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STATISTICAL ANALYSIS OF SUSTAINABLE FASHION CONSUMER BUYING BEHAVIOR

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ABSTRACT

Sustainable fashion has gained increasing attention because of growing environmental concerns, textile waste, and the need for responsible consumption. However, consumers' positive attitudes toward sustainability do not always translate into actual purchasing decisions. This study aims to statistically examine the factors influencing consumer buying behavior toward sustainable fashion, particularly environmental awareness, price sensitivity, product quality, and consumer attitudes. A quantitative research approach is proposed, using a structured questionnaire to collect data from consumers who purchase or consider purchasing sustainable clothing. Descriptive statistics, reliability analysis, correlation analysis, and multiple regression analysis will be used to examine the relationships among the study variables. Previous research indicates that environmental awareness, favorable attitudes, and perceived product value can influence sustainable fashion purchase intentions, while affordability and concerns about misleading environmental claims may discourage purchasing (Rausch & Kopplin, 2021; Hartmann et al., 2023). The proposed study is expected to provide statistical insights into the factors associated with sustainable fashion buying behavior and help fashion businesses develop consumer-oriented sustainability strategies.

KEYWORDS

Sustainable fashion, consumer buying behavior, environmental awareness, price sensitivity, purchase intention, statistical analysis, sustainable clothing.

INTRODUCTION

The fashion industry plays an important role in the global economy, but its conventional production and consumption practices contribute to environmental degradation, resource depletion, and textile waste. Sustainable fashion offers an alternative by emphasizing environmentally responsible materials, ethical production, product durability, and more responsible consumption patterns. As consumers become increasingly aware of environmental challenges, understanding their purchasing decisions has become important for fashion businesses seeking to promote sustainable products. However, environmental awareness alone may not be sufficient to encourage sustainable purchasing, as consumers also consider affordability, quality, design, and brand credibility when selecting clothing (Rausch & Kopplin, 2021).Consumer buying behavior toward sustainable fashion is influenced by several psychological, economic, and social factors. Environmental knowledge and positive attitudes can strengthen consumers' willingness to purchase sustainable clothing, while perceived high prices and doubts about environmental claims may reduce their purchasing intentions. Hartmann et al. (2023) highlighted the importance of environmental concern, trust in sustainable clothing brands, and perceived greenwashing in explaining sustainable clothing purchases. Similarly, Lee et al. (2025) found that attitudes, subjective norms, perceived behavioral control, self-efficacy, and environmental knowledge significantly influenced sustainable fashion purchase intentions among South Korean consumers. These findings demonstrate the importance of examining sustainable

fashion consumption through measurable consumer characteristics and statistical relationships.Despite growing interest in sustainable clothing, a gap may remain between consumers' stated intentions and their actual purchasing behavior. Consumers may express concern about environmental issues but choose conventional clothing because of price differences, limited availability, or personal preferences. Rausch and Kopplin (2021) examined this intention–behavior gap and identified the importance of attitudes and perceived product-related risks. Recent research has also emphasized the role of social influences, environmental consciousness, and product characteristics in shaping sustainable fashion consumption (Hogh et al., 2025; Klaka & Schlittmeier, 2026). Therefore, the present study proposes a quantitative investigation of sustainable fashion consumer buying behavior, focusing on environmental awareness, price sensitivity, product quality, and consumer attitudes. Statistical analysis will be used to examine how these factors relate to consumers' purchasing behavior and to identify the factors most strongly associated with sustainable fashion adoption.

RESEARCH OBJECTIVES

1. To examine the influence of environmental awareness on sustainable fashion consumer buying behavior.
2. To analyze the relationship between price sensitivity, perceived product quality, and sustainable fashion purchasing decisions.
3. To identify the factors that most strongly predict consumers' buying behavior toward sustainable fashion through statistical analysis.

RESEARCH QUESTIONS

1. How does environmental awareness influence consumers' buying behavior toward sustainable fashion?
2. What is the relationship between price sensitivity, perceived product quality, and sustainable fashion purchasing decisions?
3. Which factors significantly predict consumer buying behavior toward sustainable fashion?

LITERATURE REVIEW

Sustainable fashion consumption has become an important research area because consumers' clothing choices can influence environmental sustainability and responsible production. Rausch and Kopplin (2021) investigated consumers' purchase intentions and behavior regarding sustainable clothing and demonstrated the importance of consumer attitudes in explaining purchase intentions. Their findings also indicated that concerns about greenwashing and aesthetic risks can affect the relationship between intentions and actual purchasing behavior. This research provides a foundation for examining consumer attitudes, perceived risks, and purchasing decisions through statistical methods.Environmental awareness is another important factor in sustainable fashion consumption. Lee et al. (2025) examined the factors influencing sustainable fashion purchase intentions among South Korean consumers. Their findings indicated that

environmental knowledge, attitudes, subjective norms, perceived behavioral control, and self-efficacy significantly influenced purchase intentions, although environmental concern itself was not statistically significant. These results suggest that consumers' awareness and attitudes should be examined alongside other behavioral factors rather than treated as the only explanations for sustainable purchasing decisions.Price, product value, and trust also influence sustainable clothing consumption. Hartmann et al. (2023) examined environmental concern, trust in sustainable clothing brands, perceived consumer effectiveness, and greenwashing. Their findings showed that environmental concern, brand trust, and perceived consumer effectiveness were positively associated with sustainable clothing purchases, whereas perceived greenwashing reduced purchase intention. These findings indicate that consumers may consider the credibility of sustainability claims and the perceived value of products when deciding whether to purchase sustainable clothing.Consumer characteristics and the interaction between different purchasing motivations have also received attention. Rausch and Kopplin (2021) highlighted the gap between consumers' stated intentions and their actual sustainable clothing purchases. This suggests that favorable attitudes do not necessarily lead to purchasing behavior when consumers face practical or product-related barriers. Furthermore, research on sustainable clothing purchase behavior has indicated that environmental concern, price-value considerations, social influence, and product visibility can operate differently across consumer groups (Rausch & Kopplin, 2021). Therefore, statistical examination of consumer characteristics can help explain variations in sustainable fashion buying behavior.

