



Sustainability across Borders: which factors influence sustainable footwear Choices? An empirical study on Italian and Dutch consumers

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ABSTRACT

The fashion industry accounts for substantial negative environmental and social impacts, prompting the development of sustainable fashion products as a response to these issues. Despite increased interest in sustainable fashion, research on sustainable footwear remains limited. This study addresses this gap by investigating the determinants influencing sustainable footwear purchase intention within a novel theoretical framework. The Theory of Planned Behaviour model is extended including two additional constructs: Perceived Market Influence and Ascription of Responsibility. The study involves two European markets, collecting data from 724 consumers in Italy and the Netherlands. Structural Equation Modelling and Multigroup analysis are used for data analysis. The findings indicate that Attitude, Subjective Norms, and Ascription of Responsibility positively affect purchase intentions toward recycled footwear, while Perceived Behavioural Control has a negative effect. Ascription of Responsibility and Perceived Market Influence can enhance consumers' Attitudes toward sustainable footwear. The multigroup analysis reveals differences in consumer behaviour between the Italian and Dutch markets, highlighting that the determinants of consumers' intention to purchase sustainable footwear depend on the consumer's country. This research has important theoretical contributions related to sustainable consumer behaviour and provides valuable insights for marketers into the patterns and factors influencing sustainable footwear consumption in diverse contexts.

1. Introduction

The fashion industry exhibits a notable deficit in sustainability. It has attracted increasing consideration within the discourse surrounding environmental and ethical sustainability (e.g., as evidenced by references to the European Commission, 2023 initiatives). In particular, the rapid expansion of fast fashion trends - characterized by mass production and short product life cycles - coupled with a growing global population, has intensified the industry's negative footprint, reinforcing the urgency of adopting more sustainable alternatives (Hellström and Olsson, 2024; Niinimäki et al., 2020). The fashion industry includes various product categories, such as apparel and accessories, with footwear being a significant subset that severely contributes to the environmental

impacts of this broader industrial domain (Cheah et al., 2013).

Investigating sustainable footwear consumption is essential for reducing environmental impacts and promoting eco-friendly practices in the fashion industry. Footwear manufacturing necessitates substantial quantities of plastic materials, causes resource and labour exploitation, and engenders notable quantities of waste (Yadav et al., 2022; Jacques and Guimarães, 2012). Footwear production involves a complex combination of chemicals, glues, rubbers, and leather, which generate negative environmental impacts (Van Rensburg et al., 2020). Moreover, during use, footwear releases microplastic fragments that cause severe impacts on the natural ecosystem (Lee et al., 2022). In alignment with the prevailing fashion industry trends, footwear production and per capita consumption have grown in recent years, exacerbating the

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magnitude of these negative impacts. To address these issues, several footwear companies are formulating strategies to transition their product offerings toward greater sustainability (Dwivedi et al., 2022), including technological innovations that incorporate materials with a reduced environmental footprint (Provin and de Aguiar Dutra, 2021; Polese et al., 2019). Nike, for example, incorporates recycled materials such as plastics, yarns, and textiles and provides strategies to extend product lifespans (Nike, 2023). Vans offers VR3 materials with renewability, regenerativity, and recycling features (Vans, 2023). Lesser-known brands like Thousand Fell use biodegradable and recyclable materials, including recycled rubber and coconut husk, and have introduced recycling programs that reward customers with discounts (Thousand Fell, 2023). Similarly, Rothy's produces footwear from sustainable materials, including carbon-neutral rubber, vegan leather, recycled foam from castor oil, and other recycled components (Rothy's, 2023). These sustainability initiatives align with the broader objectives of the United Nations' Sustainable Development Goals (SDGs), particularly those related to responsible consumption and production (SDG 12), climate action (SDG 13), and life below water (SDG 14), given the reduction of waste, carbon emissions, and microplastic pollution. By integrating circular economy principles and innovative material solutions, brands like Nike exemplify how the footwear industry can contribute to these global sustainability targets, as reported in its impact report (Nike, 2024). Hence, sustainable footwear offers a promising solution to address the environmental issues of the fashion industry. To the best of our knowledge, a definition of sustainable footwear is lacking in the existing body of literature. Drawing upon the available definitions of sustainable fashion in the literature (e.g., Castro-López et al., 2021; Thomas, 2008), for the aim of this paper we define sustainable footwear as "shoes made from eco-friendly materials (e.g., recycled materials, alternative vegetable matter – such as pineapple leaves) that are less harmful to the environment compared to other similar shoes".

1.1. Gaps in literature and research questions

Research in sustainable fashion indicates that consumer behaviour can differ significantly depending on the clothing item. This variation is evident in various aspects, including purchasing decisions (e.g., Notaro and Paletto, 2021; Gwozdz et al., 2017), maintenance practices (e.g., Laitala and Klepp, 2016; Laitala et al., 2012), and disposal methods (e.g., McNeill et al., 2020; Žurga et al., 2015). For instance, referring to purchase decisions, Notaro and Paletto (2021) found that Italian consumers exhibit varying levels of willingness to pay a premium for sustainable clothing, with differences observed between socks, t-shirts, and shirts. Similarly, Grasso et al. (2000) highlights that purchasing behaviours differ depending on the type of recycled clothing, noting that consumers approach the purchase of recycled t-shirts and sweatshirts differently from that of recycled socks. Additionally, the frequency and expenditure of purchasing different clothing items vary (Gwozdz et al., 2017), as consumers prioritize attributes such as fit, comfort, design, and material (Rausch et al., 2021), which hold different levels of importance depending on the garment (Schiaroli et al., 2024). This suggests that focusing on a specific clothing item enables a deeper understanding of consumer behaviour and the unique market dynamics, facilitating the development of more effective sustainable consumption strategies.

Research on sustainable footwear consumption is scant and requires further investigations. For instance, Mittal et al. (2024) examined Indian consumers' perceptions of various footwear product service systems consumption scenarios. Among this body of literature, few studies delve into the factors influencing sustainable footwear purchasing decisions. Ahabou (2020) focused on how corporate social responsibility affects consumer preferences. Jacques and Guimarães (2012) explored green footwear innovation and company disclosure practices. Ruschel-Soares et al. (2022) studied consumers' acceptance of biodegradable shoes and found that aesthetics and sustainability are key for consumers, with brand transparency enhancing brand perception. Visser et al. (2015)

found that advertisements combining personal benefits with green themes in the Dutch market boost purchase intentions for sustainable shoes. Borah et al. (2024) stressed the significant role of green consumer knowledge in enhancing young Chinese consumers' sustainable footwear purchase behaviour. To the best of our knowledge, only one study has examined the factors influencing consumer behaviour for sustainable footwear using the TPB. Yadav et al. (2022) combined TPB with the Theory of Reasoned Action to analyse purchasing behaviour for recycled shoes among Indian consumers. They recommended extending this research to other contexts and countries, emphasizing the need to incorporate the perceived behavioural control construct into the theoretical framework. These studies highlight a growing yet incomplete comprehension of consumer behaviour towards sustainable footwear, emphasizing the importance of further research into sustainable consumption patterns within this relevant fashion product category.

