

CONSUMER BEHAVIOR | RESEARCH ARTICLE

The Role of Environmental-Friendly Factors and Islamic Religiosity in Achieving Sustainable Consumption

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Abstract:

Background: The circular economy aims to establish a sustainable system by maximizing and optimizing resources and capabilities, enabling businesses to provide greater value to consumers. Consumers' perceptions of environmental values, along with their environmental concerns and knowledge, play a crucial role in encouraging efficient and sustainable consumption. Additionally, individuals with strong religious beliefs often exhibit pro-environmental attitudes, which may influence their intentions and behaviors in purchasing environmentally friendly products.

Purpose: This study examines the role of eco-friendly factors and Islamic religiosity in shaping sustainable consumption behavior among Muslim women in Indonesia who purchase eco-friendly cosmetic products.

Methods: This study employed a conclusive, descriptive, and cross-sectional research design. A total of 218 respondents were selected through purposive sampling. Data were collected through questionnaire distribution and analyzed using Partial Least Squares (PLS) structural equation modeling.

Findings: The results indicate that eco-friendly factors—including environmental concern, environmental awareness, environmental knowledge, and environmental values—positively and significantly influence sustainable consumption. However, contrary to expectations, religiosity does not significantly impact sustainable consumption and does not moderate the relationship between sustainable consumption and behavioral intention. Additionally, sustainable consumption positively influences behavioral intention.

Conclusion: These results highlight the crucial of environmental awareness and values in fostering sustainable consumption behavior. However, religiosity alone may not be a determining factor in consumers' eco-friendly purchasing decisions.

Research implication: This study provides valuable insights for policymakers, businesses, and marketers to develop more effective sustainability campaigns and interventions by focusing on enhancing environmental awareness and values rather than relying solely on religious motivation to promote sustainable consumption.

Keywords: behavioral intention, environmental awareness, environmental knowledge, environmental value, religiosity, sustainable consumption

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PUBLIC INTEREST STATEMENT

This study investigates sustainable consumption among Muslim women in Indonesia, focusing on their preference for eco-friendly cosmetics. It examines how eco-friendly factors—such as environmental concern, awareness, and values—interact with Islamic religiosity in shaping consumer behavior. Contrary to expectations, religiosity was not a significant factor, suggesting that secular values, especially among Generation Z, play a stronger role.

The study also highlights challenges in relying on self-reported data and the limited scope of focusing on a single demographic. Despite this, the findings offer insights for promoting sustainability through education and value-based messaging, rather than solely through religious appeals.

1. Introduction

Nowadays, many countries are increasingly considering and implementing the principles of a circular economy in their economic and development policies. The circular economy aims to create a sustainable system in which all parties play their respective roles, including companies and consumers, who are interconnected in supporting its implementation. Companies' implementation of a circular economy, which maximizes and optimizes resources and capabilities, can provide value to customers (Chaudhuri et al., 2022). This value is perceived as action-oriented, inclined toward environmental concerns (Sony & Ferguson, 2017). A study by Akbar et al. (2025) underlines that increasing consumer knowledge and awareness—particularly regarding halal certification—significantly influences purchasing decisions toward products aligned with sustainability and religious values.

These perceived environmental values, along with consumers' environmental concern and knowledge, can influence more efficient and sustainable consumption. Such behavior leads to attitudes that reduce environmental and human health risks, as well as negative social impact (Bhuian et al., 2018; De Guimarães et al., 2023; Jan, 2022; Suhartanto et al., 2023; Zhang et al., 2022), including favourable attitudes toward eco-friendly products. Consumer attitudes toward sustainable products reflect their awareness of the environmental impact and often shape purchase intentions. These products are designed, produced, and consumed with environmental considerations, including the use of materials that are not harmful to the environment and humans (Wu & Chen, 2014; Kusumawati, 2019). Consumer attitudes significantly shape purchase intentions toward environmentally friendly innovations, such as electric vehicles, where environmental concern influences attitudes, though not necessarily direct purchasing decisions (Alberto & Riza, 2023).

Subsequently, this responsible attitude toward the environment reflects sustainable consumption, which can influence consumer behavioral intentions toward eco-friendly products. Sustainable consumption ultimately influences consumers' behavioral intentions, which in turn influence actual purchasing behavior and the consumption of eco-friendly products (De Guimarães et al., 2023; Jan, 2022; Suhartanto et al., 2023; Bhuian et al., 2018; Q. Zhang et al., 2022; Zhang et al., 2022). This consumer behavior can create customer pressure for companies to implement a circular economy practice aligned with its principles (Rodríguez-Espíndola et al., 2022). Within this distinct and demanding setting, understanding consumers' attitudes, intentions, and behaviors toward eco-friendly products is essential for business success and plays a key role in advancing a sustainable environment (Suhartanto et al., 2023). While religiosity is often linked with pro-environmental attitudes, it may not always translate into purchasing decisions (Octarina et al., 2019).

According to the PWC Global Consumer Insights Pulse Survey in 2021 (Republika, 2021), 86% of Indonesian consumers consciously purchased items with eco-friendly packaging or reduced packaging use, higher than in countries such as Vietnam (74%), the Philippines (74%), and Egypt (68%). Globally, half (50%) of consumers reported becoming more eco-conscious in the last six months, led by consumers in Southeast Asia (including Indonesia) and the Middle East. Additionally, a survey conducted by the Kata Data Insight Center (2021) revealed that 60.5% of Indonesian consumers purchased sustainable or eco-friendly products because they wanted to help preserve the Earth. These findings highlight the growing significance of eco-conscious purchasing, particularly in Indonesia, and underscore the importance of studying Muslim consumers' attitudes toward eco-friendly products.

Environmental values, along with environmental concern and environmental knowledge, are eco-friendly factors influencing sustainable consumption (Zhang et al., 2022). Before consumers intend to purchase a product, they are also aware of its environmental impact, which influences their decision-making process (De Guimarães et al., 2023; Jan, 2022). Consumers' attitudes toward eco-friendly products represent their awareness of environmental sustainability. The higher the environmental awareness of consumers leads to consumers' likelihood to engage in sustainable behavior (Khaleeli & Jawabri, 2021). This is because they understand the threats posed by environmental issues to society, and such knowledge influences their attitudes toward the environment (Severo et al., 2021). Therefore, environmental awareness can be considered an eco-friendly factor—an essential element influencing sustainable consumption behavior toward eco-friendly products.

This study utilizes the Theory of Planned Behavior (TPB) to explore how consumer attitudes, environmental concern, and religiosity influence sustainable consumption behavior, particularly in relation to eco-friendly cosmetic products. While TPB includes factors such as perceived behavioral control and subjective norms, this study primarily focuses on the direct impact of environmental values and religiosity, which are considered more immediately relevant to understanding consumer intentions and behaviors in the context of eco-friendly product consumption. TPB provides a strong foundation for examining how environmental attitudes and religiosity influence sustainable consumption behavior. Based on the description, it is undeniable that consumers are essential for supporting sustainable consumption to create a sustainable system. In addition to eco-friendly factors influencing sustainable consumption, religious consumers commit to their faith, which impacts their attitudes and behaviors in consuming products (Agarwala et al., 2019). From an Islamic perspective, religiosity is crucial in directly influencing one's attitude toward eco-friendly products (Muflih & Juliana, 2020). Individuals with high religiosity can reduce deviant behaviors that conflict with sustainable consumption. Thus, a more religious person is expected to care and have a positive attitude toward the environment. However, some studies suggest that religiosity alone does not always lead to consistent pro-environmental behaviors (Suhartanto et al., 2023). Subjective norms and perceived behavioral control significantly influence green purchase intentions and behaviors among Indonesian consumers, particularly in local coffee shop contexts (Az-zahrah et al., 2025).

Nonetheless, Zhang et al. (2022) demonstrate that the religiosity of Muslim individuals serves as a moderating variable that strengthens the positive association between environmental attitudes and the intention to purchase eco-friendly products, suggesting that the effect is more substantial for those who are more religious compared to those who are less religious. Individuals with high religiosity tend to display pronounced pro-environmental attitudes (Bhuian et al., 2018), ultimately influencing their intentions and behavior to purchase eco-friendly products. Integrating environmental awareness as an eco-friendly factor that drives attitudes (alongside environmental concern, environmental knowledge, and environmental values) and the dual role of religiosity in influencing attitudes can better explain sustainable consumption attitudes, intentions, and behavior toward eco-friendly products. The urgency of this study is driven by the lack of comprehensive empirical models that simultaneously integrate environmental-friendly factors and religiosity in shaping sustainable consumption in a Muslim-majority country such as Indonesia.

