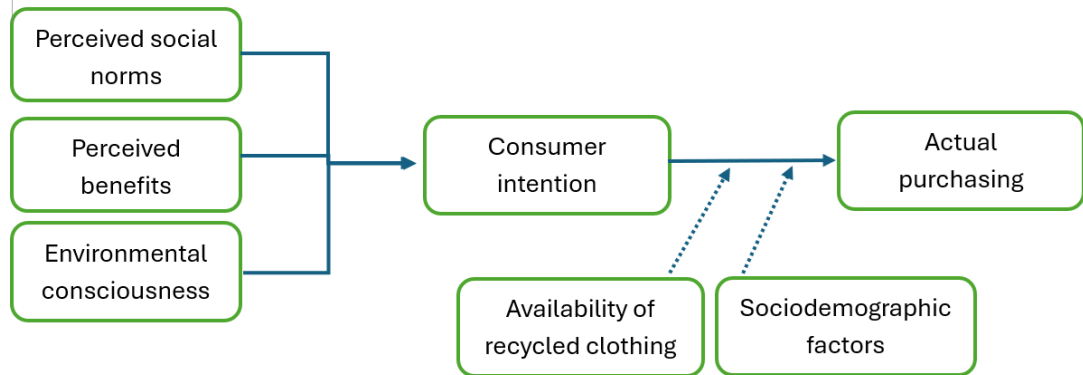

Figure 1. Conceptual framework

It has been widely acknowledged that consumer behaviour particularly in the context of sustainable fashion, can be influenced by cultural, socioeconomic, and geographical factors. As such, while the proposed conceptual framework was developed and tested within the Malaysian context, it reflects variables (e.g., environmental consciousness, social norms, perceived benefits) that have demonstrated cross-cultural relevance in prior sustainability research (Paul et al., 2016; Joshi & Rahman, 2015).

That said, we recognize that the strength and interaction of these variables may vary across regions. For instance, collectivist cultures like Malaysia may exhibit stronger influences from subjective norms and social expectations, compared to more individualistic societies (Yadav & Pathak, 2016). Similarly, factors such as income levels, environmental awareness, and accessibility to recycled products may differ in significance depending on the country's economic and policy landscape.

Therefore, we consider the framework to be context-sensitive yet adaptable. It offers a solid theoretical base for understanding recycled clothing consumption in emerging economies, while also being modifiable for application in other cultural or regional contexts. Future cross-national studies could extend the model by integrating country-specific variables or conducting multi-group analyses to compare behavioural patterns across different cultural settings.

3. Methodology

This study adopts a cross-sectional survey design using a self-administered online questionnaire to explore consumer behaviour toward recycled clothing. The target population comprised Malaysian consumers interested in sustainable fashion, particularly those who expressed an intention to purchase recycled clothing. To ensure representativeness and capture diverse perspectives, convenience sampling was employed across key demographic groups, including age, income, and education level—factors consistently shown to influence sustainable purchasing behaviour (Johnstone & Tan, 2015; Paul et al., 2016). A sample size of approximately 450 respondents was targeted, in line with recommendations for studies requiring robust data to support multivariate analysis and enhance generalisability (Hair et al., 2019).

To test the hypothesised relationships among constructs, data were analysed using Structural Equation Modeling (SEM). SEM is particularly suited for this study as it enables the examination of complex causal pathways within behavioural intention models and provides a comprehensive assessment of model fit. This approach aligns with the study's objective to evaluate multiple interrelated predictors of sustainable consumption behaviour in a theoretically grounded manner.

Although the conceptual framework positions actual behaviour as an outcome of intention, this research does not employ a longitudinal design. Instead, it operationalises actual behaviour as self-reported past behaviour, specifically measuring the frequency or recency of recycled clothing purchases within a defined time frame (e.g., the past three months). This allows behavioural data to be captured within a single data collection session while still reflecting post-intention actions.

This methodological choice is consistent with established practices in sustainability research, where retrospective self-reports are commonly used to approximate actual behaviour in cross-sectional designs (Park & Lin, 2020; Kim & Seock, 2009). While a two-phase longitudinal approach would strengthen causal inference, the current method provides a pragmatic and widely accepted alternative for exploratory and theory-extending research. Nevertheless, the limitations of this approach are acknowledged. Future studies are encouraged to adopt longitudinal or experimental designs to more rigorously validate the causal sequence, particularly the link between intention and actual sustainable purchasing behaviour.