Accordingly, this paper aims to shed light on the factors influencing consumers' purchase intention toward sustainable footwear. Thus, the first research question addressed in this study is the following one:

RQ1. *What are the determinants of consumer's intention to purchase sustainable footwear?*

The literature emphasizes that understanding cultural nuances is crucial for advancing sustainable fashion consumption (Khan et al., 2024) and also suggests investigating the significant differences in attitudes and behaviours among consumers from various geographical and ethnocultural backgrounds (Busalim et al., 2022). Most studies on sustainable fashion consumption focus on consumer behaviours within a single country (e.g., Liang and Xu, 2018). However, it is crucial to recognize that consumer behaviour can vary significantly between countries (e.g., Gentina et al., 2014; Soye, 2012), and research shows that attitudes toward sustainable fashion differ markedly across cultures (e.g., Iran et al., 2019). Comparative studies across diverse contexts are relatively rare, with most research focusing on differences in consumer behaviour between countries with mature versus emerging economies (e.g., Rahman et al., 2021) or between those with individualistic versus collectivistic cultural orientations (e.g., Lee and Huang, 2020). In this context, the literature advocates for examining sustainable fashion purchase behaviour across diverse contextual settings (Kumar and Yadav, 2021), through cross-country studies (Schiaroli et al., 2024).

Consequently, investigating consumer behaviour across different contexts is crucial to providing marketers with more targeted insights for promoting sustainable fashion consumption. This paper also aims to address these identified gaps. Therefore, the second research question in this study is as follows:

RQ2. *Are there differences in the determinants of intention to purchase sustainable footwear based on the consumers' country?*

To address these research questions, this paper investigates consumers' purchase intention toward sustainable footwear (RQ1) in two European countries, i.e., Italy and the Netherlands (RQ2). These two national contexts were selected because of their markedly different socio-economic structures and footwear market dynamics (Eurostat, 2024; Statista, 2024; Sapir, 2006). While both countries are developed economies within the EU, the literature reports differences in consumers' sustainable behaviour and environmental engagement between them (Punzo et al., 2022; Broeder and Wentink, 2022). These differences offer a valuable basis for comparative analysis in the underexplored area of sustainable footwear consumption.

1.2. Contribution and structure of the paper

This manuscript offers significant theoretical contributions. First, it examines consumer purchase intentions in the footwear industry, an area often overlooked in sustainable consumption research despite its considerable environmental impact. This focus is crucial as the literature suggests that consumer behaviour varies by product type within the fashion sector, necessitating targeted analysis. Second, the cross-country

comparison between Italy and the Netherlands, two markets characterized by distinct cultural and economic contexts, offers broader and more nuanced insights into sustainable consumption. Finally, this study extends the TPB model by introducing two relevant new variables, creating a novel theoretical framework for examining sustainable fashion consumer behaviour.

The paper is structured as follows. Section 2 outlines the theoretical background and presents the hypotheses. Section 3 details the study's methodology. Section 4 presents and explains the results. Section 5 discusses the findings. Finally, Section 6 addresses the implications, suggests directions for future research, acknowledges limitations, and summarizes the study's conclusions.

2. Theoretical background

2.1. Theoretical model

The theoretical underpinning of this research is based on the TPB (Ajzen, 1991), which has proven effective across various contexts (Pavlou and Fygenon, 2006). TPB is extensively applied in psychological, social, and marketing research to explore a wide variety of subjects, including sustainable purchasing decisions (e.g., Baltaci et al., 2024; Yadav and Pathak, 2016; Vermeir and Verbeke, 2008) and environmentally responsible behaviours (e.g., Nguyen, 2024; De Leeuw et al., 2015; Fielding et al., 2008). Three variables comprise the model: *Attitude*, *Subjective Norms*, and *Perceived Behavioural Control*. Together, these three variables drive the shaping of 'behavioural intention'. From a theoretical perspective, the literature recommends incorporating novel variables into the TPB model to enhance its predictive power (Ajzen, 1991; Perugini and Bagozzi, 2001), as done in previous studies (e.g., Pavlou and Fygenon, 2006). This approach has been widely adopted in previous research across different consumption contexts (see e.g., Gao et al., 2017; Morris et al., 2005), including sustainable consumption (e.g., May and Steuer, 2025; Chen and Hung, 2016). In sustainable fashion literature, TPB has been applied to examine consumer intentions both in its original framework (e.g., Iran et al., 2019; Han, 2018) and through extended models (e.g., Srivastava et al., 2024; Becker-Leifhold, 2018). In this study, two variables, i.e., *Perceived Marketplace Influence* (PMI) and *Ascription of Responsibility* (AR), were added to the TPB model as antecedents of purchase intention and attitude to study the sustainable footwear consumption process.

The consumer's role in promoting sustainable consumption has become increasingly important. Research shows that consumers' belief in their ability to influence others' behaviours through their actions significantly impacts their attitudes and intentions (Leary et al., 2017). This belief is captured by the PMI construct, which describes the perception that one's actions can affect the behaviours of other marketplace actors, such as firms and fellow consumers, through word-of-mouth or purchasing decisions (Leary et al., 2014). Prior literature suggests that PMI is particularly relevant in contexts where consumers aim to be seen as role models (Joshi et al., 2021), which aligns with the fashion industry's tendency to be shaped by opinion leaders who inspire purchasing behaviours (Loureiro et al., 2017; Saleem et al., 2014). Given that fashion items are often purchased as a form of self-expression rather than for purely utilitarian reasons (Loureiro et al., 2017; Kaiser, 1990), personal beliefs may exert a stronger impact on attitude and purchase intentions in this industry. Consumers tend to develop positive attitudes when they believe that a certain behaviour aligns with their personal goals (Albarracín et al., 2014). For instance, if consumers perceive that purchasing sustainable fashion helps bring them closer to their goal of reducing environmental impact, their attitude toward buying these products will become more favourable. Similarly, if consumers believe their sustainable fashion choices can influence others to adopt sustainable choices, they are more likely to develop a positive attitude toward purchasing sustainable fashion (Joshi et al., 2021). Moreover, when consumers believe their actions can

encourage others, including individuals and companies, to adopt environmentally friendly behaviours, they are more likely to act according to these beliefs (Leary et al., 2017).

Pro-social behaviours, such as sustainable consumption, can be motivated by feelings of responsibility toward the needs of others (e.g., Steg and De Groot, 2010). This sense of responsibility can be quantified through the AR construct (Carlo and Randall, 2002), which refers to consumers' feelings of responsibility for the adverse consequences of unsustainable consumption (De Groot and Steg, 2009). AR is a key component of the Norm Activation Model (Schwartz, 1977), as it can foster a moral obligation to engage in sustainable behaviour (Asadi et al., 2021a). When consumers acknowledge their responsibility for the negative environmental impact of their actions, they may feel a stronger obligation to adopt sustainable behaviours (López-Mosquera and Sánchez, 2012). This sense of duty plays a crucial role in shaping their attitudes, as it creates an internal motivation to act in ways that align with their ethical and environmental concerns. Feeling responsible for the environment also heightens awareness of ecological issues (Peattie, 2010), reinforcing the perception that purchasing sustainable fashion is a meaningful and necessary action to mitigate their fashion consumption impacts. As a result, consumers with higher levels of AR are more likely to develop a positive attitude toward sustainable fashion, as they see it as a way to fulfil their sense of duty and contribute to environmental preservation. Similarly, this sense of environmental duty is able to motivate consumers to behave sustainably in their consumption choices (Confente and Scarpi, 2021), increasing their intentions to choose sustainable fashion.

