# Environmental Concern and Individual Innovation on Halal Green Skincare Purchase Intention

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**ABSTRACT**

This study investigates the influence of environmental concern and individual innovation on the intention to purchase halal green skincare products, with halal product knowledge as a moderating variable. Using Structural Equation Modeling with Partial Least Squares (SEM-PLS), data from 220 Indonesian respondents were analyzed. The results reveal that environmental concern, individual innovation, and halal product knowledge significantly and positively affect the intention to purchase halal green skincare products. However, halal product knowledge does not considerably moderate the relationships between environmental concern or individual innovation and purchase intention. The study's focus on Indonesian consumers and halal green skincare products may limit its generalizability. These findings suggest marketers should emphasize environmental benefits, innovative features, and halal certification to increase consumer purchase intention. By integrating environmental concern, individual innovation, and halal product knowledge in the context of green skincare products, this research provides valuable insights into the factors influencing Muslim consumers' purchase intentions for environmentally friendly and halal-certified skincare products.

**Keywords:** Environmental Concern, Individual Innovation, Halal Green Skincare, Purchase Intention, Muslim Consumers
**JEL Classifications:** M31, D9, Q56, Z12, L66, O33

## 1. INTRODUCTION

Globalization affects business competition in Indonesia. This competition also applies to the skincare industry, including halal skincare products, where local companies have to compete with foreign companies to attract local consumers (Amri et al., 2023; Hilmi et al., 2022; Kussudyarsana and Irawati, 2018). The global skincare market is projected to reach $179 billion in 2022 at a CAGR of 4.7% from 2016 to 2022 (Tsaabitah, 2022).

Indonesia, as a country with the largest Muslim population, is experiencing an increase in demand for halal products (Alam et al., 2023; Alam et al., 2024; Alam et al., 2024; Alam et al., 2024), including skincare (Alam and Nurwardani, 2021). Knowledge of halal products among consumers is crucial because this demand supports the growth of the halal industry in the country (Khotimah

and Mardhotillah, 2023). Currently, the skincare market is growing. In 2020, it grew by 5.59%. It is estimated that in 2021, the skincare market will increase again to reach 7%. 2023, it will get more than 20% (Vannia et al., 2023) and is predicted to reach 26.4% of the world's population by 2030 (Othman et al., 2023). This growth is also accompanied by the environmental impact of the production and consumption of these products (Zaki et al., 2021). According to a report from a research company, 95% of millennials love the use of cosmetics, indicating that interest in cosmetics is no longer limited to women. A study found that millennial men are almost as interested in cosmetic products as women (Bunda et al., 2024). Strong awareness and knowledge among the Muslim community is a significant driving factor (Othman et al., 2023).

Law No. 33 of 2014 concerning Halal Product Assurance strengthens the halal industry in Indonesia. Knowledge about

halal assurance gives consumers confidence that products such as skincare follow Sharia principles (Khotimah and Mardhotillah, 2023). Halal skincare products must meet the set standards, such as not using ingredients from animals whose slaughter process is unknown, not containing unholy ingredients, and ingredients whose halal status is unknown (Zaki et al., 2021). These ingredients, such as collagen, fatty acids, and glycerin derived from pigs, are often used to manufacture skincare (Othman et al., 2023). Knowledge of product ingredients and clear composition labels play an essential role in consumer decision-making, whether to accept or reject a product (Amri et al., 2023).

In recent years, many consumers have become increasingly concerned about environmental protection, which has caused increased environmental pollution and issued a global warning (Putri et al., 2023). Regarding these environmental issues, the Indonesian people are also worried about the same thing. The beauty industry, especially skincare, is the most significant contributor to plastic waste environmental damage (Ruslim et al., 2022). According to The National Plastic Action Partnership (NPAP), around 4.8 million tons per year of plastic waste in Indonesia is not managed correctly, namely burning in open spaces (48%), not adequately managed in official landfills (13%), and finally polluting waterways and seas (9%) (Kusumawati and Tiarawati, 2022). Using microplastics in skin care products such as scrubs, soaps, or face soaps is waste that can pollute the environment because it is difficult to decompose (Ruslim et al., 2022). The packaging of skincare products used in daily use is mainly made of plastic materials that are difficult to decompose, are not environmentally friendly, and tend to be non-recyclable (Ruslim et al., 2022).