4. Discussion and conclusion

4.1 Implications for theory

The proposed framework offers significant theoretical contributions to the literature on sustainable consumer behaviour, particularly within the domain of recycled clothing consumption. Rooted in the Theory of Planned Behaviour (TPB) (Ajzen, 1991), this study advances the theoretical model by integrating both intrinsic (e.g., environmental consciousness) and extrinsic (e.g., social norms, perceived benefits) factors as antecedents of consumer intention. Unlike the traditional TPB, which primarily emphasizes attitude, subjective norms, and perceived behavioural control, our model introduces a more holistic set of predictors that better reflect the multifaceted nature of sustainable consumption. This aligns with recent findings by Kim and Lee (2023), who argue that sustainable consumption intentions are influenced by both internal values and external pressures.

Moreover, the incorporation of sociodemographic characteristics (e.g., age, education, income) and situational constraints (e.g., product availability, pricing) as moderating variables addresses a critical gap in existing behavioural models, which often overlook the contextual nuances that inhibit or facilitate behaviour. This refinement enables a more nuanced understanding of the intention-behaviour gap, an area where TPB and similar theories have faced ongoing criticism for their limited predictive power in real-world contexts (Park & Lin, 2020; Carrington et al., 2010).

The model also contributes to demographic-specific theorization by identifying that younger consumers are often assumed to act uniformly to demonstrate a more consistent alignment between intention and actual behaviour, as supported by Olwoch et al. (2023). This demographic lens invites future research to explore segmented behavioural patterns, thus enhancing the applicability and precision of behavioural theories in sustainability domains.

Finally, by emphasizing practical barriers (e.g., lack of access to recycled products), this framework underscores the importance of contextualized theoretical models that extend beyond abstract constructs. This encourages the development of cross-contextual sustainable behaviour models that are more reflective of everyday consumer realities. In doing so, the present study not only strengthens the explanatory power of TPB-derived models but also lays the groundwork for a more inclusive and operationally relevant theory of sustainable consumption.

4.2 Implications for practice

This study offers practical insights for stakeholders seeking to enhance the sustainable consumption of recycled clothing. Marketers are encouraged to prioritise environmental consciousness in their campaigns, emphasising recycled clothing's role in environmental preservation. This strategy appeals to

environmentally conscious consumers and promotes sustainable purchasing behaviours (Kim & Lee, 2023). Secondly, effective communication of perceived benefits, such as cost savings and social responsibility, is essential to enhance purchase intentions. Aligning product messaging with societal values attracts consumers who are socially aware (Semba et al., 2020).

Third, leveraging perceived social norms through influencer partnerships or community initiatives can foster a sense of collective responsibility and encourage sustainable behaviour (Hosta & Žabkar, 2020). Fourth, crafting compelling narratives that highlight the sustainability journey of recycled clothing fosters emotional connections with consumers. Brands like Patagonia have successfully used storytelling to convey their commitment to environmental stewardship, enhancing consumer engagement and loyalty (Ginsberg & Bloom, 2004).

For policymakers, enforcing Extended Producer Responsibility (EPR) schemes is crucial. These schemes mandate that fashion producers manage the entire lifecycle of their products, encouraging the design of more durable and recyclable clothing. EPR schemes have been identified as effective in promoting sustainable practices within the fashion industry. Moreover, policymakers should provide incentives and penalties by offering tax reductions and support schemes for companies adopting sustainable practices, while imposing penalties for environmentally harmful processes. This dual approach motivates businesses to transition towards sustainability.

It is also essential to consider moderating factors. Increasing the accessibility of recycled clothing in underserved areas diminishes barriers to access and enhances the connection between intention and behaviour (Nguyen et al., 2018). Retailers must consider the preferences of younger, higher-income, and more-educated consumers, adjusting product design and marketing strategies to align with their values (Nugroho & Mafruha, 2022). Furthermore, retailers are encouraged to adopt in-store recycling initiatives by establishing collection bins within stores to encourage consumers to return unwanted clothing for recycling. Major retailers such as H&M and Zara have implemented such initiatives to reduce textile waste and promote circular fashion (Butler, 2017). Collectively, these practices help close the intention–behaviour gap and promote a more sustainable fashion industry.

4.3 Conclusion

This study highlights the key factors that affect consumer intentions and behaviours regarding the purchase of recycled clothing and offers a solid framework for comprehending sustainable fashion consumption. Environmental consciousness, perceived benefits, and social norms are identified as key factors influencing purchase intention, whereas sociodemographic characteristics and product availability serve as moderators of the intention-behaviour relationship. The findings enhance both theoretical understanding and practical application by providing actionable insights that encourage sustainable consumption and support a more environmentally conscious fashion industry.