Incorporating PMI and AR into the TPB model offers an innovative approach to studying sustainable footwear consumption. Since different product categories can influence consumer decision-making in distinct ways (McDonald et al., 2009), extending the study of PMI and AR assessing their impact on sustainable fashion consumption is relevant. Numerous studies have demonstrated the positive influence of AR on personal norms related to sustainable consumption in various contexts, including the adoption of electric vehicles (He and Zhan, 2018), the use of reusable express packaging (Song et al., 2023), support for environmentally responsible organizations (Oh and Ki, 2022), green behaviour among hotel guests (Kim, 2023), and general sustainable behaviour (Juárez-Nájera et al., 2010). However, no existing studies have explored the impact of the AR construct on the formation of attitudes and intentions toward sustainable footwear purchases. Similarly, although several studies have reported the positive role of PMI in sustainable consumption (e.g., Michel et al., 2022; Kautish et al., 2022; Leary et al., 2019), no studies, so far, have explored the relationship between PMI and consumers' purchase behaviour or intentions in the context of footwear products. Extant literature underscores the need for additional investigations into how PMI affects consumer behaviour across diverse contexts (Leary et al., 2019), especially within the sustainable consumption domain focus on a specific sustainable product (Joshi et al., 2021). In the sustainable fashion consumption literature, research has investigated the role of personal beliefs, such as perceived consumer effectiveness (Park, 2015), ethical concerns (Stringer et al., 2020), and environmental apparel knowledge (Brandão and da Costa, 2021), neglecting however the role of PMI and AR.

Thus, incorporating PMI and AR into our theoretical model addresses gaps in the existing literature and enhances the TPB framework, providing a thorough insight into the determinants of sustainable footwear consumption.

2.2. Hypotheses development

This section presents the description of the variables and the corresponding hypotheses formulated based on the theoretical framework and research context.

2.2.1. Perceived marketplace influence (PMI)

The PMI construct was developed and introduced by Leary et al. (2014, p. 1954). Accordingly, “to varying degrees, some people believe their decision to engage in sustainable behaviour influences the marketplace behaviour of other consumers and organizations”. Indeed, the PMI concept could be split into two distinct dimensions, namely, influence on firms (pushing them to modify their practices) and influence on consumers (inspiring others’ behaviours) (Joshi et al., 2021; Leary et al., 2017). In this study, we considered both dimensions as a single construct, where PMI refers to the perceived influence that a consumer’s sustainable actions have on the sustainable behaviour of other marketplace actors. The literature suggests PMI’s effectiveness in stimulating consumers’ sustainable behaviours (Leary et al., 2017). This is acknowledged in diverse contexts. Recent research shows that PMI is positively related to consumers’ sustainable product choice for Generation Z in Haiti (Michel et al., 2022), Indians (Kautish et al., 2022; Joshi and Rahman, 2017, 2019), and Americans (Leary et al., 2019; Leary et al., 2014). Similarly, in the sustainable coffee shop context, a positive effect of PMI on word-of-mouth to choose this coffee shop, willingness to pay for its products, and sacrifice behaviours (e.g., using the recycling coffee cup) was found (Kim and Yun, 2019). Based on the considerations above, we hypothesise that:

H1a. Perceived Marketplace Influence positively influences the consumers’ intention to purchase sustainable footwear.

The literature also supports the idea that if consumers believe their consumption behaviours can influence other marketplace actors’ conduct, their attitude toward the behaviour is enhanced. Indeed, PMI was found to be positively related to sustainable consumption attitude (Joshi et al., 2021; Wang et al., 2019), as well as consumers’ attitudes toward sustainable behaviours (e.g., environmental citizenship and social environmentalism) (Leary et al., 2017). Based on the considerations above, we hypothesise that:

H1b. Perceived Marketplace Influence positively influences the consumers’ attitude toward sustainable footwear.

2.2.2. Ascription of responsibility (AR)

AR can be defined as “a duty or obligation towards the needs and welfare of others” (Carlo and Randall, 2002, p. 33). Since measuring AR at specific belief levels (e.g., industry-specific) can increase the prediction power of the construct (Steg and De Groot, 2010), in this study, we consider AR as the consumers’ responsibility for the negative environmental impact caused by the footwear industry. Existing literature has examined the direct effect of AR on sustainable consumption behaviours. Findings indicate a positive relationship between AR and various forms of sustainable behaviour, including consumption of organic foods and energy-saving products (Duong, 2023), environmentally responsible behaviours among tourists and residents (Confente and Scarpi, 2021), intention to adopt green information technology (Asadi et al., 2021b), engagement in sustainability-related activities (Casper et al., 2021), and recycling behaviours (Mayer et al., 2015). Based on the considerations above, we hypothesise that:

H2a. Ascription of Responsibility positively influences the consumers’ intention to purchase sustainable footwear.

As previously discussed, the literature consistently supports the role of AR in shaping individuals’ personal norms (e.g., He and Zhan, 2018) and its direct impact on consumer behaviours (e.g., Casper et al., 2021). Additionally, scholars studied AR’s influence on the attitudinal component of the TPB. Chen (2020a) identified AR as a precursor to ATT in the context of organic local food purchasing intentions, demonstrating a positive effect of AR on ATT. Based on the considerations above, we hypothesise that:

H2b. Ascription of Responsibility positively influences the consumers’ attitude toward sustainable footwear.

2.2.3. Attitude (ATT)

ATT is defined as “the degree to which a person has a favourable or unfavorable evaluation or appraisal of the behaviour in question” (Ajzen, 1991, p. 188). ATT is a construct widely used in consumer behaviour literature (Pavlou and Fygenon, 2006). The effectiveness of ATT in positively stimulating the consumers’ behavioural intention was demonstrated in multiple industries, such as energy (Tan et al., 2017; Hartmann and Apaolaza-Ibáñez, 2012), clothing (Jin and Kang, 2011; Summers et al., 2006), and food (Verbeke and Vackier, 2005; Bredahl, 2001) among the others. In the context of sustainable consumption, it has been observed that ATT exerts a favourable and statistically significant influence on consumers’ sustainable behavioural intentions across various product categories including, but not limited to, green cosmetics (Hsu et al., 2017), organic food (Asif et al., 2018), electric vehicles (Huang and Ge, 2019), sustainable clothing (Rausch and Kopplin, 2021), organic personal care products (Kim and Chung, 2011), green hotels (Yarimoglu and Gunay, 2020), and green product on social media (Nekmahmud et al., 2022), among the others. As for sustainable footwear, Yadav et al. (2022) extended the TPB model using sustainable behaviours constructs and found that ATT is positively related to consumers’ purchase intention toward recycled footwear. Based on the considerations above, we hypothesise that:

H3. Attitude positively influences the consumers’ intention to purchase sustainable footwear.

2.2.4. Subjective norms (SN)

SN refer to “the perceived social pressure to perform or not to perform the behaviour” (Ajzen, 1991, p. 188). SN is recognised as a significant predictor of consumers’ behavioural intention within many product categories spanning diverse markets. These product categories encompass genetically modified food (Cook et al., 2002), luxury apparel (Summers et al., 2006), new energy vehicles (Wang and Dong, 2016), renting accommodation (So et al., 2018), and Facebook commerce platforms (Liebana-Cabanillas and Alonso-Dos-Santos, 2017). In the sustainable consumer behaviour context, scholars demonstrated the positive effect of SN on sustainable consumption behaviour across various product categories, such as organic food (Teng and Wang, 2015), sustainability-labeled coffee (Chen, 2020b), eco-friendly apparel (Kumar et al., 2021), pure electric vehicles (Dong et al., 2020), green hotel (Wang et al., 2022), and green furniture (Xu et al., 2020), among the others. Concerning sustainable footwear, only one study found that SN positively influences ATT, which has a positive effect on consumers’ purchase intention toward recycled footwear (Yadav et al., 2022). Based on the considerations above, we hypothesise that:

H4. Subjective Norms positively influence the consumers’ intention to purchase sustainable footwear.