The eco-friendly products examined in this study are halal and eco-friendly cosmetic products. Eco-labeled beauty products are generally favored by Indonesian women from varied generational cohorts. Older individuals tend to choose eco-friendly products when compared to younger generations. Specifically, 52.7% of Gen X, 48.4% of Gen Y, and

42.1% of Gen Z assert that eco-friendly and environmentally responsible products hold significant importance (ZAP Beauty Clinic & Markplus Inc, 2021). One of Indonesia's eco-friendly products, Wardah, has begun to adopt the halal green beauty philosophy, emphasizing halal, natural, alcohol-free, local, and global expertise, and cruelty-free products (Wardah, 2021). Besides Wardah, Oriflame, whose products in Oriflame Indonesia are halal certified, is also known for disclosing ingredient information and using organic, environmentally friendly, and responsibly sourced materials in its process (Wulandari & Nurcahya, 2015).

This research contributes to the literature by offering a novel perspective that combines eco-friendly psychological factors and Islamic religiosity in explaining sustainable consumption behavior. Unlike previous studies that examine these elements separately, this study provides an integrated model that reflects the socio-cultural and religious context of Indonesian consumers. This study investigates the effect of environmental awareness, along with other eco-friendly factors (environmental concern, environmental knowledge, and environmental value), on sustainable consumption. It also examines the dual role of religiosity in influencing sustainable consumption both directly and through its relationship with behavioral intention, as well as the effect of sustainable consumption on behavioral intention.

2. Literature Review

2.1 Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB), introduced by Ajzen (1991), serves as a critical framework for understanding the processes that underpin human behavior, particularly in the sustainable consumption setting. According to TPB, an individual's intention to engage in a certain behavior is influenced by three primary components: their attitude toward the behavior, subjective norms, and perceived behavioral control. This framework is particularly relevant in environmental psychology, as it underscores how personal evaluations, normative social pressures, and perceptions of control collectively shape sustainable practices.

In addition to the integration of circular economy principles, the adoption of sustainable practices in production and consumption has garnered significant scholarly attention. Richter and Machado (2024) underscore that embracing circular strategies in production and consumption optimizes resource use and also serves as a catalyst for green recovery measures by drastically reducing material waste. Complementary to this, Baper et al. (2020) demonstrate that selecting appropriate building materials and incorporating recyclable elements can substantially mitigate environmental impacts.

Furthermore, Dogaru (2021) argues that rethinking traditional production paradigms is imperative to ensure that lifecycle processes do not overburden the natural environment. The forecasts presented by Kontautienė et al. (2024) suggest that changes in national policies and consumer practices are already steering small economies toward more sustainable consumption patterns. In the context of civil engineering, the use of recycled and reclaimed materials in construction has reduced resource depletion and minimized environmental degradation (Firoozi & Firoozi, 2023; Shaaban, 2021). Green building practices represent another critical facet of sustainable consumption. Research on green building materials demonstrates that the adoption of renewable, recyclable, and non-toxic materials can significantly decrease both environmental and human health risks, thus reinforcing sustainable urban development. The circular economy approach, as discussed by Börjeson (2025), provides a systemic framework for endorsing the reuse and recycling of materials within the production-consumption cycle. Additionally, Chee et al.

(2022) illustrate that advancements in nanotechnology are paving the way for innovative sustainable practices, including improved waste treatment and energy efficiency. In the sustainable consumption setting, a positive attitude toward environmentally friendly behaviors significantly enhances the likelihood of engaging in such practices. Research indicates that young consumers increasingly acknowledge the importance of sustainability, and their attitudes can influence their consumption behavior over the long term (Ziesemer et al., 2021). While younger consumers possess a growing intention to support sustainability, they are often hindered by higher costs associated with sustainable products. This correlates with the aspect of perceived behavioral control in TPB, where higher costs become a barrier to actualizing intentions into behavior.

Furthermore, subjective norms demonstrably affect consumer intentions towards sustainable practices. Collective consumer attitudes regarding sustainability impact household consumption, emphasizing the need for a societal shift toward sustainable norms to ensure widespread adoption of responsible consumption (Wyrwa et al., 2023). Additionally, research has shown that educational institutions and governmental policies are crucial in shaping these norms and can enhance perceived behavioral control through effective incentives and resources, as discussed in the work by Qu et al. (2015). Moreover, environmental knowledge can significantly contribute to enhancing proactive consumption behaviors. A recent study reveals that greater awareness and understanding of environmental issues improve not just attitudes toward sustainability but also the intention to adopt pro-environmental behaviors (Zeng et al., 2023). This reinforces the TPB's assertion that an informed consumer tends to feel capable (high perceived behavioral control) and socially supported (positive subjective norms) to engage in sustainable consumption. Solekah et al. (2024) further strengthens the application of TPB in environmentally friendly behavior among younger generations, showing that environmental awareness, subjective norms, and habitual behavior significantly influence Zillennials' intention to reduce plastic bag usage.

Recent studies have supported the application of TPB in explaining eco-friendly consumer behavior. For instance, Verma and Chandra (2023) demonstrated that TPB effectively predicted green purchase intentions among Indian consumers, with environmental concern significantly influencing attitudes and perceived behavioral control. Similarly, Aboelmaged (2021) applied TPB in the context of green product consumption in Egypt, highlighting that perceived behavioral control and environmental values are more crucial than subjective norms in driving eco-conscious behavior. In the context of Islamic consumers, TPB has been extended to include religiosity as an additional factor influencing behavioral intention. Suhartanto et al. (2023) found that while attitude and perceived behavioral control significantly influenced green purchasing intention among Muslim consumers, religiosity only played a limited role, consistent with the findings of this study. These extensions demonstrate that TPB remains flexible and robust for explaining pro-environmental behavior across different cultural and religious settings.

2.2 Sustainable Consumption

Sustainable consumption refers to the use of products and services that meet basic needs and improve quality of life while reducing the use of natural resources, toxic materials, and emissions of waste and pollutants (United Nations, 2020). It plays a vital role in achieving the Sustainable Development Goals (SDGs), particularly Goal 12: Responsible Consumption and Production. In the context of individual behavior, sustainable consumption reflects consumers' awareness of environmental impacts and their willingness to modify purchasing patterns accordingly.

Recent studies emphasize that a complex interplay of psychological, social, and cultural factors influences sustainable consumption. Sadiq et al. (2023) assert that environmental knowledge, eco-label credibility, and consumer trust significantly enhance sustainable purchasing decisions in emerging markets. Similarly, Nurcholis and Pramudyo (2023) found that perceived environmental responsibility and personal norms are strong predictors of sustainable consumption intention among Indonesian millennials. Furthermore, generational characteristics affect sustainable behavior. Generation Z consumers tend to be more engaged in sustainable consumption practices due to their environmental values and exposure to digital environmental campaigns (Orea-Giner & Fusté-Forné, 2023). The role of religiosity in sustainable consumption, particularly in Muslim-majority societies, has also gained attention. Suhartanto et al. (2023) noted that while religiosity influences moral perspectives, it does not always directly translate into consistent eco-friendly behavior, indicating a gap between beliefs and practices.

2.3 Environmental Concern and Sustainable Consumption

In examining the antecedents of sustainable consumption, this study adopts the perspective that several environmentally related psychological constructs serve as important behavioral drivers. Specifically, it defines eco-friendly factors as comprising four core components: environmental concern, environmental awareness, environmental knowledge, and environmental value. These dimensions are consistently identified in previous research as influential predictors of consumer attitudes and behaviors toward eco-friendly product choices (Suhartanto et al., 2023; Zhang et al., 2022). Each construct represents a distinct yet complementary aspect of how individuals perceive, evaluate, and respond to environmental issues in their consumption behavior.