Consumers aware of this are increasingly considering their decision to be wiser in choosing the product to use, especially in this case, Skincare (Putri et al., 2023). As a form of community responsibility for environmental problems, the community is encouraged to be more concerned about the environment (Rahmawati and Azizah, 2022). Based on surveys from PwC 2021 and Katadata Insight Center (KIC) in 2021 show that there has been a change in the trend of people's behaviour that is increasingly paying attention to environmental and sustainability issues (Mumpun et al., 2023).

Environmental awareness encourages consumers to choose products that align with their religious values and are environmentally friendly (Shahid et al., 2023). Changing people's behaviour to be more sensitive to environmental issues and sustainability encourages companies to integrate environmental issues into their corporate strategies by producing green products (Mumpun et al., 2023). Manufacturers or companies must innovate in creating products that are not only halal but also environmentally friendly to meet consumer demand (Zaki et al., 2021). These product innovations can add value to a company's brand and encourage customers to feel confident in a brand offering more than one product (Mumpun et al., 2023).

Local businesses that can highlight sustainability and halal aspects in their branding can attract the attention of consumers looking for products that match their values. Individual innovation here has to do with the ability of consumers to search and choose products

that suit their preferences that focus on sustainability and halal (Siew-Ling and Jaimon, 2022). Many cosmetics companies are now focusing on research and development (RandD) to create halal products that meet the needs of modern consumers, including in terms of safety and quality (Soeroto et al., 2023).

Skincare is a product to care for the skin that is used to protect, restore, and repair skin problems (Vannia et al., 2023). Eco-friendly or green skincare is made from natural ingredients without chemicals, dyes, or non-natural mixtures (Seilatu et al., 2022). This concern for the environment is often associated with the term "green," which includes terms related to environmental issues such as environmentally friendly and sustainable (Zaki et al., 2021). Many types of eco-friendly skincare are traded in Indonesia. Among them are familiar brands in Indonesia, namely Wardah, Garnier, Avoskin, and Safi. The four skincare brands are all well-known brands that are produced according to the principles and requirements of Islamic religious law from natural ingredients until they already have a halal certificate (Khotimah and Mardhotillah, 2023).

Considering the influence of environmental concern and individual innovation in the intention to buy halal green skincare products, this study examines how these aspects affect consumers' intention to purchase halal green skincare. The main objectives of this study are to explore and identify how environmental concerns and individual innovations can influence consumers' decisions to buy halal green skincare products and how knowledge of halal products affects this relationship. The results of the research are expected to increase consumer awareness and knowledge about the importance of choosing products that are not only halal but also environmentally friendly. With a better understanding, consumers are expected to be more careful in choosing skincare products that follow Sharia principles and environmental standards. Moreover, innovate in creating halal green skincare products that are not only under sharia but also meet sustainability and quality standards expected by consumers.

## 2. LITERATURE REVIEW

This study's state-of-the-art and novelty can be described from previous studies examining various aspects of halal and green products separately. Previous research has used a variety of methodologies to define green skincare. The majority conceptualize green skincare as a beauty product to beautify themselves that is environmentally friendly. Zahan et al. (2024) defined Green skincare products as environmentally friendly products with minimal or no negative impact on ecology and human health. Bunda et al. (2024) added that eco-friendly skincare products must be free from harmful ingredients such as alcohol, collagen gelatin, and lactic acid that can harm health and use natural and organic ingredients that do not damage the environment or consumer health.

According to Tsaabitah (2022), users of certain skincare brands continue to believe that eco-friendly cosmetics or skincare products benefit the environment. In conclusion, the results of the previous study confirmed that using eco-friendly skincare products is considered a way of life, loving self-care, and maintaining health with a high level of environmental awareness. Some studies focus on factors affecting the intention to purchase halal products,

such as religiosity, awareness, and halal certification (Aziz and Chok, 2013; Shah Alam and Mohamed Sayuti, 2011). Meanwhile, another study discusses green marketing and consumer behaviour towards environmentally friendly products (Chen and Chang, 2012; Joshi and Rahman, 2015). However, there is still a gap in the literature that integrates halal and environmentally friendly aspects in the context of skincare products. This research fills this gap by combining environmental care, individual innovation, and halal product knowledge in one research framework.