2.2.5. Perceived behavioural control (PBC)

PBC refers to “the perceived ease or difficulty of performing the behaviour” (Ajzen, 1991, p. 188). PBC stresses the external factors influencing the consumers’ conduct (Paul et al., 2016). The literature shows how PBC can influence consumer behavioural intention in several contexts, such as online purchases (George, 2004), remanufactured auto parts (Wang et al., 2013), halal products (Awan et al., 2015), and fuel-efficient vehicles (Peters et al., 2011), among the others. Regarding sustainable consumption, scholars found the positive effect of PBC in driving consumer sustainable choices toward several product categories, such as organic personal care (Kim and Chung, 2011), circular economy (Chao and Yu, 2023), energy-efficient household appliances (Tan et al., 2017), green food (Ham et al., 2015), photovoltaic panels (Alsulami et al., 2024), green apparel products (Bong Ko and Jin, 2017), green vehicles (Mohiuddin et al., 2018), and sustainability-certified dwelling (Judge et al., 2019). Concerning sustainable fashion consumption, the impact of PBC was found to be positive on the purchase of recycled clothing (Chaturvedi et al., 2020). Based on the considerations above,

we hypothesise that:

H5. Perceived Behavioural Control positively influences the consumers' intention to purchase sustainable footwear.

2.2.6. Country differences

The decision-making process of consumers may exhibit variability across different countries. The literature demonstrates that socio-cultural background shapes consumer behaviour (De Mooij, 2021), leading to varied responses toward the same stimuli (Davis et al., 2008). Regarding sustainable consumer behaviour, studies highlight differentiating factors and shared practices, as seen in consumer responses to sustainable food labels (Peschel et al., 2016) and perceptions of organic wine (Capitello and Sirieix, 2019). Socio-cultural dimensions significantly influence fashion consumption, as fashion products are a means to express cultural identity and tradition (Dodd et al., 2000). Şener et al. (2019) demonstrated that in Turkey and Kazakhstan, localism and exclusivity enhance the perceived value of slow fashion products, while the influence of authenticity, equity, and functionality varies across these countries. Iran et al. (2019) highlighted that socio-cultural differences affect collaborative fashion consumption, with Germans exhibiting more sustainable behaviours than Iranians. Similarly, Lee and Huang (2020) found that perceived compatibility has a stronger effect on online fashion renting attitudes in the USA compared to China. Khan et al. (2024) conducted a comparative analysis of consumers' willingness to pay premiums for sustainable fashion products in Italy and Russia, finding that the socio-cultural factors driving or hindering consumers' willingness to pay more for sustainable fashion products varied significantly between the two markets. In addition, Kong et al. (2015) highlighted that footwear preference and perception may depend on the country. Based on the considerations above, we hypothesise that:

H6. There are significant differences in the determinants of consumers' intention to purchase sustainable footwear based on the consumer's country.

In conclusion, Fig. 1 displays the theoretical framework of this study.

3. Methodology

3.1. The questionnaire

For data collection, an online survey was developed using the Qualtrics platform. Constructs' scales were adapted from prior research to suit the context of sustainable footwear. At the beginning of the questionnaire, a brief description of sustainable footwear was provided to respondents. Additionally, respondents were asked whether they had previous knowledge of and had ever purchased sustainable footwear products. The survey was structured into two sections.

The first section of the survey included questions related to the factors potentially affecting consumer behaviour towards sustainable footwear (see Section 2). For each question, a seven-point Likert scale was used from 1 = "Strongly disagree" to 7 = "Strongly agree".

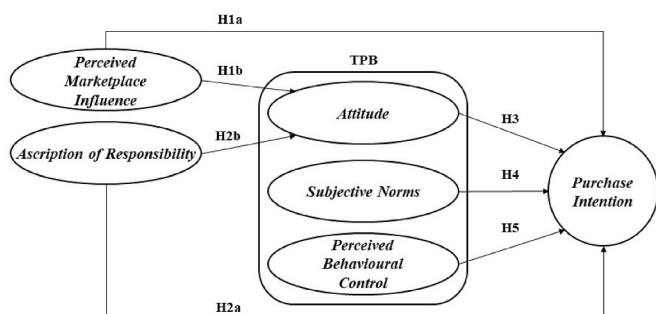


Fig. 1. Theoretical framework.

Specifically, the attitude scale is made of three items (Joshi et al., 2021), the subjective norms scale is made of three items (Hsu et al., 2017), the perceived behavioural control scale is made of three items (adapted from Kang et al., 2013), the ascription of responsibility scale is made of three items (Han, 2014), and the perceived marketplace influence scale is made of three items (Joshi et al., 2021). Purchase intention is assessed through three items (Joshi et al., 2021). All the scales were adjusted in terms of the product or the industry (see Table A1 and Appendix). For the PBC scale all items were reverse-coded so that the highest score corresponds to the highest value of control and the lowest score to the lowest value of control.

The second section of the survey included questions concerning the socio-demographic characteristics of respondents. Respondents were asked about their gender ("male", "female", or "not binary"), age (from "18–24" to "over 65" years old), educational level (from "Primary education" to "PhD"), and monthly net income (from "less than 1.000 €" to "more than 3.000 €") (Dangelico et al., 2022). Further, since gender and income are sensitive information for respondents, an additional "prefer not to say" option was provided.

3.2. Research context: Italy and the Netherlands

This study examines sustainable footwear consumption in two distinct European contexts: Italy and the Netherlands. Although both countries are members of the European Union, there are notable economic and demographic differences between them. According to Eurostat (2024), in 2023, Italy's GDP per capita was €28,520, while the Netherlands had a significantly higher GDP per capita of €44,460. Italy's population is approximately 58.99 million, compared to the Netherlands' 17.81 million. The youth population (ages 15–29) constitutes 15.0 % of Italy's total population, whereas it makes up 18.8 % in the Netherlands. Additionally, Italy's gender pay gap was 4.3 % in 2022, markedly lower than the Netherlands' 13.0 %. These figures highlight substantial economic disparities and demographic variations between the two countries, which may influence consumer behaviour and market dynamics differently. According to data from Statista (2024) by 2024, Italy's market is expected to generate US\$10.05 billion in revenue, compared to US\$3.28 billion in the Netherlands. While Italy's market will grow at a slower annual rate (1.67 % CAGR¹) than the Netherlands (3.20 % CAGR) from 2024 to 2028, Italy's market volume is projected to reach 208 million pairs, significantly larger than the Netherlands' 64.74 million pairs by 2028. Per capita, Dutch consumers are expected to purchase slightly more footwear (3.65 pairs per person) than Italians (3.54 pairs per person) in 2024.

The literature highlights that sustainable fashion consumption behaviours can vary even among consumers in developed economies with high living standards and environmental movements, such as Italy and the Netherlands (Khan et al., 2024). Indeed, Sapir (2006) classifies European countries into four social models, placing the Netherlands within the Nordic group and Italy within the Mediterranean group, highlighting their differing approaches to social and economic policy. Similarly, Andretta et al. (2016), in their analysis of European trade union activity, and Polonsky et al. (2001), in their study of consumer ethical behaviour toward firms, categorize these two countries into separate groups, further emphasizing their contrasting frameworks. Literature on cross-country comparisons of consumer behaviour shows that Italy and the Netherlands, are typically included as part of larger multi-nation studies (e.g., Giménez-Nadal et al., 2022; Frez-Muñoz et al., 2016). Studies exclusively comparing Italian and Dutch consumers remain rare and concentrated on diverse topics such as occupational attainment (Passaretta et al., 2018), sustainable urban mobility (Punzo et al., 2022), job-related training (Boll and Bublitz, 2018), willingness to pay for plant-based food (Ali et al., 2021), and e-commerce purchase behaviour

¹ Compound Annual Growth Rate.

(Broeder and Wentink, 2022). Notably, no studies have focused on comparing sustainable consumption behaviour in the fashion industry between these two countries. These differences in economic structure, demographics, and market dynamics provide a valuable foundation for analysing sustainable fashion consumer behaviour in these two national contexts, especially in the under-researched area of sustainable footwear consumption.