Environmental concern is related to consumers' sense of responsibility and passion regarding environmental protection at the individual level (Zhang et al., 2022). Environmental concern is an effective driver of environmentally friendly behavior (Bhuian et al., 2018). It affects consumers' intention to solve environmental problems and increases consumers' sense of responsibility and passion for environmental protection at the individual level (Zhang et al., 2022). This tends to increase customers' intention to acquire eco-friendly products. Companies are now even changing their methods and shifting to environmentally friendly procedures (Raihan & Ramli, 2024). Individuals with more concerns regarding the environment have a more positive attitude, leading to a more positive intention to buy and use eco-friendly products. Environmental concern positively and significantly influences attitudes towards environmentally friendly packaging products (Suhartanto et al., 2023; Zhang et al., 2022). Therefore, environmental concern is considered an eco-friendly factor, an important factor that influences sustainable consumption attitudes towards eco-friendly halal cosmetic products. Therefore, the hypothesis below is proposed:

H1a: Environmental concern positively affects sustainable consumption.

2.4 Environmental Awareness and Sustainable Consumption

Consumer attitudes toward green products represent their awareness of environmental sustainability (Zhang et al., 2022). Environmental awareness refers to consumers' awareness of the threats that environmental problems can pose to society (De Guimarães et al., 2023). Before consumers intend to purchase any product, they are aware of its effects on the environment (Jan, 2022). Environmental awareness positively and significantly influences sustainable consumption attitudes (De Guimarães et al., 2023). Higher consumers' environmental awareness leads to consumers' tendency to behave in an environmentally sustainable manner. This is because they understand the threats that

environmental problems can pose to society, and this knowledge will influence their attitude towards the environment. Therefore, environmental awareness can be considered as an eco-friendly factor, an important factor that influences sustainable consumption attitudes towards eco-friendly products.

H1b: Environmental awareness positively affects sustainable consumption

2.5 Environmental Knowledge and Sustainable Consumption

Environmental knowledge refers to general knowledge of facts, concepts, and relationships related to the natural environment and its main ecosystems (Liap et al., 2022). It includes both abstract environmental knowledge concerning issues such as problems, causes, and solutions, and concrete environmental knowledge, which pertains to actionable behaviors (Bhuian et al., 2018). Environmental knowledge includes objective knowledge that refers to a person's understanding obtained from the educational process and helps them recognize a product's environmental impact. Subjective knowledge, on the other hand, refers to understanding derived from personal experience, such as the belief that the product is produced in an environmentally friendly manner (Suhartanto et al., 2023). People who view environmental knowledge as the extent of their awareness of environmental issues tend to have a higher desire to act positively for the environment.

Environmental knowledge directly positively influences consumer attitudes towards green products (Suhartanto et al., 2023; Zhang et al., 2022). A higher level of environmental knowledge improves consumption attitudes toward green products. Consumer sensitivity to environmental issues is influenced by the level of their environmental knowledge. Therefore, environmental knowledge can be considered an eco-friendly factor, an important factor influencing sustainable consumption attitudes towards eco-friendly products.

H1c: Environmental knowledge positively affects sustainable consumption

2.6 Environmental Value and Sustainable Consumption

Environmental value refers to action-oriented values and tends to be related to the environment (Zhang et al., 2022). Values related to the environment promote the well-being of the group, all individuals, and nature (Bhuian et al., 2018). These values reflect the importance of protecting and preserving the environment for human well-being and sustainability. They reflect the internal standards and beliefs that individuals prioritize related to the environment.

Environmental values held by individuals direct their attitudes towards the environment. Environmental value is crucial in shaping individual attitudes. It has positive and significant influences on consumer attitudes related to purchasing environmentally friendly products in sustainable consumption practices (Zhang et al., 2022). Environmental value is considered a determining factor in individual attitudes regarding environmental issues. Therefore, it can be considered as an eco-friendly factor, an important factor that influences sustainable consumption attitudes towards environmentally friendly products.

H1d: Environmental value positively affects sustainable consumption

2.7 Religiosity and Sustainable Consumption and Behavioral Intention

Religiosity refers to the level of belief in and adherence to religious values and ideals, encompassing belief in God and a commitment to act in accordance with His commandments (Bhuian et al., 2018). The strength of these beliefs can direct individual attitudes. Religiosity reflects an individual's level of religious commitment, which may influence their consumption decision is grounded in the principles of Sharia, which require Muslims to protect their faith, life, and property—including the responsibility to preserve and care for the earth (Suhartanto et al., 2023). Therefore, it is expected that the more religious a Muslim is, the more they will care for and have a good attitude towards the environment.

In addition to directly influencing sustainable consumption attitudes, Zhang et al. (2022) shows that Muslim consumers' religiosity moderates the positive effect of environmental attitudes on their intention to purchase green products, so that it will be stronger for more religiously observant individuals than for less religiously observant ones. Individuals who have a high level of Islamic religiosity can reduce the tendency toward deviant behavior, such as low consumption of recycled goods. Consumers with high levels of religiosity show strong pro-environmental attitudes (Bhuian et al., 2018), which in turn can influence their intention to buy green products.

If consumers' attitudes towards a product are positive, their purchase intentions are influenced. Consumers' positive attitudes towards green products increase their willingness to buy them (Zhang et al., 2022). Sustainable consumption, reflected in consumer attitudes toward environmentally friendly products, has a positive and significant influence on behavioral intentions—both the intention to purchase and to recommend such products to others (Suhartanto et al., 2023). Consumers' purchase behavior intentions for green products are influenced by their positive attitudes towards green products (De Guimarães et al., 2023; Jan, 2022). This is because efficient and responsible consumers reduce energy consumption and prefer high-quality products with minimal environmental impact.

Religiosity has the potential to strengthen the relationship between sustainable consumption attitudes and purchasing intentions, particularly in the context of environmentally friendly products such as cosmetics. According to Zhang et al. (2022), Muslim consumers' religiosity can moderate the positive relationship between their environmental attitudes and their intention to purchase green products. Religious observance is significant in enhancing pro-environmental behaviors, particularly when it comes to making eco-friendly purchases. More religiously observant individuals tend to have a stronger commitment to environmentally friendly practices, which influences their intentions to purchase green products, including cosmetic products.

As such, religiosity influences the initial attitudes towards environmentally friendly consumption and also moderates how these attitudes translate into purchasing behaviors, specifically regarding green products. Individuals who integrate their religious values with their consumption decisions tend to exhibit higher intentions to purchase sustainable products such as eco-friendly cosmetics, reflecting a holistic approach to sustainability in both spiritual and practical terms.

H2a: Religiosity positively influences sustainable consumption

H2b: Religiosity moderates the positive effect of sustainable consumption on behavioral intentions related to eco-friendly halal cosmetic products

2.8 Moderating the Effect of Sustainable Consumption on Behavioral Intention

Sustainable consumption involves purchasing and using products in ways that minimize environmental impact while meeting consumers' needs (De Guimarães et al., 2023). It emphasizes the importance of choosing products that support long-term ecological sustainability and promote responsible use of resources. In the context of eco-friendly products, sustainable consumption often occurs before consumers form a concrete intention to purchase. It stems from attitudes like environmental concern, awareness, and knowledge, which directly influence consumers' willingness to engage in behaviors that reduce environmental harm (Suhartanto et al., 2023).

Consumers with positive attitudes towards sustainable consumption are more likely to make purchasing decisions that align with their values, particularly when it comes to products like eco-friendly cosmetics. Research has shown that consumers who prioritize sustainability are more inclined to choose products that have minimal environmental impact (Zhang et al., 2022). This is especially true when consumers perceive a clear link between their choices and broader environmental benefits, such as pollution reduction or natural resources conservation.

Therefore, sustainable consumption behaviors can significantly influence behavioral intentions. Consumers who adopt such practices are more likely to choose green products over conventional alternatives, as they align with their environmental values. This positive relationship between sustainable consumption and purchasing intentions underscores the growing role of environmental responsibility in consumer behavior. The more individuals embrace sustainable consumption, the more likely they are to translate their attitudes into actionable behaviors, including the purchase of eco-friendly cosmetics.

H3: Sustainable consumption has a positive effect on behavioral intentions related to eco-friendly halal cosmetic products

3. Conceptual Framework

This study applies the TPB to examine how attitudes, environmental concern, and religiosity drive sustainable consumption behavior. While perceived behavioral control and subjective norms are important aspects of TPB, they are not the primary focus of this research. Instead, the study emphasizes environmental values and religiosity as the primary factors influencing consumer intentions and behaviors toward purchasing eco-friendly cosmetic products, due to their stronger relevance to the context of this study. The following is a research model based on the description of hypothesis development (Figure 1).