Investigating consumers' intentions and behaviours regarding recycled clothing is crucial for promoting a sustainable and circular fashion industry. Identifying the factors that motivate sustainable choices—such as environmental consciousness, perceived benefits, and social norms—enables stakeholders to develop strategies that align consumer values with accessible and appealing options in recycled fashion. As consumers increasingly seek environmentally responsible products, converting intention into action can mitigate the industry's environmental impact by reducing waste and the demand for virgin materials. This framework provides insights that can inform policy and marketing strategies aimed at promoting a cultural shift toward conscious consumption, empowering consumers to make significant environmental contributions through their daily choices.

The integration of recycled clothing into sustainability initiatives necessitates a deep understanding of consumer dynamics, which drives industry innovation and fosters enduring behavioural change aligned with global environmental objectives (see Figure 2 below).
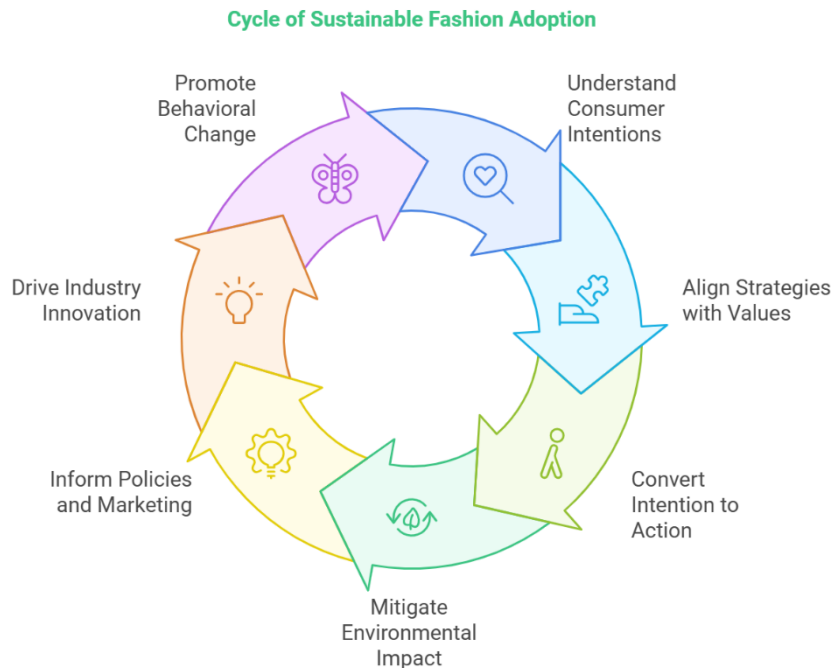
Figure 2. Cycle of sustainable fashion adoption

4.4 Recommendations for future research

The conceptual framework established for analysing consumers' intention and behaviour regarding recycled clothing highlights key factors influencing sustainable consumption. Core components include environmental awareness, perceived benefits, and social norms, which notably affect consumers' intentions by emphasising both individual and ecological advantages associated with purchasing recycled clothing. The framework addresses the intention–behaviour gap, a prevalent issue in sustainable fashion, by incorporating socio-demographic factors and the availability of recycled clothing as moderators influencing the translation of intention into actual behaviour. It refines existing theories of sustainable consumption by integrating situational and demographic variables and offers actionable insights for marketers, policymakers, and retailers aiming to promote a circular fashion economy. The framework also emphasises the necessity of targeted interventions to effectively bridge the gap between intention and behaviour. Future research could investigate additional factors such as pricing effects, perceived quality, and the accessibility of recycling facilities to determine their influence on recycled clothing purchasing behaviour.

References

Ajzen, I. (1991). The Theory of planned behaviour. *Organizational Behaviour and Human Decision Processes*, *50*(2), 179-211. https://doi.org/10.1016/0749-5978(91)90020-T

Arangdad, S. R., Thoney-Barletta, K., Joines, J. A., & Rothenberg, L. (2019). Influence of demographics and motivational factors on us consumer clothing and shoes disposal behaviour. *Research Journal of Textile and Apparel*, *23*(3), 170-188. https://doi.org/10.1108/rjta-08-2018-0051

Bahl, R., Panwar, T., Padhye, R., & Nayak, R. (2023). Are Australian consumers ready to wear recycled clothing to practice sustainable consumption? *Sustainability, 15*(21), 15451. https://doi.org/10.3390/su152115451