3.3. Data collection

This study aims to compare the behaviour of consumers belonging to two countries through a cross-country, as common in sustainable consumption (e.g., Le et al., 2025; Norton et al., 2023; Yin et al., 2023) and sustainable fashion (e.g., Xue and Li, 2023; Rahman et al., 2021; Şener et al., 2019) research. The survey was developed in English but distributed among Dutch and Italian respondents in two languages, i.e., English and Italian, respectively. The survey was provided in English to Dutch consumers because of their high proficiency level. Alternatively, due to the significantly lower English proficiency level of Italian consumers, the survey was translated into Italian with the support of a language expert to ensure it accurately captured the intended questions. The questionnaire was created using Qualtrics and distributed online via instant messaging and social networks in both Italy and the Netherlands. A convenience sampling approach was adopted, as commonly used in consumer behaviour research (Yadav and Pathak, 2017; Kim and Lennon, 2013). The questionnaire was distributed from December 2022 to May 2023, resulting in a sample of 724 respondents, including 430 Italians and 294 Dutch participants. The sample demographic characteristics are reported in Table 1.

3.4. Analytic technique

Data analysis was conducted using SPSS 26 and AMOS 26. First, confirmatory factor analysis (CFA) was performed to validate the measurement models. Subsequently, structural equation modelling (SEM) was employed to test the structural models (H1a, H1b, H2a, H2b, H3, H4, H5). Given the large sample size and the sensitivity of the chi-square (χ^2) statistic to sample size, additional indices were used to assess overall model fit (Bagozzi, 2010): the comparative fit index (CFI), the Tucker–Lewis index (TLI), the global fit index (GFI), the root-mean-square error of approximation (RMSEA), and the standardized root-mean-square residual (SMRS). A multigroup analysis was performed to assess the differences between the two consumer groups, thereby testing H6.

4. Results

4.1. Descriptive statistics

This section presents descriptive statistics. In both countries, about two-thirds of consumers have heard about this product. Regarding consumers' previous purchases of sustainable footwear, a slightly higher share of Dutch consumers have bought sustainable footwear compared to Italians. Although almost two-thirds of the sample have previous knowledge of sustainable footwear, only a small group has effectively purchased this product in the past (see Fig. 2).

Despite a higher percentage of Dutch respondents reporting having previous knowledge and having purchased sustainable footwear, the mean value² of response for the PI is higher in the Italian sample (Fig. 3). In addition, the mean value of Italian consumers' responses is higher for all the other variables except for PBC. The non-parametric Mann-

Whitney *U* test for independent samples was performed. Results show that the response value significantly differs between Italian and Dutch respondents, except for AR (see Table A2 of the appendix).

4.2. Model validation

The measurement model was assessed through CFA. This model includes six latent variables defined in the theoretical framework: PMI, AR, ATT, SN, PBC, and PI. The CFA results demonstrate a strong model fit, with a χ^2/df ratio of 1841 ($p = .000$), indicating that the model aligns well with the data (Mulaik et al., 1989). Given the chi-square statistic's sensitivity to large sample sizes, additional fit indices (CFI, TLI, GFI, RMSEA, SRMR) were calculated to enhance reliability. These indices meet or exceed recommended thresholds (CFI = 0.986, TLI = 0.982, GFI = 0.968), affirming a solid model fit (Hu and Bentler, 1998). Both the RMSEA = 0.034 and SRMR = 0.0358 values are below 0.05, reflecting excellent fit (MacCallum et al., 1996).

The reliability and convergent validity of each construct were evaluated using Cronbach's alpha, Composite Reliability (CR), and Average Variance Extracted (AVE) (Hair et al., 2006; Fornell and Larcker, 1981). Results shown in Table 2 indicate that all factors have Cronbach's alpha above 0.65 and standardized factor loadings exceed 0.50. CR values for each dimension range from 0.6 to 0.9, and each construct is close to or surpasses the 0.5 threshold for AVE. Consequently, each construct exhibited good levels of convergent validity and reliability.

We applied the Fornell and Larcker (1981) criterion to assess discriminant validity. Table 3 displays the correlation matrix and AVE values for each construct. Following this criterion, we found that in all cases, the square root of the AVE values was greater than the correlations between constructs, establishing discriminant validity across the measurement model.

4.3. Structural equation modelling

The hypotheses were tested using SEM analysis, with results detailed in Table 4. Six of the eight hypotheses were supported.

The first set of hypotheses (H1a and H1b) affirms that PMI has a positive influence on both PI and ATT. Results show that PMI has a significant positive influence on ATT, but its effect on PI is not significant. Thus, H1b is supported, while H1a is not supported.

The second set of hypotheses (H2a and H2b) affirms that AR has a positive influence on both the PI and ATT. Results show that AR has a significant positive influence on PI and ATT. Thus, H2a and H2b are both supported.

The third set of hypotheses (H3, H4, and H5) affirms that the three determinants of the TPB model positively influence consumers' PI toward sustainable footwear. Results show that all the TPB factors have a significant influence on PI. However, while ATT and SN show a positive influence, as hypothesised, the effect of PBC is negative. Thus, H3 and H4 are supported, while H5 is not supported.

4.4. Multigroup analysis

A multigroup structural equation modelling analysis was conducted to examine the effect of the country on consumer purchase intentions for sustainable footwear, using the approach described by Awang (2012). Respondents were grouped by country (Italy and the Netherlands). H6 proposed that these groups exhibit differences in purchase intention determinants. To test this, we constrained structural paths in each model to be equal across the groups and then compared Chi-square (χ^2) values between the constrained and unconstrained models. This Chi-square difference indicated significant cross-national variations in four specific paths (H1b, H2b, H4, and H5), supporting H6. Detailed results are presented in Table 5.

Concerning H1b, multigroup analysis reveals a significant difference in the relationship between PMI and ATT across the two groups ($\Delta\chi^2 =$

² To obtain the mean value, the responses for the three items that make up the construct were averaged, and then the mean was calculated for the two samples. This procedure was applied to all the constructs in the table.

Table 1
Demographic characteristics of the sample.

	Total sample		Italy		The Netherlands	
	Frequency	%	Frequency	%	Frequency	%
<i>Gender</i>						
Male	285	39,36 %	171	39,77 %	114	38,78 %
Female	428	59,12 %	252	58,60 %	176	59,86 %
Not Binary	3	0,41 %	2	0,47 %	1	0,34 %
Not to say	8	1,11 %	5	1,16 %	3	1,02 %
<i>Age</i>						
18–24	310	42,82 %	131	30,47 %	179	60,88 %
25–34	244	33,70 %	167	38,84 %	77	26,19 %
35–44	35	4,83 %	26	6,05 %	9	3,06 %
45–54	59	8,15 %	39	9,07 %	20	6,80 %
55–65	58	8,01 %	51	11,86 %	7	2,38 %
Over 65	18	2,49 %	16	3,72 %	2	0,68 %
<i>Monthly net income (euros)</i>						
<1000	358	49,45 %	207	48,14 %	151	51,36 %
1000–1500	162	22,38 %	87	20,23 %	75	25,51 %
1500–2000	101	13,95 %	78	18,14 %	23	7,82 %
2000–2500	51	7,04 %	30	6,98 %	21	7,14 %
2500–3000	13	1,80 %	4	0,93 %	9	3,06 %
>3000	29	4,01 %	14	3,26 %	15	5,10 %
Not to say	10	1,38 %	10	2,33 %	0	0,00 %
<i>Education</i>						
Primary	9	1,24 %	1	0,23 %	8	2,72 %
Lower Secondary	22	3,04 %	16	3,72 %	6	2,04 %
Upper Secondary	225	31,08 %	135	31,40 %	90	30,61 %
Bachelor's degree	225	31,08 %	108	25,12 %	117	39,80 %
Master's degree	229	31,63 %	161	37,44 %	68	23,13 %
PhD	14	1,93 %	9	2,09 %	5	1,70 %