Environmental concern refers to environmental awareness and consideration when purchasing decisions. Previous studies have shown that awareness of green products and environmental problems has a positive and significant influence on the purchase intention of green products (Raihan and Ramli, 2024). The purchase of eco-friendly products is part of the planned consumption behaviour to reduce environmental damage (Wijekoon and Sabri, 2021). The increasing awareness of the safety and quality of cosmetic products encourages consumers to choose products that comply with halal and environmentally friendly standards (Bunda et al., 2024). The influence of consumer concern for the environment motivates companies to offer environmentally friendly products. Companies implementing environmentally friendly initiatives can increase consumer purchase intentions for green products, especially green skincare (Praharjo and Wijaya, 2023). This concern often translates into a preference for products that minimize environmental damage, such as natural ingredients and eco-friendly packaging (Lestari and Roostika, 2022).

Positive experiences in the past with the use of green products can encourage repurchase intention. Also, the influence of the social environment, such as recommendations from friends or family, can influence consumer purchase intention (Praharjo and Wijaya, 2023). As echoed in several previous studies, purchase intent is defined as the consumer's tendency or desire to buy a product (Ivanova and Moreira, 2023). On the other hand, Limbu and Ahamed (2023) explained that green skincare purchase intention is also influenced by consumer perception of the product's sustainability, the natural ingredients used, and the environmentally friendly processes applied in producing and marketing the product.

Individuals' desire to try new products that are halal and environmentally friendly shows an innovative tendency in product selection (Herlina et al., 2020). The combination of halal certification and eco-friendly attributes can increase consumer confidence and expand the appeal of this product to environmentally conscious Muslim consumers (Lestari et al., 2023). Halal products provide satisfaction of use without worrying about ingredients that do not meet Islamic standards (Isa et al., 2023). This kind of satisfaction can influence the purchase intention decision of moslem customers (Gabriella and Kurniawati, 2021; Millatina et al., 2022; Setiawati and Murwanti, 2006).

According to Dumillah (2021), products that meet halal and environmentally friendly standards, such as natural ingredients, production processes that do not damage the environment, and packaging that can be recycled or materials that do not pollute

the environment. Concerns for customers have been about the potential dangers of harmful chemicals in cosmetic products and a preference for safer and more natural products (Khan et al., 2021). Individual experiences and influences from family, friends, or social groups influence an individual's intention to buy halal and environmentally friendly products (Dumillah, 2021).

Halal in Islam means permissible or permissible according to Islamic law, as stated in the Qur'an and the teachings of the Prophet Muhammad (Zaidun and Hashim, 2018). Halal skincare must be safe for consumers to use. The storage, manufacture, packaging, and distribution process must follow Sharia law and fatwa. Halal skincare products must be free of prohibited ingredients such as components from pigs, carcasses, blood, human body parts, predators, reptiles, and insects. The product must also receive halal certification, guaranteeing that all ingredients and production processes follow Sharia standards from official institutions such as the Indonesian Ulema Council (Isa et al., 2023). Awareness about Muslim consumers' preferences who tend to choose halal products and how this affects purchasing decisions are now highlighted by scholars (Novita Sari et al., 2022). Muslim consumers are starting to care about the halalness of the cosmetics and skincare they use, including checking the alcohol and non-halal animal fat content in the products (Sri et al., 2022). Halal product knowledge can moderate the relationship between environmental considerations and purchase intent by increasing the perceived value of halal eco-friendly skincare products. When consumers know halal standards and the product's environmental benefits, they are more likely to buy it. This knowledge can strengthen consumers' intent to buy, especially when environmental considerations are a significant factor (Mahri et al., 2024).

The latest trend shows the integration between halal and environmentally friendly concepts in cosmetic products. Muslim consumers increasingly consider sustainability and environmental impact when choosing halal products (Alam et al., 2024; Hidayatullah, 2012). Rachmawati et al. (2022) found that halal brand awareness moderates the relationship between product knowledge and product engagement in purchasing decision-making. The previous finding shows the potential role of similar moderation for halal product knowledge in environmental considerations.

Siregar and Hulwati (2023) found that halal product knowledge moderates the relationship between halal product awareness and interest in buying halal products. Herlina et al. (2020) found a positive relationship between halal product knowledge and halal awareness among Muslim consumers. Herlina et al. (2020) also stated that as individuals' understanding of halal products increases, their overall awareness of halal concepts and practices grows. The researchers proposed that enhancing halal awareness could be achieved through targeted educational initiatives within Muslim communities.