Barrera-Verdugo, G. and Villarroel-Villarroel, A. (2022). Influence of product selection criteria on clothing purchase and post-purchase behaviours: a gender and generational comparison. *Plos One, 17*(6), e0267783. https://doi.org/10.1371/journal.pone.0267783

Biswas, A., & Roy, M. (2015). Green products: an exploratory study on the consumer behaviour in emerging economies of the East. *Journal of cleaner production, 87,* 463-468. https://doi.org/10.1016/j.jclepro.2014.09.075

Bukhari, M. A. M., Carrasco-Gallego, R., & Ponce-Cueto, E. (2018). Developing a national programme for textiles and clothing recovery. *Waste Management &Amp; Research: The Journal for a Sustainable Circular Economy, 36*(4), 321-331. https://doi.org/10.1177/0734242x18759190

Busalim, A. H., Fox, G., & Lynn, T. (2022). Consumer behaviour in sustainable fashion: a systematic literature review and future research agenda. *International Journal of Consumer Studies, 46*(5), 1804-1828. https://doi.org/10.1111/ijcs.12794

Butler, S. (2017, May 26). *Zara and H&M back in-store recycling to tackle throwaway culture*. The Guardian. https://www.theguardian.com/sustainable-business/2017/may/26/zara-hm-step-up-instore-recycling-tackle-throwaway-culture

Carrington, M. J., Neville, B. A., & Whitwell, G. J. (2010). Why ethical consumers don't walk their talk: Towards a framework for understanding the gap between the ethical purchase intentions and actual buying behaviour of ethically minded consumers. *Journal of business ethics*, *97*, 139-158. https://doi.org/10.1007/s10551-010-0501-6

Cavender, R. C. (2018). Exploring the influence of sustainability knowledge and orientation to slow consumption on fashion leaders' drivers of fast fashion avoidance. *American Journal of Theoretical and Applied Business, 4*(3), 90. https://doi.org/10.11648/j.ajtab.20180403.12

Chaturvedi, P., Kulshreshtha, K., & Tripathi, V. (2020). Investigating the determinants of behavioural intentions of generation Z for recycled clothing: An evidence from a developing economy. *Young Consumers*, *21*(4), 403-417. https://doi.org/10.1108/YC-03-2020-1110

Chen, M. F. (2021, June). Combining the VBN model and the TPB model to explore consumer's consumption intention of local organic foods: An abstract. In *Academy of Marketing Science Annual Conference-World Marketing Congress* (pp. 535-536). Cham: Springer International Publishing.

Cialdini, R. B., Reno, R. R., & Kallgren, C. A. (1990). A focus theory of normative conduct: Recycling the concept of norms to reduce littering in public places. *Journal of personality and social psychology*, *58*(6), 1015–1026. https://doi.org/10.1037/0022-3514.58.6.1015

Connell, K. Y. H. (2010). Internal and external barriers to eco-conscious apparel acquisition. *International Journal of Consumer Studies*, *34*(3), 279-286. https://doi.org/10.1111/j.1470-6431.2010.00865.x

Conner, M., & Norman, P. (2022). Understanding the intention-behaviour gap: The role of intention strength. *Frontiers in Psychology*, *13*, 923464. https://doi.org/10.3389/fpsyg.2022.923464

Debrah, J. K., Vidal, D. G., & Dinis, M. A. P. (2021). Raising awareness on solid waste management through formal education for sustainability: a developing countries evidence review. *Recycling, 6*(1), 6. https://doi.org/10.3390/recycling6010006

Diddi, S., Yan, R., Bloodhart, B., Bajtelsmit, V., & McShane, K. (2019). Exploring young adult consumers' sustainable clothing consumption intention-behaviour gap: A Behavioral Reasoning Theory perspective. *Sustainable Production and Consumption, 18,* 200-209. https://doi.org/10.1016/J.SPC.2019.02.009

Fatih Sudin, M. A., Ma'rof, A. A., Abdullah, H., & Zarimohzzabeih, Z. (2023). Inconvenience and perceived behavioural control as the main predictive factors of recycling behaviour: malaysian university students context. *International Journal of Academic Research in Business and Social Sciences, 13*(14), 16-33. https://doi.org/10.6007/ijarbss/v13-i14/18185

Gallo, T., Pacchera, F., Cagnetti, C., & Silvestri, C. (2023). Do sustainable consumers have sustainable behaviours? an empirical study to understand the purchase of food products. *Sustainability, 15*(5), 4462. https://doi.org/10.3390/su15054462