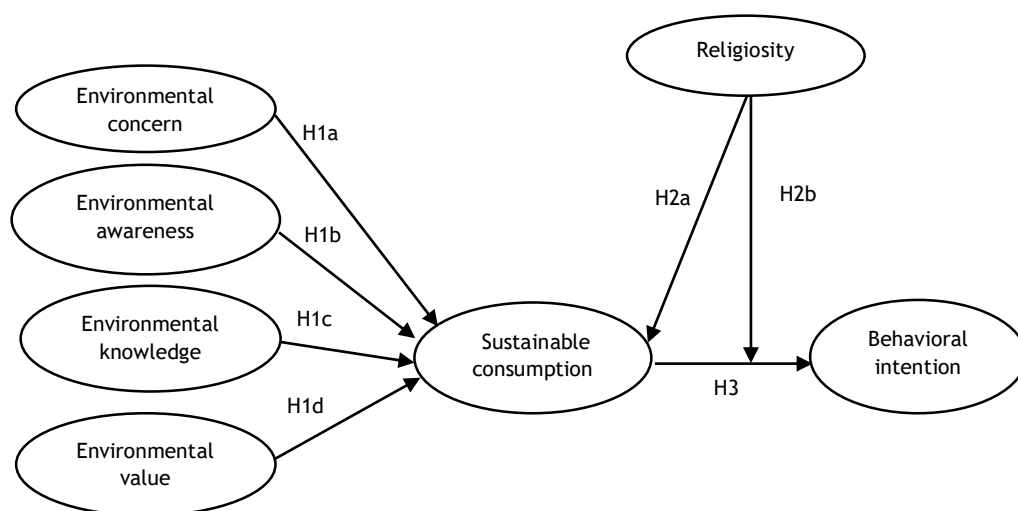


Figure 1. Conceptual framework: the role of environmental-friendly factors and Islamic religiosity in achieving sustainable consumption

The hypotheses of this study are as follows:

- H1a: Environmental concern positively influences sustainable consumption.
- H1b: Environmental awareness positively influences sustainable consumption.
- H1c: Environmental knowledge positively influences sustainable consumption.
- H1d: Environmental value positively influences sustainable consumption.
- H2a: Religiosity positively influences sustainable consumption.
- H2b: Religiosity moderates the positive effect of sustainable consumption on behavioral intention related to eco-friendly halal cosmetic products.
- H3: Sustainable consumption positively influences behavioral intention related to eco-friendly halal cosmetic products.

4. Methods

4.1 Research Design

This research employs a conclusive, descriptive, and cross-sectional design, involving collecting data from a sample of specific population elements at a single point in time. The conclusive research design tests hypotheses and examines the relationships between variables using a large and representative sample with quantitative primary data analysis (Malhotra, 2020). Therefore, this research will adopt a quantitative approach. A survey collects information from (or about) individuals to describe, compare, or explain their knowledge, attitudes, and behaviors. This study was conducted in Indonesia, targeting Muslim women who have purchased eco-friendly halal cosmetic products within the last three months.

4.2 Sampling

Indonesia has the largest Muslim population in the world. Based on data from the Ministry of Home Affairs in 2022, Indonesia's population reached 277.75 million people by the end of 2022 (Ministry of Home Affairs of the Republic of Indonesia, 2022). Among the total population, around 241.7 million people in Indonesia adhere to Islam (DataIndonesia.id, 2023). This study uses individuals as the unit of analysis and focuses on eco-friendly halal cosmetic products. Most Indonesian women from various generations choose beauty products with eco-friendly labels. When comparing per generation, the higher the age, the more people choose eco-friendly products. Specifically, there are 52.7% Gen X, 48.4% Gen Y, and 42.1% Gen Z who state eco-

friendly and environmentally conscious products are very important (ZAP Beauty Clinic & Markplus Inc, 2021).

Eco-friendly halal cosmetic brands in Indonesia such as Wardah has started to carry the philosophy of halal green beauty, which is halal, natural, alcohol free, local and global expert and cruelty free (Wardah, 2021). Similarly, Oriflame offers halal certified products using organic and environmentally responsible ingredients (Wulandari & Nurcahya, 2015). Therefore, the population in this study is Muslim women in Indonesia who have purchased eco-friendly halal cosmetic products. In Islam, a Muslim's commitment refers to the principles of Sharia which include protecting faith, life, and the environment. Therefore, for a Muslimah, protecting the environment is highly encouraged, while damaging the environment is discouraged. This is because Islamic religiosity refers to belief in God and commitment to behave and act according to His rules (Bhuian et al., 2018).

This study employs a non-probability sampling technique, namely purposive sampling due to the absence of a complete sampling frame. Purposive sampling is a sampling technique based on certain objectives so that in advance the criteria used as a reference for sample withdrawal are formulated. Sample criteria include 1) Muslimah (Muslim women), 2) Belonging to the baby boomers, X, Y, and Z generations, and 3) having purchased eco-friendly halal cosmetic products in the last 3 months. This study requires a sample size of at least 5 times the number of parameters to be analyzed (Hair et al., 2019), because there is no complete sampling frame and the analysis method to be used is SEM analysis. The minimum target respondent for this study is 5 times the number of parameters (5 x 44 items), which is 220 respondents.

4.3 Measurement

The variables used in this study include environmental concern (3 items) (Zhang et al., 2022) environmental awareness (4 items) (De Guimarães et al., 2023), environmental knowledge (8 items) (Zhang et al., 2022), environmental value (4 items) (Zhang et al., 2022), religiosity (14 items) (Suhartanto et al., 2023; Zhang et al., 2022), sustainable consumption (5 items) (De Guimarães et al., 2023), behavioral intention (3 items) (Zhang et al., 2022), and behavior (4 items) (Zhang et al., 2022). These variables are latent variables that cannot be measured directly; therefore, they require observable variables (items) for measurements (Table 1).

Table 1. Operational definition and indicators of measurement variables

Variables	Operational Definition	Indicators
Environmental Concern (EC)	An individual's sense of responsibility for environmental protection drives eco-friendly behavior (Zhang et al., 2022; Bhuian et al., 2018).	1) I am emotionally engaged in environmental protection (EC1). 2) I am concerned about the deteriorating quality of the environment (EC2). 3) I consider how to improve environmental quality (EC3).
Environmental Awareness (EA)	An individual's awareness of environmental impacts and the importance of sustainability in consumption (De Guimarães et al., 2023; Jan, 2022).	1) I separate recyclable and organic waste at home (EA1). 2) I use less water to minimize consumption (EA2). 3) I ensure proper disposal of electronic waste (EA3). 4) I engage in practices to conserve natural resources (EA4).

Table 1. Operational definition and indicators of measurement variables (Continue)

Variables	Operational Definition	Indicators
Environmental Knowledge (EK)	An individual's understanding of environmental issues, causes, and solutions that influence pro-environmental behavior (Liap et al., 2022; Suhartanto et al., 2023).	1) Most air pollution in big cities comes from industrial factories (EK1). 2) Hazardous mercury levels have been found in seafood (EK2). 3) Plastic bags do not decompose in landfills (EK3).
Environmental Value (EV)	Values that encourage individuals to care for the environment and adopt sustainable behaviors (Zhang et al., 2022; Bhuian et al., 2018).	1) Nature's balance is fragile and easily disrupted (EV1). 2) Humans must live in harmony with nature to survive (EV2). 3) Protecting the environment ensures sustainability (EV3).
Religiosity (RI)	The level of belief and commitment to religious teachings that influence sustainable consumption decisions (Bhuian et al., 2018; Suhartanto et al., 2023).	1) I strongly believe in the existence of God (RI1). 2) I practice my religious teachings in daily life (RI2). 3) I allocate time for sincere prayer (RI3). 4) I believe God has a role in environmental care (RI4).
Sustainable Consumption (SC)	Consumption patterns that consider the environmental and social impact of a product (Zhang et al., 2022; De Guimarães et al., 2023).	1) I believe I help the environment by purchasing eco-friendly products (SC1). 2) I avoid buying products from companies that harm the environment (SC2). 3) I am willing to pay more for green products (SC3).
Behavioral Intention (BI)	An individual's intention to purchase or recommend eco-friendly products (Zhang et al., 2022; Suhartanto et al., 2023).	1) I intend to buy eco-friendly cosmetic products (BI1). 2) I intend to recommend eco-friendly cosmetic products to others (BI2). 3) I will use eco-friendly cosmetic products regardless of price (BI3).