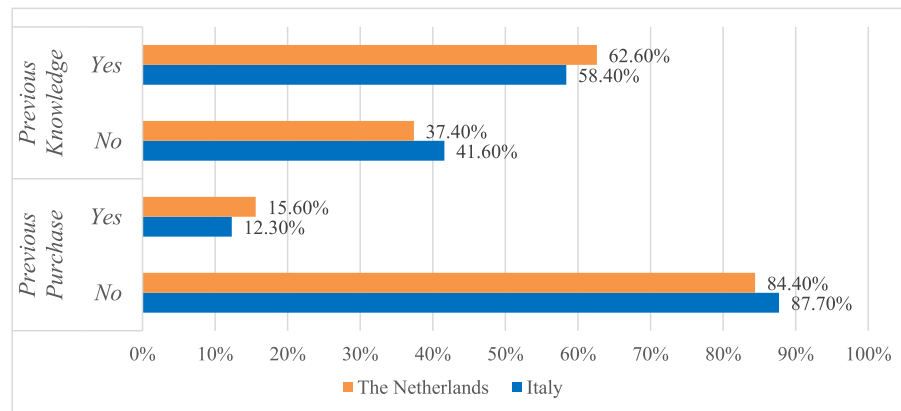


Fig. 2. Levels of consumers' previous knowledge and purchase of sustainable footwear.

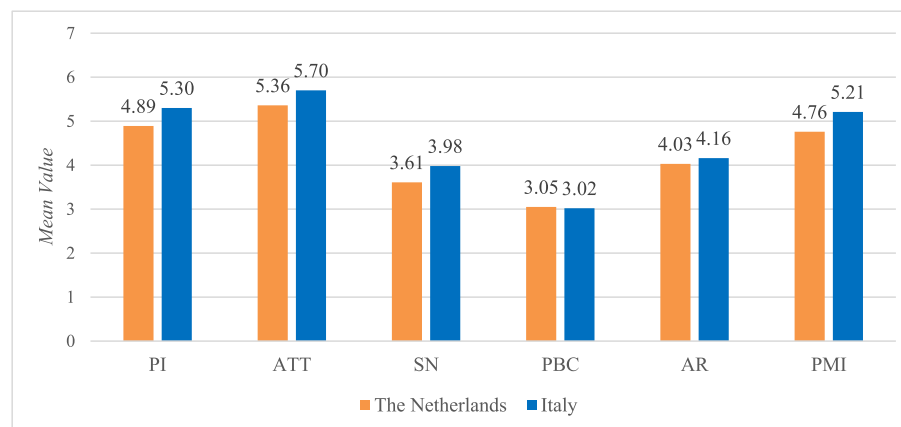


Fig. 3. Mean value of consumers' responses across all variables.

Table 2
CFA for the measurement model.

Item	Mean	Std	Factor Loading	CR	AVE	Cronbach's α
PMI1	4.90	1.377	0.723	0.8193	0.6045	0.757
PMI2	5.05	1.421	0.710			
PMI3	5.15	1.270	0.887			
AR1	4.00	1.584	0.850	0.8639	0.6806	0.861
AR2	3.93	1.542	0.886			
AR3	4.41	1.549	0.731			
ATT1	5.48	1.127	0.849	0.8647	0.6811	0.860
ATT2	5.80	0.959	0.767			
ATT3	5.41	1.231	0.857			
SN1	3.84	1.501	0.821	0.9048	0.7604	0.904
SN2	3.71	1.516	0.894			
SN3	3.94	1.572	0.899			
PBC1	2.98	1.174	0.615	0.6475	0.4817	0.671
PBC2	3.18	1.434	0.765			
PBC3	2.94	1.454	0.550			
PI1	5.32	1.258	0.911	0.9114	0.7744	0.923
PI2	5.15	1.339	0.877			
PI3	5.01	1.343	0.851			

Table 3

Discriminant validity. The lower triangle of the matrix represents the correlation coefficients between constructs. The diagonal values in bold represent the square root of the AVE of each construct.

Item	PMI	AR	ATT	PBC	SN	PI
PMI	0.7774					
AR	0.431	0.8249				
ATT	0.512	0.440	0.8252			
PBC	−0.186	−0.240	−0.307	0.6940		
SN	0.323	0.366	0.365	−0.107	0.8720	
PI	0.489	0.484	0.816	−0.315	0.449	0.8800

Table 4

Results of hypothesis testing - H1 to H5 (total sample).

Hypothesised relationship	Standardized estimate	Standard error	T value	P Label	Result
H1a: PMI → PI (+)	0.035	0.037	0.957	0.339	Not supported
H1b: PMI → ATT (+)	0.388	0.047	8.336	***	Supported
H2a: AR → PI (+)	0.090	0.035	2.552	**	Supported
H2b: AR → ATT (+)	0.251	0.041	6.176	***	Supported
H3: ATT → PI (+)	0.738	0.045	16.309	***	Supported
H4: SN → PI (+)	0.132	0.024	5.420	***	Supported
H5: PBC → PI (+)	−0.114	0.046	−2.475	**	Not supported

Model fit: $\chi^2 = 252.679$ df = 120 p = .000; CFI = 0.982; TLI = 0.977; GFI = 0.963; RMSA = 0.039; SRMR = 0.049.

**p < .05.

***p < .01.

7.259; p = 0.007). Specifically, the estimate is higher for the Italian sample compared to the Dutch sample, indicating that PMI has a more pronounced impact on ATT toward sustainable footwear among Italian consumers.

For **H2b**, multigroup analysis shows a significant difference in the impact of AR on ATT between the two groups ($\Delta\chi^2 = 9.928$; p = .002), with a stronger effect observed in the Dutch sample compared to the Italian sample. This indicates that AR has a more pronounced influence on ATT toward sustainable footwear among Dutch consumers.

For **H4** and **H5**, multigroup analysis reveals significant cross-national differences in the influence of SN and PBC on PI between Italian and Dutch consumers. Specifically, the effect of SN on PI is significantly

Table 5

Multigroup path coefficient analysis.

	General		Italy		The Netherlands	
Path	Std Coefficient	P value	Std Coefficient	P value	Std Coefficient	P value
PMI → ATT	0.388	***	0.519	***	0.242	***
AR → ATT	0.251	***	0.139	***	0.406	***
SN → PI	0.132	***	0.099	***	0.226	***
PBC → PI	−0.114	**	−0.198	***	0.004	N.S.

**p < .05.

***p < .01.

stronger for Dutch consumers than for Italian consumers ($\Delta\chi^2 = 5.701$; p = .017), suggesting that SN have a stronger impact on purchase intentions for sustainable footwear within the Dutch group. In contrast, PBC negatively influences PI among Italian consumers, with a notably stronger and significant effect ($\Delta\chi^2 = 4.030$; p = .045), whereas this relationship is not significant among Dutch consumers.

5. Discussions

This study investigated the influence of five key determinants on consumer purchasing intentions toward sustainable footwear (RQ1). A comparative analysis between Italian and Dutch consumers was conducted to assess how these determinants impact purchase intentions in different markets and socio-economic contexts (RQ2). The findings provide valuable insights into sustainable footwear consumption and highlight significant differences in how these factors influence consumer behaviour across the two countries.