Gam, H. J., Cao, H., Farr, C., & Kang, M. (2010). Quest for the eco-apparel market: a study of mothers' willingness to purchase organic cotton clothing for their children. *International Journal of Consumer Studies, 34*(6), 648-656. https://doi.org/10.1111/j.1470-6431.2010.00898.x

Ghazali, E. M., Nguyen, B., Mutum, D. S., & Yap, S. F. (2019). Pro-environmental behaviours and Value-Belief-Norm theory: Assessing unobserved heterogeneity of two ethnic groups. *Sustainability*, *11*(12), 3237. https://doi.org/10.3390/su11123237

Ginsberg, J. M., & Bloom, P. N. (2004). Choosing the right green marketing strategy. *MIT Sloan Management Review*, *46*(1), 79–84.

Global Fashion Agenda (2021). *Fashion on Climate*.Retrieved from https://globalfashionagenda.com/publications/fashion-on-climate/.

Gonçalves, J., Santos, A. R., Kieling, A. P., & Tezza, R. (2022). The influence of environmental engagement in the decision to purchase sustainable cosmetics: an analysis using the theory of planned behaviour. *Revista De Administração Da UFSM, 15*(3), 541-562. https://doi.org/10.5902/1983465969295

Grimmer, M., & Miles, M. (2014). With the best of intentions: a large sample test of the intention-behaviour gap in pro-environmental consumer behaviour. *International Journal of Consumer Studies*, *41(1)*, 2-10. https://doi.org/10.1111/IJCS.12290.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis.* Upper Saddle River, NJ: Pearson.

Hassan, S. H., Yeap, J. A., & Al-Kumaim, N. H. (2022). Sustainable fashion consumption: advocating philanthropic and economic motives in clothing disposal behaviour. *Sustainability, 14*(3), 1875. https://doi.org/10.3390/su14031875

Hatef, J., & Shukhaila, B. (2019). Consumer Purchase Behaviour of Eco-Fashion Clothes As a Trend to Reduce Clothing Waste. *International Journal of Innovative Technology and Exploring Engineering, 8*(12), 4224-4233. https://doi.org/10.35940/ijitee.l2693.1081219.

Hosta, M. and Žabkar, V. (2020). Antecedents of environmentally and socially responsible sustainable consumer behaviour. *Journal of Business Ethics, 171*(2), 273-293. https://doi.org/10.1007/s10551-019-04416-0

Jin, X., Omar, A., & Fu, K. (2024). Factors Influencing Purchase Intention toward Recycled Apparel: Evidence from China. *Sustainability*, *16*(9), 3633. https://doi.org/10.3390/su16093633

Johnstone, M. L., & Tan, L. P. (2015). Exploring the gap between consumers' green rhetoric and purchasing behaviour. *Journal of business ethics*, *132*, 311-328. https://doi.org/10.1007/s10551-014-2316-3

Joseph, O. (2019). Pro-Environmental Consumer Behaviour: A Critical Review of Literature. *International Journal of Biometrics*, *15*(1), 1-15. https://doi.org/10.5539/ijbm.v15n1p1

Joshi, Y., & Rahman, Z. (2015). Factors affecting green purchase behaviour and future research directions. *International Strategic management review*, *3*(1-2), 128-143. https://doi.org/10.1016/j.ism.2015.04.001

Joy, A., Sherry Jr, J. F., Venkatesh, A., Wang, J., & Chan, R. (2012). Fast fashion, sustainability, and the ethical appeal of luxury brands. *Fashion theory*, *16*(3), 273-295. doi:10.2752/175174112X13340749707123

Juanga-Labayen, J. P., Labayen, I. V., & Yuan, Q. (2022). A review on textile recycling practices and challenges. *Textiles, 2*(1), 174-188. https://doi.org/10.3390/textiles2010010

Khan, I. A., Malik, M. H., Fraz, A., & Ibrahim, H. (2025). From Waste to Weave: Recycling industrial and consumer cotton waste for sustainable and cost-effective terry fabric production. *Tekstilec, 68*(1), 42-56. https://doi.org/10.14502/tekstilec.68.2024103

Kim, I., Jung, H. J., & Lee, Y. (2021). Consumers' value and risk perceptions of circular fashion: comparison between secondhand, upcycled, and recycled clothing. *Sustainability, 13*(3), 1208. https://doi.org/10.3390/su13031208