For the green skincare aspect, Acica (2023) found that health and environmental awareness (green consciousness) positively affect the buying interest in environmentally friendly halal cosmetic products. Halal product knowledge has the potential to moderate this relationship by strengthening the influence of consumer awareness on buying interest.

Hypothesis 1. Environmental concern influences the intention to purchase environmentally friendly and halal skincare products.

Hypothesis 2. Individual innovations to try new halal and environmentally friendly products influence the purchase intention of halal green skincare.

Hypothesis 3. Knowledge of Halal Products influences the intention to purchase halal skincare products.

Hypothesis 4. Knowledge of halal products is a moderating variable that strengthens the relationship between environmental considerations and consumer purchase intentions.

Hypothesis 5. Knowledge of halal products is a moderating variable that strengthens the relationship between individual innovations and consumer purchase intentions.

## 3. METHODS

Materials and Methods should be described with sufficient details to allow others to replicate and build on published results. Please note that the publication of your manuscript implies that you must make all materials, data, computer code, and protocols associated with the publication available to readers.

This study uses Structural Equation Modeling with Partial Least Squares (SEM-PLS) to test the influence of environmental awareness and individual innovation on the intention to buy halal green skincare. SEM-PLS is well suited for this study because it can analyze complex relationships between latent variables and is suitable for data with abnormal distributions and relatively small sample sizes (Hair and Alamer, 2022).

The population in this study is consumers of skincare products in Indonesia who are aware of environmental issues and halal products. The sampling technique used is purposive sampling, which selects respondents who meet specific criteria. These consumers, namely, have or want to use halal green skincare products and have knowledge about halal products. The targeted sample size was 200 respondents, following the recommendation of Hair et al., (2010) which stated that the minimum sample size for SEM analysis was 5-10 times the number of latent variables in the model.

The research model depicted in Figure 1 illustrates the relationship between Environmental Concern (EC), Individual Innovation (II), Purchase Intention (IPHGS), and Halal Product Knowledge (HPK) as moderator variables. The arrows in the model represent the hypothetical relationship, which shows the direction of the influence of environmental concern and individual innovation on the intention to buy environmentally friendly halal skincare products, and halal product knowledge moderates the impact of particular environmental concern and innovation on the intention to buy environmentally friendly halal skincare products.

The analysis process begins with the Validity and Reliability Test, which uses Cronbach's Alpha and Composite Reliability to measure reliability and Average Variance Extracted (AVE) to measure the validity of convergence. After that, the measurement model will be tested using the Fornell-Larcker Criterion to test the validity of the discrimination. The last Test Structural Model uses bootstrapping to test the significance of the path in the structural model. This comprehensive analysis ensures the robustness of the findings and provides a solid basis for interpreting the relationship between environmental concerns, individual innovation, and halal green skincare purchase intentions.

## 4. RESULTS AND DISCUSSION

The demographic analysis of the study, as detailed in Table 1, revealed a total of 220 participants, with a gender distribution of 50.5% female (111 participants) and 49.5% male (109 participants). This almost balanced division shows a well-represented sample in terms of gender. The age distribution showed an apparent concentration in the young adult category: The 20-25 year age group dominated the sample, representing 143 respondents (65%). The age group of 14-19 years followed with 46 respondents (20.91%). The age group of 26-33 years had the most minor representation, with 31 respondents (14.09%). This distribution shows that this survey mainly captures the opinions and characteristics of young adults and late teens, with a more miniature representation of those in their late twenties and early thirties. In the Student Employment Category, it is the largest group, with 114 respondents (64.09%). Employees/Self-employed amounted to 56 respondents (25.45%). Others (Including homemakers) represented 23 respondents (10.45%). This distribution is in line with age demographics, as most respondents are college students, corresponding to the age group of 20-25 years.

Table 2 presents a comprehensive analysis of the validity and reliability tests for four primary constructs: Environmental Concern (EC), Individual Innovation (II), Halal Product Knowledge (HPK), and Intention to Purchase Halal Green Skincare (IPHGS). The table delineates crucial psychometric properties for each construct, including factor loadings, Average Variance Extracted (AVE), Composite Reliability (CR), and Cronbach's Alpha.