Our study highlights the significant role of PMI in influencing sustainable consumption decisions. Findings reveal that while PMI does not directly impact PI, it indirectly contributes by positively shaping consumers' ATT toward sustainable footwear, which, in turn, positively influences their PI. This positive relationship between PMI and ATT is consistent with existing literature (e.g., Joshi et al., 2021; Leary et al., 2017), indicating that when consumers believe their own sustainable actions, such as purchasing sustainable footwear, can inspire others and promote more sustainable practices by businesses, their attitude towards the product becomes more favourable. However, contrary to our findings, some studies (e.g., Kautish et al., 2022; Joshi and Rahman, 2019) suggest that PMI can directly impact PI. Thus, this relationship could be further explored in future research, considering other contexts and product categories.

Our study highlights AR can significantly enhance consumers' commitment to sustainable consumption and reinforce their positive attitudes toward sustainable products. The results show AR has a positive effect on both PI and ATT. These findings are consistent with previous studies (e.g., Duong, 2023; Chen, 2020a). Hence, heightened feelings of responsibility toward environmental and social issues increase consumers' PI and foster positive ATT toward sustainable products.

Our study contributes to a deeper understanding of how the TPB components influence sustainable consumption in the footwear market. The results show that ATT and SN positively influence consumers' PI for sustainable footwear. The role of ATT is consistent with the study by Yadav et al. (2022), which focused on sustainable footwear. The result related to the effect of SN is consistent with sustainable consumer behaviour literature (Abrar et al., 2021; Asif et al., 2018). Hence, a favourable attitude toward sustainable footwear and the positive influence of consumers' reference groups, can effectively stimulate sustainable consumption within the footwear industry. In contrast, results show PBC has a negative effect on PI. This result contrasts with previous

studies that identified a positive effect (e.g., [Jalil and Shaharuddin, 2019](#)) or no significant effect (e.g., [Seo and Kim, 2019](#)) of PBC on PI for fashion products. This finding appears counterintuitive, as one might expect limited availability and scarce information on sustainable footwear would deter purchase intention. However, a plausible explanation is that our measure of PBC is related to product availability. The consumers' perception of lower availability (reflected by a lower PBC) might be perceived as higher product exclusiveness. Indeed, literature underscores how the perception of product exclusivity might promote purchase intention ([Chatterjee et al., 2023](#)). Another potential explanation lies in the operationalization of the PBC construct. According to the TPB, PBC consists of two components: internal (e.g., skills, abilities, power of will) and external (e.g., time, opportunity, dependence on others) factors ([Ajzen, 1985](#)). In this study, the PBC items used were more general and did not differentiate between these two dimensions. As such, the measure may not fully capture the complexity of perceived control, limiting the interpretability of the negative effect observed, and suggesting the need for more comprehensive measurement items in future research.

Concerning cross-country comparison, our study provides valuable insights into the dynamics of sustainable consumer behaviour across different markets and socio-economic contexts. Our results are consistent with previous studies that have found differences between Italian and Dutch consumers' behaviour ([Broeder and Wentink, 2022](#); [Ali et al., 2021](#)). These differences can be better understood by considering the two countries' broader socio-economic and market structures. The footwear markets in Italy and the Netherlands present distinct dynamics ([Statista, 2024](#)) that align with their respective socio-economic contexts ([Eurostat, 2024](#)). These structural differences influence various aspects of consumer decision-making, including sustainable fashion consumption behaviour. The following considerations can be raised.

First, our results indicate that the influence of PMI on ATT is stronger among Italian consumers compared to Dutch consumers. One of the reasons behind this result could be attributed to the deep cultural significance of fashion in Italy, where purchasing decisions are often driven by personal identity and social influence ([Doxa, 2023](#); [Camera Nazionale della Moda Italiana, 2011](#)). There is a connection in the Italian footwear market between craftsmanship, luxury, and fashion trends ([Assocalzaturifici, 2023](#)), which may influence consumer sensitivity to these market dynamics. This may be one of the reasons why Italian consumers are more susceptible to brand influence and consumer reference groups. In contrast, in the Netherlands, fashion plays a less central role in consumer culture ([Farsang et al., 2015](#)), which may explain the weaker effect of PMI on ATT among Dutch consumers.

Second, our results indicate that AR has a greater influence on ATT among Dutch consumers compared to Italian consumers. One of the reasons behind this result could be attributed to the growing environmental consciousness of Dutch consumers ([Boermans et al., 2024](#)). The Netherlands has experienced a faster growth in demand for sustainable and ethically produced fashion ([Statista, 2024](#)), which may highlight the role of personal responsibility in shaping attitudes toward sustainable footwear products. In contrast, although sustainability is relevant for Italian consumers ([Cook et al., 2002](#)), the Italian fashion market remains more focused on other attributes such as aesthetics and craftsmanship, which may be one of the reasons for the relatively lower impact of AR on ATT.

Third, the impact of SN on PI is significantly higher for Dutch consumers compared to Italians. This can be explained by differences in market maturity regarding sustainable products. The Dutch market has a well-developed infrastructure for sustainable consumption, with broader availability and accessibility of sustainable fashion. As a result, Dutch consumers may rely more on social influence when making purchase decisions, as sustainable footwear is already normalized within their consumer culture. Conversely, in Italy, where sustainable fashion is still perceived as a niche segment, consumers may rely less on social norms and more on individual preferences in purchasing decisions.

Fourth, the PBC does not significantly impact PI for Dutch consumers. Conversely, in the Italian sample, the relationship is significant but negative. This discrepancy may be attributed to socio-cultural and market factors. Italian consumers generally have a high sensitivity towards fashion ([Doxa, 2023](#); [Camera Nazionale della Moda Italiana, 2011](#)) and may perceive sustainable footwear as a premium product. As a result, limited availability can enhance its appeal, making it seem an exclusive item and thus increasing purchase intention. In contrast, this aspect does not seem relevant for Dutch consumers.

These findings underscore the relevance of incorporating socio-economic and market-specific factors into future research to fully understand and address the complexities of consumer behaviour in different contexts.

6. Conclusions, implications, and future research directions

This study investigates the determinants of sustainable footwear consumption across two European markets: Italy and the Netherlands. The results offer several important implications for theory and practice.

From a theoretical perspective, this article introduces several elements of novelty and makes meaningful contributions to the literature on sustainable consumer behaviour. First, this study advances understanding consumer behaviour toward sustainable footwear, an under-researched category in sustainable fashion. Sustainable fashion literature suggests that consumer behaviour varies by product type, underscoring the need for targeted analysis in specific categories, such as footwear, to effectively address distinct market dynamics. Second, this study compares consumer behaviour in two European countries characterized by distinct socio-economic conditions and footwear market dynamics, Italy and the Netherlands. This cross-country study highlights that sustainable footwear consumption can vary based on consumer country. Third, concerning determinants of purchase intentions, this work extends the TPB model by including two new constructs, i.e., AR and PMI, developing a novel theoretical framework for investigating sustainable consumer behaviour. Our findings indicate that PMI indirectly influences purchase intentions through attitude. Future research should delve deeper into the interactions among these factors within the context of sustainable footwear consumption and expand the analysis to other contexts and product categories for a more comprehensive understanding of its dynamics. Furthermore, the unexpected findings regarding the role of PBC in the sustainable fashion context underscore the necessity for additional investigation into PBC's influence.