4.4 Data Collection

Primary data were collected through a survey using questionnaires as the research instruments. Variable measurement in this study used a Likert scale, where the latent variables to be measured are then described into instrument items (questionnaires) in the form of statements or questions (Sekaran & Bougie, 2016). This study used a scale range of 1-5, namely 1 = strongly disagree; 2 = agree; 3 = neutral, 4 = agree; 5 = strongly agree (Malhotra, 2020). The questionnaire will be distributed online using the Google Forms platform to a broader range of respondents. Online surveys offer advantages, including the ability to access large, geographically distributed populations (Lefever et al., 2007).

4.5 Data Analysis

This study applies a variance-based Structural Equation Modeling (SEM) approach, specifically Partial Least Squares (PLS-SEM). PLS-SEM is suitable for research with a predictive orientation and theory development objectives (Ghozali & Latan, 2015). Unlike covariance-based SEM, PLS-SEM requires fewer statistical assumptions regarding data normality and large sample size requirements. The PLS-SEM framework includes two sub-models: the measurement model and the structural model. The measurement model evaluates the relationship between observed indicators and their corresponding latent constructs through discriminant validity, convergent validity, and composite reliability. The structural model examines the relationships among latent constructs using metrics such as VIF, R^2 , f^2 , Q^2 , and path coefficients.

5. Findings

5.1 Respondent Characteristics

This study involved 218 women residing in Jabodetabek, and data were collected via an online questionnaire. The majority of respondents were aged 18-27 (Generation Z), accounting for 60.55%. Generation Z is particularly relevant to this study due to their growing interest in sustainability issues and preference for eco-friendly and halal products. Most respondents were unmarried (59.17%), the majority were students (46.79%), and their highest level of education was high school or equivalent (44.04%).

5.2 Evaluation of the Measurement Model (Outer Model)

Convergent validity is evaluated based on each indicator's outer loading value. According to the initial PLS analysis, indicators with values below 0.6 (Hair et al., 2019) needed to be excluded from the model and re-evaluated. After excluding these indicators, the model met the convergent validity criteria, as the outer loading values of the remaining indicators were all above 0.6 (Figure 2). Discriminant validity can be evaluated using the Fornell-Larcker Criterion. Table 2 presents the outer loading values between the variables. The analysis reveals that most indicators have outer loading values exceeding 0.6, indicating adequate convergent validity, with the highest value found for Rel (0.865). All constructs in the model meet the criteria for good discriminant validity. The square root of AVE values for each latent variable (bolded/diagonal values) is greater than the inter-construct correlation values or the correlation between constructs (values located below and beside them).

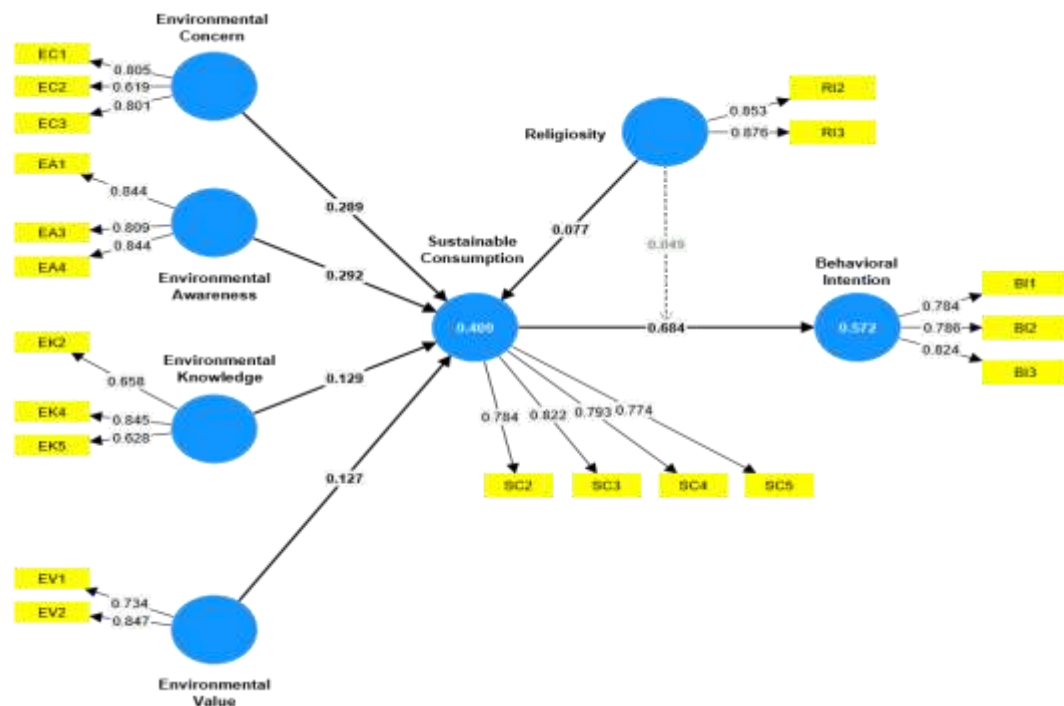


Figure 2. Outer loadings of the modified models for the role of environmental-friendly factors and Islamic religiosity in achieving sustainable consumption

Another test used to assess construct validity involves examining the AVE values. Each construct has an AVE value above 0.5, indicating that the model is adequate, as each construct explains more than 50% of the variance of its items. All constructs also demonstrate good reliability, with composite reliability (ρ_c) values above 0.7. Additionally, the Cronbach's alpha values for the behavioral intention, environmental awareness, and sustainable consumption are above 0.7, indicating that the measurement instruments for these three variables are reliable. Meanwhile, Cronbach's alpha values for the variables environmental concern, environmental knowledge, environmental value, and religiosity range between 0.4 and 0.6, indicating that the measurement instruments for these variables are moderately reliable (Noor, 2012).

Table 2. The outer loading values between variables

Variable	BI	EA	EC	EK	EV	RE	SC
BI	0.798						
EA	0.297	0.832					
EC	0.507	0.331	0.747				
EK	0.361	0.423	0.415	0.717			
EV	0.403	0.107	0.460	0.360	0.793		
RE	0.336	0.067	0.381	0.136	0.310	0.865	
SC	0.741	0.461	0.527	0.428	0.362	0.264	0.793

Note: BI: Behavioral Intention; EA: Environmental Awareness; EC: Environmental Concern; EK: Environmental Knowledge; EV: Environmental Value; RE: Religiosity; SC: Sustainable Consumption

5.3 Top Contribution Structural Model Evaluation (Inner Model)

The model produces two R-Square values, as follows: 1) the influence of environmental concern, environmental awareness, environmental knowledge, and environmental value on sustainable consumption yields an R-Square value of 0.409. This indicates that the variability of the sustainable consumption construct is explained by environmental concern, environmental awareness, environmental knowledge, and environmental value by 40.9%, while 59.1% is attributed to other variables not included in the study. 2) The

influence of sustainable consumption on behavioral intention yields an R-Square value of 0.572, indicating that sustainable consumption accounts for 57.2% of the variance in behavioral intention, while the remaining 42.8% is explained by other unobserved variables.

Next, a test was conducted to assess the model's predictive capability using the Q-square value. In this test, the requirement that must be met is that the predictive relevance should have a value greater than zero (0). Based on the results presented in Table 3, all Q-square values exceed 0, indicating that the model has predictive capability.

Table 3. Q-Square: Evaluation of predictive relevance and model fit in the context of sustainable consumption and Islamic religiosity

Variable	SSO	SSE	Q ² (=1-SSE/SSO)
Behavioral_Intention	651.000	423.186	0.350
Environmental_Awareness	651.000	651.000	0.000
Environmental_Concern	651.000	651.000	0.000
Environmental_Knowledge	651.000	651.000	0.000
Environmental_Value	434.000	434.000	0.000
Religiosity	434.000	434.000	0.000
Sustainable_Consumption	868.000	652.492	0.248

The next test is the hypothesis significance test, which examines the parameter coefficients and the significance values of the p-values and t-statistics. A one-tailed test is used with a t-table value of 1.64, as the hypotheses specify the direction of the relationships. A summary of the path coefficient analysis and hypothesis testing is presented in Table 4.