Kim, N., & Lee, K. (2023). Environmental consciousness, purchase intention, and actual purchase behaviour of eco-friendly products: the moderating impact of situational context. *International Journal of Environmental Research and Public Health*, *20*(7), 5312. https://doi.org/10.3390/ijerph20075312

Kim, S., & Seock, Y. K. (2009). Impacts of health and environmental consciousness on young female consumers' attitude towards and purchase of natural beauty products. *International Journal of Consumer Studies*, *33*(6), 627-638. https://doi.org/10.1111/j.1470-6431.2009.00817.x

Koszewska, M. (2018). Circular economy — challenges for the textile and clothing industry. *Autex Research Journal, 18*(4), 337-347. https://doi.org/10.1515/aut-2018-0023

Kumagai, K. (2021). Sustainable plastic clothing and brand luxury: a discussion of contradictory consumer behaviour. *Asia Pacific Journal of Marketing and Logistics*, *33*(4), 994-1013. https://doi.org/10.1108/APJML-04-2020-0274

Kumar, N., Garg, P., & Singh, S. (2022). Pro-environmental purchase intention towards eco-friendly apparel: Augmenting the theory of planned behaviour with perceived consumer effectiveness and environmental concern. *Journal of Global Fashion Marketing*, *13*(2), 134 - 150. https://doi.org/10.1080/20932685.2021.2016062.

Lee, J., Kim, H., & Rha, J. (2017). Shopping for society? consumers' value conflicts in socially responsible consumption affected by retail regulation. *Sustainability, 9*(11), 1968. https://doi.org/10.3390/su9111968

Lin, P. H., & Chen, W. H. (2022). Factors that influence consumers' sustainable apparel purchase intention: The moderating effect of generational cohorts. *Sustainability*, *14*(14), 8950. https://doi.org/10.3390/su14148950

Liu, L., Zhang, W., Li, H., & Zheng, Z. (2024). The impact of environmental accidents on the green apparel purchase behaviour of generation z. *Frontiers in Psychology, 15, 1338702*. https://doi.org/10.3389/fpsyg.2024.1338702

Lu, S. (2022). Explore u.s. retailers' sourcing strategies for clothing made from recycled textile materials. *Sustainability, 15*(1), 38. https://doi.org/10.3390/su15010038

Manca, S., Altoè, G., Schultz, P. W., & Fornara, F. (2019). The persuasive route to sustainable mobility: elaboration likelihood model and emotions predict implicit attitudes. *Environment and Behaviour, 52*(8), 830-860. https://doi.org/10.1177/0013916518820898

McNeill, L. S., Hamlin, R. P., McQueen, R. H., Degenstein, L. M., Garrett, T. C., Dunn, L. A., … & Wakes, S. (2020). Fashion sensitive young consumers and fashion garment repair: emotional connections to garments as a sustainability strategy. *International Journal of Consumer Studies, 44*(4), 361-368. https://doi.org/10.1111/ijcs.12572

McNeill, L., & Moore, R. (2015). Sustainable fashion consumption and the fast fashion conundrum: Fashionable consumers and attitudes to sustainability in clothing choice. *International Journal of Consumer Studies*, *39*(3), 212–222. https://doi.org/10.1111/ijcs.12169

Moorhouse, D. (2020). Making Fashion Sustainable: Waste and Collective Responsibility. *One Earth*, *3*(1), 17 - 19. https://doi.org/10.1016/j.oneear.2020.07.002.

Mostafa, M. M. (2007). A hierarchical analysis of the green consciousness of the Egyptian consumer. *Psychology & marketing*, *24*(5), 445-473. https://doi.org/10.1002/mar.20168

Ney, M. D. A. M. I., Karunagara, S., Praveen, S., & Tan, S. (2022). Understanding household's intention of recycling clothes: an extension of tpb with lack of facilities and social media usage. *International Journal of Management, Finance and Accounting, 3*(2), 31-41. https://doi.org/10.33093/ijomfa.2022.3.2.3

Nguyen, H. V., Nguyen, C. T., & Hoang, T. T. B. (2018). Green consumption: closing the intention-behaviour gap. *Sustainable Development, 27*(1), 118-129. https://doi.org/10.1002/sd.1875

Niinimäki, K. (2018). *Sustainable fashion in a circular economy*. Aalto University.