From the managerial perspective, our study presents several implications, offering valuable guidance for companies striving to design marketing strategies centred on sustainability principles. Primarily, it provides key insights into fostering sustainable footwear consumption, highlighting the factors that positively influence consumers' purchasing decisions. Our study underscores the crucial role of AR in shaping both purchase intention and consumer attitude towards sustainable footwear. To effectively foster this sense of responsibility, marketers should implement emotionally engaging campaigns that help consumers acknowledge how their consumption choices directly affect the environment. For instance, using storytelling techniques that depict the real-world consequences of unsustainable consumption and the positive outcomes of sustainable choices ([White et al., 2019](#)). The usage of tools such as interactive carbon footprint calculators, which can be used by actual and potential consumers, or product traceability tools such as the digital product passport, might increase the effectiveness of these actions ([European Commission, 2023](#)). These campaigns should emphasize the environmental and ethical advantages of sustainable footwear and highlight the company's commitment to sustainability and social responsibility. Our study also indicates that PMI positively affects attitudes toward sustainable footwear. Based on this finding, marketers and policymakers should emphasize consumers' significant role in shaping market trends through their purchasing decisions. One effective strategy is to create feedback loops that show how consumer actions contribute

to real changes, for instance, showcasing metrics like the number of shoes produced with recycled materials as a direct result of customer demand. Companies can also engage consumers through participatory platforms (e.g., voting on sustainable product designs or materials), reinforcing the perception that their choices influence industry practices (Cruz and da Cruz, 2023). Concerning the TPB components, our study highlights the significant positive role of ATT and SN in shaping sustainable footwear purchasing decisions. To leverage ATT, green marketing strategies should focus on providing clear and trustworthy information about the environmental benefits of sustainable footwear, using emotionally engaging messages that highlight the brand’s environmental commitment and the product’s sustainable performance (Wei et al., 2017). Concerning SN, marketing strategies should emphasize the growing popularity of sustainable footwear and showcase sustainable footwear choices adopted by influential others, such as influencers, designers, or sustainability advocate celebrities, as individuals are more likely to adopt behaviours they see embraced by people they admire or identify with (Ham et al., 2015). Leveraging these insights, companies should develop tailored marketing strategies to drive more informed and responsible purchasing behaviour in the footwear industry. However, our findings also indicate a need to reevaluate promotional tactics due to the negative influence of PBC, especially for Italian consumers. Strategies should focus on making consumers perceive sustainable products as exclusive, for instance, by highlighting their unique characteristics and innovativeness. Italian brands might launch limited-edition collections made with innovative eco-materials or collaborate with well-known designers to create unique, sustainable pieces, positioning them as premium items. Finally, the behavioural variances observed between Italian and Dutch consumers provide valuable insights for developing segmentation, targeting, and positioning strategies which takes into account specific socioeconomics and cultural contexts. In Italy, where fashion is strongly associated with status and identity (Piancazzo et al., 2024), campaigns could highlight artisanal quality, design uniqueness, and the prestige and trendiness of owning sustainable footwear. In the Netherlands, where consumers are generally more pragmatic and environmentally conscious (Boermans et al., 2024), the focus could shift to the functional and environmental value of the product, emphasizing innovation, transparency, and ethical production. This approach can help effectively promote sustainable footwear consumption across diverse markets. These insights are particularly relevant for sustainable fashion brands that are integrating sustainability into their business models through circular economy strategies and material innovation. By aligning marketing efforts with these initiatives, companies can contribute to the Sustainable Development Goals (SDGs) by promoting responsible consumption behaviours and fostering more ethical and transparent business practices.

This study is not without limitations. We focused on footwear, a specific segment within the fashion market, which may limit the

generalizability of the findings to other types of fashion products. In this study, we define sustainable footwear as shoes crafted from eco-friendly materials. Future research should delve deeper into this area by comparing different types of sustainable materials used in footwear production. The sample mainly comprises young people: accordingly, results should be evaluated with attention. Future studies may consider a more representative sample of the population under investigation. This study focuses on Europe; however, future research should explore other markets with varying economic conditions, such as mature versus emerging economies, or different cultural orientations, such as individualistic versus collectivistic societies. A further limitation concerns the measurement of PBC. Although adapted from a previous study (Kang et al., 2013), the items used in this study are broad and might fail in clearly distinguishing between internal and external dimensions of the construct. This lack of specificity may have influenced the counterintuitive negative effect observed, making it difficult to be interpreted. Future research should consider employing more refined operationalizations of PBC that separately capture these two aspects to test the observed relationship and better understand the underlying mechanisms. Finally, future studies could incorporate Schwartz’s (2014) Value Survey (SVS) or the Cultural Values Scale (CVSCALE) by Donthu and Yoo (1998) (as used, for instance, in Khan et al., 2024) to better understand how individual cultural orientations influence sustainable footwear consumption in different countries.

This study investigates how innovative sustainable technological solutions within footwear influence consumer purchase decisions. Sustainable innovations such as new eco-friendly materials and advanced production processes are critical in reshaping market dynamics and societal consumption patterns, driving the transition toward sustainable practices. We hope this work will stimulate academic debate on sustainable fashion consumption and inspire companies’ sustainable marketing strategies, fostering progress toward a more sustainable and responsible fashion industry.

CRediT authorship contribution statement

Valerio Schiaroli: Writing – original draft, Formal analysis, Methodology, Conceptualization. **Letizia Alvino:** Writing – review & editing, Investigation, Supervision, Conceptualization. **Emma Verdonk:** Investigation, Conceptualization. **Rosa Maria Dangelico:** Writing – review & editing, Supervision, Methodology. **Luca Fraccascia:** Writing – review & editing, Supervision, Validation, Methodology.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix

Introduction statement.

Sustainable footwear can be described as shoes made from eco-friendly materials (e.g., recycled materials, alternative vegetable matter – such as pineapple leaves) that are less harmful for the environment compared to other similar shoes.

Please indicate how much you agree or disagree with the following statements (from “1 = strongly disagree” to “7 = strongly agree”).

Table A1
Questionnaire scale and references.

Item	Sources
Perceived Marketplace Influence	(Joshi et al., 2021) Adjusted in terms of product
PMI1 I believe my individual efforts to be environmentally friendly will persuade others in my community to purchase environmentally friendly products.	

(continued on next page)

Table A1 (continued)

Item	Sources
PMI2The choices I make can influence what companies make and sell in the marketplace. PMI3If I buy sustainable footwear products, companies will introduce more of them. <i>Ascription of Responsibility</i>	Han (2014) Adjusted in terms of industry
AR1I feel jointly responsible for the environmental deteriorations caused by the footwear industry. AR2I feel partly responsible for the environmental problems caused by the footwear industry. AR3I believe that every footwear consumer is partly responsible for the environmental problems caused by the footwear industry. <i>Attitude</i>	(Joshi et al., 2021) Adjusted in terms of product
ATT1I like the concept of purchasing sustainable footwear. ATT2Purchasing sustainable footwear is a good thing to do. ATT3I have a favourable attitude toward purchasing a sustainable type of footwear product. <i>Subjective Norms</i>	(Hsu et al., 2017) Adjusted in terms of product
SN1People who are important to me think that I should use sustainable products. SN2People who influence my behaviour think that I should use sustainable products. SN3People whose opinions that I value prefer that I use sustainable products. <i>Perceived Behavioural Control</i>	(adapted from Kang et al., 2013) Adjusted in terms of product
PBC1Sustainable footwear might not be readily available in general. (R) PBC2The retail outlets of sustainable footwear might be located far away from where I live. (R) PBC3It might be difficult to obtain information regarding which shoes are sustainable. (R) <i>Purchase Intention</i>	(Joshi et al., 2021) Adjusted in terms of products
PI1In future, I will consider buying sustainable footwear because they are less polluting. PI2In future, I will consider switching to other footwear brands for ecological reasons. PI3In future, I plan to switch to a green version of sustainable footwear, purchasing a sustainable type of footwear product.	

(R) Means that the item has been reverse coded.

Table A2
Mann-Whitney U test

Variable	St. Error	St. Test Statistics	Sing.
PI	2746,15	5,04	***
ATT	2738,33	4,64	***
SN	2749,32	3,44	***
PBC	2756,72	17,99	***
AR	2755,67	1,09	0,273
PMI	2748,80	5,54	***

p < .01.

Data availability

Data will be made available on request.

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