Recent literature has expanded the discussion to include psychological, social, and product-related influences. Hogh et al. (2025) reviewed research on sustainable fashion buying behavior and identified sociodemographic characteristics, personal factors, behavioral influences, social influences, and product attributes as important research categories. Their review also highlighted methodological limitations in existing studies, including reliance on self-reported data and limited sampling scopes. This supports the need for transparent sampling procedures, reliable measurement instruments, and appropriate statistical analysis when examining consumer purchasing behavior.Klaka and Schlittmeier (2026) investigated psychological drivers of perceived sustainability and consumption intention through experimental studies. Their findings indicated that clothing materials, prices, and design characteristics can influence perceptions of sustainability and purchase intentions in different ways. Their research suggests that sustainable fashion decisions depend not only on consumers' environmental attitudes but also on how products are presented and perceived. Accordingly, the present study includes price sensitivity and perceived product quality alongside environmental awareness and consumer attitudes to provide a broader statistical examination of sustainable fashion buying behavior.Overall, the literature indicates that sustainable fashion purchasing is influenced by a combination of environmental, economic, psychological, and product-related factors. However, their relative importance may differ across markets and consumer groups. The present study addresses this issue by proposing a quantitative analysis of environmental awareness, price sensitivity, perceived product quality, and consumer attitudes as potential predictors of sustainable fashion buying behavior.

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METHODOLOGY

The study will adopt a quantitative methodology to examine the factors associated with sustainable fashion consumer buying behavior. Primary data will be collected through a structured questionnaire administered to consumers who have purchased or considered purchasing sustainable clothing. The questionnaire will measure environmental awareness, price sensitivity, perceived product quality, consumer attitudes, and buying behavior using a five-point Likert scale ranging from strongly disagree to strongly agree. Demographic information, including age, gender, education, and income category, will also be collected to describe the sample. Responses will be screened for completeness and consistency before statistical analysis. Participation will be voluntary, and respondents' confidentiality will be maintained.

RESEARCH DESIGN

A cross-sectional, descriptive, and correlational research design will be used to investigate consumer buying behavior at a particular point in time. The target population will consist of adult consumers who are familiar with sustainable fashion products or have considered purchasing them. A convenience sampling technique may be employed, subject to the accessibility of respondents and the study's resources. The final sample size will be determined before data collection based on the planned statistical tests and available resources. The research design will examine associations between the independent variables—environmental awareness, price sensitivity, perceived product quality, and consumer attitudes—and the dependent variable, sustainable fashion buying behavior. Because the study is observational and cross-sectional, the results will establish statistical relationships rather than definitive causal effects.

DATA ANALYSIS

The collected data will be analyzed using SPSS or an equivalent statistical software package. Descriptive statistics, including frequencies, percentages, means, and standard deviations, will summarize respondents' demographic characteristics and responses. Cronbach's alpha will be used to assess the internal consistency of multi-item measurement scales. Pearson correlation analysis will examine the direction and strength of relationships among environmental awareness, price sensitivity, perceived product quality, consumer attitudes, and buying behavior, provided the relevant assumptions are satisfied. Multiple regression analysis will then assess the relative contribution of the independent variables to sustainable fashion buying behavior. Statistical significance will be evaluated at the 0.05 level, and regression assumptions, including multicollinearity and residual patterns, will be examined. The final interpretation will be based on the actual collected data, regression coefficients, confidence intervals, and significance values.

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FINDINGS

The findings will be determined after collecting and analyzing the survey data. Based on the existing literature, environmental awareness and favorable consumer attitudes may be positively associated with sustainable fashion buying behavior. Price sensitivity may be negatively associated with purchasing when sustainable clothing is perceived as expensive, while perceived product quality may be positively associated with purchasing decisions. Multiple regression analysis will establish whether these relationships are statistically significant within the selected sample and identify which variables have the strongest predictive associations. These expectations are consistent with previous research on sustainable clothing purchase behavior (Rausch & Kopplin, 2021; Lee et al., 2025; Klaka & Schlittmeier, 2026). No numerical findings or statistical significance claims can be reported until the primary data have been collected and analyzed.

CONCLUSION

This study proposes a statistical examination of the factors influencing sustainable fashion consumer buying behavior, focusing on environmental awareness, price sensitivity, perceived product quality, and consumer attitudes. By applying a quantitative research approach, the study will assess the relationships between these factors and sustainable fashion purchasing decisions. The proposed analysis can help identify the consumer characteristics most strongly associated with sustainable fashion adoption and provide useful insights for fashion businesses seeking to develop effective sustainability strategies. The study may also contribute to existing research by examining economic and psychological factors together within a single statistical framework. Its conclusions and practical implications will ultimately depend on the results obtained from the collected data.

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