Niinimäki, K., & Hassi, L. (2011). Emerging design strategies in sustainable production and consumption of textiles and clothing. *Journal of cleaner production*, *19*(16), 1876-1883. https://doi.org/10.1016/j.jclepro.2011.04.020

Nugroho, A. A. and Mafruhah, I. (2022). Factors driving the attitude gap in purchasing eco-friendly clothing in indonesia. *International Journal of Economics, Business and Management Research, 06*(09), 27-38. https://doi.org/10.51505/ijebmr.2022.6904

Nurzaman, M. S. and Herdiani, E. (2023). Intentions to consume sustainable fashion products in indonesia: does religiosity affect? *Etikonomi, 22*(2), 277-292. https://doi.org/10.15408/etk.v22i2.34281

Olwoch, M. A., Sonnenberg, N. C., Reis, T. L., & Taljaard-Swart, H. (2023). Consumers' Sustainable Clothing Consumption Practices: Adopting the Principles of Voluntary Simplicity. *In Consumer Awareness and Textile Sustainability* (pp. 15-31). Cham: Springer Nature Switzerland.

Park, H., & Lin, L. (2020). Exploring attitude–behaviour gap in sustainable consumption: comparison of recycled and upcycled fashion products. *Journal of Business Research*, *117*, 623-628. https://doi.org/10.1016/J.JBUSRES.2018.08.025.

Park, J. and Ha, S. (2014). Understanding consumer recycling behaviour: combining the theory of planned behaviour and the norm activation model. *Family and Consumer Sciences Research Journal, 42*(3), 278-291. https://doi.org/10.1111/fcsr.12061

Paul, J., Modi, A., & Patel, J. (2016). Predicting green product consumption using theory of planned behaviour and reasoned action. *Journal of Retailing and Consumer Services*, *29*, 123-134. https://doi.org/10.1016/j.jretconser.2015.11.006

Petty, R. E., & Cacioppo, J. T. (1986). *Communication and persuasion: Central and peripheral routes to attitude change.* New York: Springer-Verlag.

Rausch, T., & Kopplin, C. (2021). Bridge the gap: Consumers' purchase intention and behaviour regarding sustainable clothing. *Journal of Cleaner Production, 278,* 123882. https://doi.org/10.1016/j.jclepro.2020.123882.

Rodrigues, M., Proença, J. F., & Macedo, R. (2023). Determinants of the purchase of secondhand products: an approach by the theory of planned behaviour. *Sustainability*, *15*(14), 10912. https://doi.org/10.3390/su151410912

Rotimi, E., Johnson, L., Daronkola, H., Topple, C., & Hopkins, J. (2023). Predictors of consumers' behaviour to recycle end-of-life garments in Australia. *Journal of Fashion Marketing and Management: An International Journal, 27*(2), 262-286. https://doi.org/10.1108/jfmm-06-2022-0125.

Schwartz, S. H. (1977). Normative influences on altruism. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 10, pp. 221-279). New York: Academic Press.

Sedej, T. and Toroš, J. (2023). Awareness of the environmental impact of clothing production and consumption among slovenian women customers. *Tekstilec, 66*(2), 1-11. https://doi.org/10.14502/tekstilec.66.2023001

Semba, T., Sakai, Y., Ishikawa, M., & Inaba, A. (2020). Greenhouse gas emission reductions by reusing and recycling used clothing in japan. *Sustainability, 12*(19), 8214. https://doi.org/10.3390/su12198214

Şener, T., Bişkin, F., & Dündar, N. (2022). The effects of perceived value, environmental concern and attitude on recycled fashion consumption. *Journal of Fashion Marketing and Management: An International Journal, 27*(4), 595-611. https://doi.org/10.1108/jfmm-01-2021-0003

Shao, P., & Lassleben, H. (2021). Determinants of consumers' willingness to participate in fast fashion brands' used clothes recycling plans in an omnichannel retail environment. *Journal of theoretical and applied electronic commerce research*, *16*(7), 3340-3355. https://doi.org/10.3390/jtaer16070181

Song, S., & Ko, E. (2017). Perceptions, attitudes, and behaviours toward sustainable fashion: Application of Q and Q-R methodologies. *International Journal of Consumer Studies, 41*(3), 264-273. https://doi.org/10.1111/IJCS.12335.

Stern, P. C. (2000). New environmental theories: toward a coherent theory of environmentally significant behaviour. *Journal of social issues*, *56*(3), 407-424. https://doi.org/10.1111/0022-4537.00175

Sun, N., Liu, D., & Zhang, J. (2024). Exploring the factors influencing the intention to clothing and textiles recycling among Chinese college students': a study based on TPB and VBN. Frontiers in *Psychology, 14*, 1328037. https://doi.org/10.3389/fpsyg.2023.1328037

ThredUp (2021). *2021 Resale Report.* Retrieved from https://www.thredup.com/resale.