Table 4. Path coefficient of the measurement model

Variable	Original sample (O)	T-statistics (O/STDEV)	P values	Hypothesis test
Environmental Concern → Sustainable Consumption (H1a)	0.289	4.496	0.000	supported
Environmental Awareness → Sustainable Consumption (H1b)	0.292	4.437	0.000	supported
Environmental Knowledge → Sustainable Consumption (H1c)	0.129	2.152	0.031	supported
Environmental Value → Sustainable Consumption (H1d)	0.127	2.104	0.035	supported
Religiosity → Sustainable Consumption (H2a)	0.077	1.290	0.197	Rejected
Religiosity x Sustainable Consumption → Behavioral Intention (H2b)	0.049	0.737	0.461	Rejected
Sustainable Consumption → Behavioral Intention (H3)	0.684	13.185	0.000	supported

6. Discussions

6.1 Environmental Concern and Sustainable Consumption

Environmental concern has been proven to have a positive and significant effect on sustainable consumption, as evidenced by the acceptance of H1a. The higher environmental concern of consumers leads to a stronger consumer attitude toward sustainable consumption of eco-friendly halal cosmetic products. Therefore, environmental concern becomes one of the eco-friendly factors, a crucial element influencing sustainable consumption behavior. These results align with previous studies, which show that environmental concern positively and significantly affects attitudes toward eco-friendly products (Rousta & Jafari, 2024; Suhartanto et al., 2023; Zhang et al., 2022). Environmental concern influences consumers' intention to address environmental issues, enhances their sense of responsibility, and motivates their commitment to environmental protection at the individual level (Q. Zhang et al., 2022). Individuals with heightened environmental concern, driven by genuine awareness of the consequences of human actions on the planet, tend to develop more positive attitudes—ultimately fostering greater engagement in the purchase and use of eco-friendly products (Rousta & Jafari, 2024).

Beyond individual attitudes, environmental concern has also been associated with collective behavioral change when integrated into social norms and community-based initiatives. Recent studies highlight that when environmental concerns are shared among peer groups, particularly among educated youth such as university students, these concerns are more likely to lead to action due to the reinforcing effect of social influence and normative behavior (Ling et al., 2024). For Generation Z, the dominant cohort in this study, environmental consciousness functions as a personal value and a social identity marker. Their strong presence on digital platforms allows environmental messaging and peer advocacy to amplify eco-conscious behavior across broader communities. This phenomenon reinforces the importance of institutions—both educational and commercial—in leveraging peer-led campaigns, participatory green practices, and social proof strategies to cultivate a sustainable consumption ecosystem aligned with Gen Z's lifestyle and values.

This aligns with the respondent profile, where the majority are Generation Z students. Higher education students are key stakeholders in environmental issues (Yang et al., 2024), playing a vital role in addressing environmental challenges. Without decisive action and support, they will be the group most affected by environmental changes. Thus, their perceptions, attitudes, and actions are crucial to the success of sustainable consumption (Wijaya & Kokchang, 2023). Companies are also adapting by changing their methods and shifting to eco-friendly procedures (Raihan & Ramli, 2024).

6.2 Environmental Awareness and Sustainable Consumption

Environmental awareness has been proven to positively and significantly influence sustainable consumption, as indicated by the acceptance of H1b. The higher consumers' environmental awareness leads to the consumers' stronger attitude toward sustainable consumption of eco-friendly halal cosmetic products. Therefore, environmental awareness becomes one of the eco-friendly factors, an essential component influencing sustainable consumption behavior.

These findings align with previous research, stating that environmental awareness positively and significantly influences sustainable consumption behavior (De Guimarães et al., 2023; Yang et al., 2024). The higher the consumers' environmental awareness, the

more likely they are to adopt sustainable behaviors. They understand the threats posed by environmental issues to society, and this awareness affects their attitudes toward the environment. Environmental awareness is thus a key antecedent of sustainable consumption attitudes (Yang et al., 2024). This generation demonstrates a heightened awareness of environmental issues and a strong motivation to engage in environmentally responsible purchasing behaviors (Kabaja et al., 2023). As a generation more attuned to sustainability and climate change issues, they are expected to lead the adoption of sustainable practices (Wijaya & Kokchang, 2023). Their proactive engagement in lifestyle choices, including consuming eco-friendly cosmetic products, can significantly influence societal and governmental pushes toward a more sustainable future.

In addition to shaping individual attitudes, environmental awareness serves as a cognitive foundation that enhances consumers' critical evaluation of brands and their environmental claims. Consumers with high environmental awareness are more skeptical of greenwashing and demand transparency from companies regarding their sustainability efforts (Prados-Peña et al., 2023). This behavior is particularly evident among Generation Z, who often rely on digital sources to verify product claims and actively use social media to advocate for authentic and sustainable practices (Ling et al., 2024). Moreover, environmental awareness facilitates the internalization of sustainable norms, leading to habitual eco-friendly behaviors beyond just cosmetic consumption, such as waste segregation, energy conservation, and preference for locally sourced goods (Severo et al., 2021). These patterns suggest that environmental awareness is not only predictive of sustainable consumption attitudes but also instrumental in fostering a broader, value-driven lifestyle aligned with long-term environmental goals.

6.3 Environmental Knowledge and Sustainable Consumption

Environmental knowledge has been proven to influence sustainable consumption, as indicated by the acceptance of H1c. As consumers' environmental knowledge increases, their attitudes toward the sustainable consumption of eco-friendly halal cosmetic products become more positive and robust. Therefore, environmental knowledge is one of the eco-friendly factors, a crucial element influencing sustainable consumption behavior. This finding aligns with previous research demonstrating that environmental knowledge directly and positively affects consumers' attitudes toward eco-friendly products (Leclercq-Machado et al., 2022; Rousta & Allaf Jafari, 2024; Suhartanto et al., 2023; Zhang et al., 2022).

A higher level of environmental knowledge leads to a stronger attitude toward the consumption of eco-friendly products. Environmental knowledge encompasses a broad understanding of facts, principles, and interrelationships related to the natural environment and its fundamental ecosystems. It plays a critical role in shaping consumers' sensitivity and responsiveness to environmental issues (Liap et al., 2022). Consumers' sensitivity to environmental issues is influenced by their level of environmental knowledge. The continuous degradation of the environment increases consumers' perceived environmental knowledge, increasing their willingness to adopt sustainable consumption behaviors (Leclercq-Machado et al., 2022). This finding aligns with the respondent profile, which is predominantly composed of Generation Z students. As a tech-savvy and educated cohort, Generation Z is well-informed about environmental issues (Ling et al., 2024). Generation Z has an environmental understanding and is committed to consuming sustainable products (Orea-Giner & Fusté-Forné, 2023).

Moreover, environmental knowledge not only shapes personal attitudes but also serves as a gateway to behavioral intention through enhancing consumers' perceived behavioral control. According to recent findings, individuals with higher levels of environmental

knowledge feel more capable of making informed and responsible choices, leading to greater confidence in executing sustainable consumption actions (Mehdi et al., 2024). This cognitive empowerment becomes even more relevant for Generation Z, who actively seek product information through digital platforms and integrate environmental considerations into their consumption decisions (Ling et al., 2024). Furthermore, knowledge enhances the ability to differentiate between genuinely sustainable products and those with superficial environmental claims, thereby reducing the risk of greenwashing (Prados-Peña et al., 2023). Educational initiatives that improve consumers' understanding of environmental systems and the ecological impact of products are crucial to encourage sustained eco-friendly consumption patterns, particularly in markets such as cosmetics, where transparency is vital.

6.4 Environmental Value and Sustainable Consumption

Environmental value has been proven to influence sustainable consumption, as indicated by the acceptance of H1d. The higher the environmental value held by consumers, the stronger their attitude toward sustainable consumption of eco-friendly halal cosmetic products. Therefore, environmental value is considered one of the eco-friendly factors, a crucial element influencing sustainable consumption behavior. This finding aligns with prior studies suggesting that environmental values positively and significantly influence consumers' attitudes toward purchasing eco-friendly products, particularly within the framework of sustainable consumption practices (Prados-Peña et al., 2023; Q. Zhang et al., 2022). The environmental values held by individuals shape their attitudes toward the environment and play a vital role in fostering preferences for products that address environmental issues (Sun et al., 2022). Environmental value is considered a key determinant of individual attitudes regarding environmental issues, as it reflects a desire to exhibit a protective role toward the environment (Prados-Peña et al., 2023). This result aligns with the respondent profile, where the majority are Generation Z. They are highly concerned with environmental issues and appear to hold strong environmental values (Liang et al., 2022). Generation Z is considered the most motivated and influential generation when it comes to sustainable consumption. Their environmental values enable them to appreciate the inherent benefits embedded in ecosystems (Mehdi et al., 2024).