Vătămănescu, E., Dabija, D., Gazzola, P., Cegarro-Navarro, J., & Buzzi, T. (2021). Before and after the outbreak of Covid-19: Linking fashion companies' corporate social responsibility approach to consumers' demand for sustainable products. *Journal of Cleaner Production, 321*, 128945. https://doi.org/10.1016/j.jclepro.2021.128945.

Wagner, M. M., & Heinzel, T. (2020). Human perceptions of recycled textiles and circular fashion: A systematic literature review. *Sustainability*, *12*(24), 10599. https://doi.org/10.3390/su122410599.

Wiederhold, M., & Martinez, L. F. (2018). Ethical consumer behaviour in Germany: The attitude-behaviour gap in the green apparel industry. *International journal of consumer studies*, *42*(4), 419-429. https://doi.org/10.1111/ijcs.12435

Yadav, R., & Pathak, G. S. (2016). Intention to purchase organic food among young consumers: Evidences from a developing nation. *Appetite*, *96*, 122-128. https://doi.org/10.1016/j.appet.2015.09.017

Yıldırım, B. Ç. and Semiz, G. K. (2019). Future teachers' sustainable water consumption behaviour: a test of the value-belief-norm theory. *Sustainability, 11*(6), 1558. https://doi.org/10.3390/su11061558

Zhang, B., Zhang, Y., & Zhou, P. (2021). Consumer attitude towards sustainability of fast fashion products in the UK. *Sustainability*, *13*(4), 1646. https://doi.org/10.3390/su13041646

Zhang, L., Wu, T., Liu, S., Jiang, S., Wu, H., & Yang, J. (2020). Consumers' clothing disposal behaviours in Nanjing, China. *Journal of Cleaner Production*, *276*, 123184. https://doi.org/10.1016/j.jclepro.2020.123184

About the Authors

Yong Azrina Ali Akbar, is a senior lecturer at the Faculty of Business and Management, Universiti Teknologi MARA Kedah (ORCID: https://orcid.org/0009-0007-7610-3347). She focuses her research primarily on management, consumer behaviour, and sustainability. She has published widely on these topics in journals such as International Journal of Supply Chain Management, World Applied Sciences Journal, International Journal of Business, Economics and Law, and International Journal of Academic Research in Progressive Education and Development. She can be reached via her email at yong198@uitm.edu.my.

Azyyati Anuar, obtained her Ph.D. in Operations Management at Universiti Utara Malaysia (ORCID: http://orcid.org/0000-0002-3586-6029). Currently serving as a senior lecturer at the Faculty of Business and Management, Universiti Teknologi MARA Kedah, her research focuses primarily on lean management, sustainability and entrepreneurship. She has published extensively on these subjects in journals such as Environmental Science and Pollution Research, Jurnal Pengurusan, Akademika, and Advanced Research in Applied Science and Technology. She can be reached via her email at azyyati@uitm.edu.my.

Fatihah Norazami Abdullah, is a senior lecturer at Faculty of Business and Management, Universiti Teknologi MARA Kedah (ORCID: https://orcid.org/0000-0003-3444-645X). Her research focuses primarily on halal tourism and marketing. She has published in journals such as Insight Journal, International Journal of Accounting, Finance, and Business (IJAFB), and Information Management and Business Review. She can be reached via email at fatih876@uitm.edu.my.

Rosliza Md Zani is a senior lecturer at the Faculty of Business and Management, Universiti Teknologi MARA Kedah (ORCID: http://orcid.org/0009-0003-8349-7656). Her primary research interests lie in the area of organizational behavior, with a focus on leadership, employee motivation, stress management, and workplace dynamics. She has published extensively on these topics in academic journals and continues to contribute significantly to her field. She can be reached through her email at rosliza568@uitm.edu.my.

Acknowledgements

Conflict of interest statement

The authors declare no conflicts of interest associated with this publication. No funding was received to support this work.

Authors' contributions

Yong Azrina Ali Akbar led the research effort and authored the sections on the introduction, conceptual framework development, and discussion. Both Rosliza Md Zani and Fatihah Norazami Abdullah contributed by developing the literature review, and focused on writing the conclusion. Azyyati Anuar provided critical revisions, conducted a comprehensive review of the article, and approved its final submission for publication. Corresponding author's main mobile phone number: 012-2483028 (Yong Azrina Ali Akbar)