6.5 Religiosity and Sustainable Consumption

Religiosity was hypothesized to have a positive influence on sustainable consumption; however, the results showed no significant impact, as evidenced by the rejection of H2a. Although higher levels of religiosity might be expected to increase consumer attitudes towards eco-friendly halal cosmetic products, the effect was found to be insignificant. This finding suggests that religiosity does not consistently influence attitudes towards sustainable consumption in this study. The result contrasts with previous studies (Liang et al., 2022; Mehdi et al., 2024), which have demonstrated a positive relationship between religiosity and sustainable consumption attitudes. Generally, consumers who exhibit signs of religiosity show a high level of concern for sustainability issues, leading them to believe they play an important role in preserving humanity and the planet (Elgammal & Al-Modaf, 2023).

However, this result is supported by Suhartanto et al. (2023), who found that Islamic religiosity does not influence attitudes towards sustainable consumption. This suggests that a consumer's religiosity may not necessarily affect their sustainable consumption behavior towards eco-friendly products. A higher level of Islamic religiosity does not automatically increase sustainable consumption attitude, and vice versa. Considering the respondent profile, predominantly Generation Z, one of their characteristics is frequent interaction through social media platforms (Helaluddin et al., 2019), which fosters

openness to cultural differences. However, Muslim religious organizations and scholars play a crucial role in increasing young Muslim consumers' awareness and knowledge of environmental issues (Suhartanto et al., 2023). Associating consumer behavior with religious values and institutions may effectively promote eco-friendly product usage among young Muslim consumers. Religious leaders and organizations can serve as influential advocates and role models, encouraging the adoption of environmentally friendly products for both religious practices and daily life.

This inconclusive effect of religiosity on sustainable consumption may also be attributed to the evolving interpretation of religious teachings among younger generations. Generation Z Muslims often adopt a more individualistic and pragmatic view of religion, emphasizing ethical aspects that align with personal values rather than strictly following doctrinal prescriptions (Irfany et al., 2024). This shift fosters selective religious engagement, where environmental actions are driven more by universal moral concerns than by explicit religious obligations. Moreover, religiosity in this context might reflect private spirituality rather than communal religious behavior, which has less visibility and influence on consumption patterns (Razzaq et al., 2018). Therefore, while religion can serve as a motivational backdrop, its influence on behavior requires activation through contextual factors such as education, community support, and value reinforcement within faith-based initiatives. This underscores the need for integrative approaches that connect spiritual values with practical environmental education to translate religious identity into consistent pro-environmental behavior.

6.6 Religiosity as a Mediator in the Relationship Between Sustainable Consumption and Behavioral Intention

Religiosity was hypothesized to moderate the relationship between sustainable consumption and behavioral intention, but the results show that religiosity has no significant moderating effect. This indicates that religiosity does not influence the strength or direction of the relationship between sustainable consumption and behavioral intention to purchase eco-friendly products, as evidenced by the rejection of H2b. This result, which indicates no moderating effect of religiosity, contrasts with previous studies (Q. Zhang et al., 2022), where religiosity moderates the positive relationship between environmental attitudes and intention to purchase eco-friendly products. The absence of a moderating effect in this study suggests that religiosity does not significantly change the relationship between sustainable consumption and behavioral intention in this context. The effect is stronger for individuals with higher religiosity than for those with lower religiosity. Individuals with a high level of Islamic religiosity can reduce tendencies toward deviant behaviors, such as unsustainable consumption.

This finding also aligns with Razzaq et al. (2018), who showed that interpersonal religiosity does not moderate the relationship between pro-environmental attitudes and the intention to engage in sustainable consumption. This suggests that religiosity may not function as a moderator in the context of eco-friendly consumption among young consumers. Interpersonal religiosity is viewed as an individual's response to their religion, often practiced to gain acceptance in the eyes of others in society. Thus, Islamic religiosity is not considered to influence the relationship between attitudes and sustainable consumption intentions. Considering the respondent profile, with the majority being Generation Z, religiosity does not influence their intention to purchase eco-friendly halal cosmetic products (Irfany et al., 2024). This may be due to Generation Z's tendency to embrace more individualistic views of religion, where environmental concerns are often driven by universal values rather than religious doctrines. This generation demonstrates a high adaptability to change, facilitated by the internet, which serves as a key source of information for understanding social trends, guiding change,

and supporting problem-solving efforts (Nasution & Kurnia, 2021). The experience of growing up in an era characterized by rapid technological advancement has significantly shaped the mindset and behavioral patterns of Generation Z (ZAP Beauty Clinic & Markplus Inc, 2021).

The absence of a moderating effect suggests that religiosity, especially among Generation Z, functions more as a personal belief system rather than a strong behavioral directive in shaping consumption behaviors. This aligns with the increasing influence of secular sources of information, such as social media and global environmental movements, in guiding young consumers' decisions. As this generation is increasingly influenced by secular sources of information, social media, and global environmental movements, religious doctrines may become less central in guiding everyday consumption decisions, especially when not reinforced through institutional or community-based frameworks (Wong, 2021). Furthermore, religiosity may only serve as a moderating variable when it is deeply internalized and accompanied by high environmental literacy (Elgammal & Al-Modaf, 2023). The data also suggests that for religiosity to meaningfully influence behavioral intention, it must be actively translated into specific, actionable values, such as those promoted in faith-based environmental campaigns. Without this translation, religiosity risks remaining a passive belief that fails to bridge the gap between sustainable attitudes and consumption behaviors.

6.7 Sustainable Consumption and Behavioral Intention

Sustainable consumption has a positive and significant effect on behavioral intention, as indicated by the acceptance of H3. The higher the sustainable consumption attitudes of consumers, the stronger their intention to engage in sustainable consumption of eco-friendly halal cosmetic products. This result is consistent with previous studies (Helaluddin et al., 2019; Suhartanto, Mohd Suki, et al., 2023), which demonstrate that the more favorable consumers' attitudes toward eco-friendly products, the stronger their behavioral intentions to purchase and consume such products. Positive consumer attitudes toward eco-friendly products stimulate their readiness to purchase them (De Guimarães et al., 2023; Jan, 2022; Q. Zhang et al., 2022). Sustainable consumption (consumers' attitudes toward eco-friendly products) has a positive and significant effect on consumer behavioral intentions regarding eco-friendly products (Helaluddin et al., 2019; Suhartanto et al., 2023), both in terms of purchasing and recommending them to others.

Considering the respondent profile, the majority of whom are Generation Z, there is a strong commitment to sustainability and social responsibility (Wong, 2021). Therefore, consuming eco-friendly halal products is truly relevant (Irfany et al., 2024). Generation Z's consumption behavior increasingly leans toward choosing eco-friendly products, including cosmetic products. Findings, describe the results of the research by using tables, graphs, or figures. It has to pay attention to the author to explain the data, not just read them. The findings present the empirical results of the research conducted, while the discussions discuss the results obtained. Finding is strongly recommended written in separate sections for each variable or results.

Furthermore, the strong link between sustainable consumption attitudes and behavioral intention aligns with the lens of the Theory of Planned Behavior (TPB), which posits that attitudes significantly influence intention, particularly when combined with perceived behavioral control and subjective norms (Ajzen, 1991; Jan, 2022). Generation Z, who dominate the sample in this study, tend to exhibit high levels of environmental self-identity, which reinforces their intention to act in ways consistent with sustainability values (Mehdi et al., 2024). Their intention is further strengthened by peer influence and

digital exposure to sustainability content, which act as modern proxies for subjective norms (Ling et al., 2024). As digital natives, they are highly responsive to online communities and eco-conscious influencers, thereby forming behavioral intentions that align with their sustainable attitudes. Therefore, this generation's behavior is not only driven by knowledge and concern but also shaped by socially reinforced and technologically mediated norms, highlighting the importance of integrating digital strategies into sustainability campaigns targeting young consumers.

6.8 Managerial Implication

The results of this study provide several contributions to managerial implications, particularly for industries that are concerned about the environment such as cosmetics and fashion. The positive influence of environmental concern, awareness, knowledge, and values on sustainable consumption suggests that these green factors are important in marketing strategies. The goal is to increase the brand's sustainability appeal and align products with consumers' increasing environmental awareness. Since environmental awareness is a key factor driving sustainable consumption, companies should focus on educating consumers about the environmental impacts of their products. This can be done through informative campaigns, transparent communication about sourcing and production processes, and highlighting the ecological benefits of green products. Such efforts can increase consumer trust and loyalty, especially among environmentally conscious segments such as Generation Z.

Companies should integrate environmental values into their branding and messaging. Consumers with strong environmental values are more inclined to participate in sustainable consumption practices, so aligning a brand's core values with green practices can help build a stronger emotional connection with consumers. Emphasizing the commitment to sustainability in marketing campaigns and ensuring that products and processes reflect these values will resonate with consumers who prioritize environmental protection. Research shows that environmental knowledge significantly impacts sustainable consumption. Therefore, companies can provide content that educates consumers about the importance of eco-friendly products and the environmental issues they address. Providing easy-to-understand information about a product's ingredients, production methods, and environmental certifications can empower consumers to make more informed purchasing decisions.

Companies should invest in programs or platforms that provide ongoing education about sustainability. This can include partnering with environmental organizations, hosting events or webinars, and creating digital content such as blogs or videos that explain sustainable practices. Engaging consumers in discussions about their environmental concerns and offering eco-friendly solutions will likely encourage further sustainable consumption. Since the target consumers in this study were primarily Generation Z, a group that is highly active on social media, leveraging these platforms to promote sustainable consumption is essential. Collaborating with influencers and eco-conscious advocates who align with the brand's values can amplify the message and enhance sustainability awareness among younger consumers. Social media can also be used to engage in real-time discussions about sustainability and to showcase consumer testimonials or success stories related to eco-friendly products.

Given that sustainable consumption is closely tied to consumer attitudes and intentions, companies can implement incentive programs that encourage consumers to promote sustainable behaviors. For example, loyalty programs that reward green purchases, refill discounts, or partnerships with environmental charities can further reinforce sustainable consumption patterns. Although religiosity did not significantly influence sustainable

consumption in this study, it is still important for companies targeting Muslim consumers to recognize the cultural context. Collaborating with religious organizations to promote sustainability from an Islamic perspective could provide potential benefits. Incorporating Islamic values of environmental stewardship and responsibility into product marketing and community outreach can help bridge this gap, especially for consumers who view religion as a key influence in their daily decisions.

For consumers, the positive role of environmental concern, awareness, knowledge, and values indicates the need for continued environmental literacy and behavioral reinforcement. Consumer empowerment programs—such as eco-awareness workshops, green product labeling education, and community-based sustainability campaigns—can enhance individuals' capacity to make environmentally responsible choices. Public and private stakeholders should collaborate to encourage habit formation, such as waste sorting, ethical product evaluation, and preference for brands that uphold sustainability and halal integrity.

For governments, these findings underscore the importance of formulating supportive public policies and educational frameworks to foster sustainable consumption. Regulatory measures such as stricter eco-labeling standards, incentives for green product purchases, and environmental tax benefits can serve as catalysts for systemic change. In parallel, public institutions should intensify environmental education and integrate sustainability into national curricula to cultivate future generations of eco-conscious citizens. Strategic partnerships with religious organizations may also amplify outreach by aligning ecological responsibility with religious values, particularly in Muslim-majority contexts such as Indonesia.

6.9 Theoretical Contribution

Grounded in the TPB, this study affirms the central role of attitudes, particularly those related to environmental concern, awareness, knowledge, and values in shaping behavioral intentions toward sustainable consumption. The findings support the TPB's proposition that behavioral intention is primarily influenced by individual attitudes, while suggesting that religiosity, although often considered a normative influence, may not significantly affect or moderate sustainable behavior. This study advances the theoretical understanding of sustainable consumption and consumer behavior by integrating environmental concern, awareness, knowledge, and values as key determinants of eco-friendly consumer choices. While previous research has examined these factors separately, this study offers a more comprehensive perspective by assessing their collective impact on sustainable consumption. This enhances theoretical models by emphasizing the interconnected nature of environmental attitudes and behaviors. Additionally, this study challenges the assumption that religiosity inherently drives sustainable consumption. While prior studies suggest a strong link between religious beliefs and ethical consumption, the findings indicate that religiosity alone may not be a sufficient determinant of environmentally responsible purchasing behavior. This insight adds complexity to existing theories of ethical consumerism and highlights the need for a more nuanced, context-specific approach when examining the influence of religiosity on sustainability.

6.10 Limitations

This study has several limitations that should be acknowledged. It focuses on a specific demographic segment, which may constrain the generalizability of the results to the wider consumer population. To enhance future research applicability, it is recommended that subsequent studies incorporate more diverse samples, encompassing variations in

age, income, and cultural background, to gain a broader understanding of sustainable consumption behavior. Additionally, the reliance on self-reported data introduces the risk of social desirability bias, potentially leading participants to over report their environmentally friendly behaviors and attitudes. Future research could benefit from employing alternative data collection methods—such as observational techniques or actual purchase records—to improve data accuracy and reliability. Moreover, although this study explores the relationship between religiosity and sustainable consumption, it does not consider differences that may arise across religious traditions or levels of religious commitment, presenting another avenue for further investigation. Comparative studies across different religious groups could provide deeper insights into how religiosity influences eco-friendly consumption behaviors. Additionally, this research adopts a cross-sectional design, capturing consumer attitudes and behaviors at a single point in time. However, sustainable consumption behaviors and environmental concerns may evolve over time due to external factors such as policy changes, technological advancements, and socio-cultural shifts. Conducting longitudinal studies would allow researchers to track these changes and assess their long-term impact.

7. Conclusions

The findings indicate that eco-friendly factors, including environmental concern, awareness, knowledge, and value, positively and significantly influence sustainable consumption. However, religiosity was found to have no significant effect on sustainable consumption and does not moderate its relationship with behavioral intention. Furthermore, the results demonstrate that sustainable consumption positively influences behavioral intention, suggesting that consumers with a strong sustainable consumption attitude exhibit a stronger intention to consume eco-friendly halal cosmetics. These findings underscore the significance of fostering positive environmental attitudes among consumers, particularly among younger generations such as Generation Z, who demonstrate heightened environmental awareness and a strong inclination toward sustainability.

Contrary to expectations, the results suggest that religiosity alone may not be a sufficient driver for environmental consumption behaviors. This could be attributed to the evolving nature of consumer behavior, particularly among younger, tech-savvy individuals who are more influenced by social trends and environmental campaigns than by religious teachings alone. While religiosity might influence general ethical behavior, its direct impact on sustainable consumption warrants further exploration, particularly within different contexts and regions. The study also underscores the crucial role of environmental concern, awareness, knowledge, and values in shaping sustainable consumption behaviors. These factors are essential for promoting eco-friendly consumption, as they directly influence consumers' attitudes and intentions toward environmentally friendly products. Given the positive influence of sustainable consumption behaviors on the intention to consume eco-friendly products, businesses and policymakers should focus on strengthening these eco-friendly attitudes through awareness campaigns and educational initiatives.

8. Recommendation

Considering the limitations highlighted in this study, including the use of a specific demographic group, reliance on self-reported data, and the cross-sectional design, future research is encouraged to address these gaps through broader sampling, varied methodologies, and longitudinal approaches. Future research could further explore the role of religiosity in different cultural and demographic contexts, particularly by exploring its interactions with other socio-cultural and psychological factors to better

understand its impact on consumer behavior. Longitudinal studies would provide valuable insights into how environmental attitudes evolve over time and how religiosity may influence long-term consumption patterns. Additionally, examining other potential moderating factors, such as social influence, peer pressure, and marketing strategies, could help explain the complex relationship between environmental attitudes and sustainable consumption behavior. Expanding research to include diverse consumer segments, including various age groups, income levels, and regions, would offer a more comprehensive understanding of the factors influencing sustainable consumption. Finally, future studies could investigate the impact of environmental education programs and campaigns on consumer behavior, particularly in educating younger generations such as Generation Z, who are increasingly attuned to sustainability issues.

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