The Environmental Concern (EC) construct comprises six indicators (EC1-EC6), with factor loadings ranging from 0.689 to 0.812. This construct demonstrates robust psychometric properties, with an AVE of 0.578, CR of 0.891, and Cronbach's Alpha of 0.854. These values indicate good convergent validity and internal consistency for the EC construct.

The Individual Innovation (II) construct, measured by three indicators (II1-II3), exhibits exceptionally high factor loadings ranging from 0.847 to 0.887. This construct shows the most substantial psychometric properties, with an AVE of 0.753, CR of 0.901, and Cronbach's Alpha of 0.836. These values suggest excellent convergent validity and internal reliability for the II construct.

The Halal Product Knowledge (HPK) construct is assessed using three indicators (HPK1-HPK3). Factor loadings for this construct range from 0.635 to 0.770. The HPK construct demonstrates good psychometric properties, with an AVE of 0.578, CR of 0.891, and Cronbach's Alpha of 0.854. These values indicate adequate

**Figure 1:** Research model. EC: Environmental concern, II: Individual innovation, HPK: Halal product knowledge, IPHGS: Intention to purchase halal green skincare
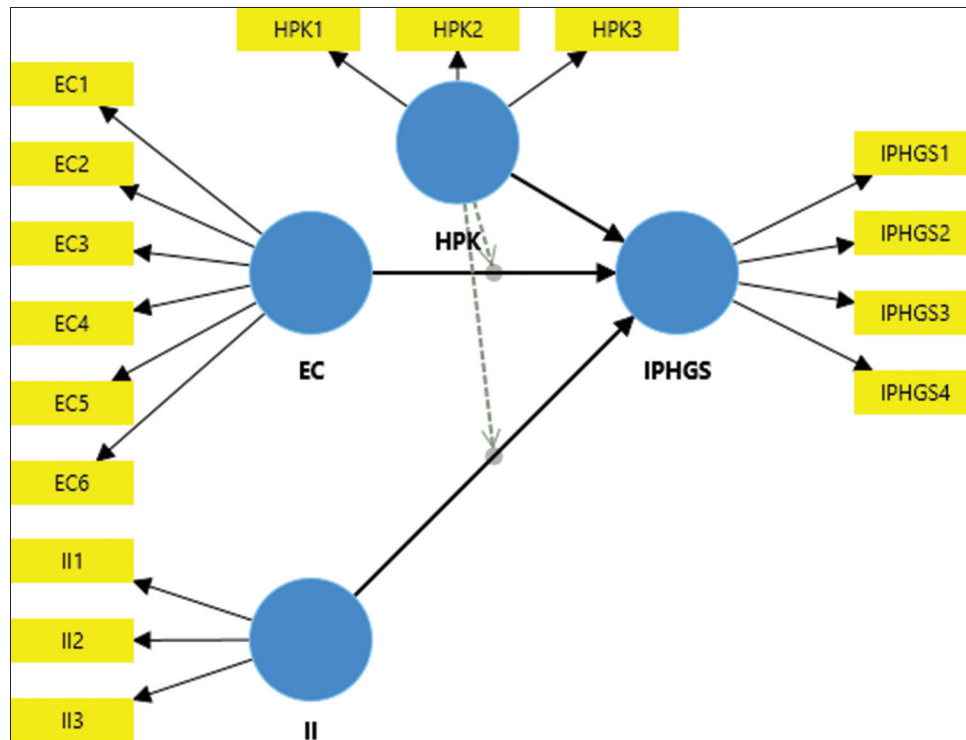


Source: Processed by the author

**Table 1: Demographic of respondents**

| Gender classification | Counts | Percentage |
|---|---|---|
| Male | 109 | 49.5 |
| Female | 111 | 50.5 |
| Age groups | Counts | Percentage |
| 14-19 years | 46 | 20.91 |
| 20-25 years | 143 | 65.00 |
| 36-33 years | 31 | 14.09 |
| Work | Counts | Percentage |
| Students/Students | 114 | 64.09 |
| Employee/Self-employed | 56 | 25.45 |
| Others (Housewives) | 23 | 10.45 |

Source: processed by authors

convergent validity and internal consistency, although slightly lower than the II constructs.

The Intention to Purchase Halal Green Skincare (IPHGS) construct is measured by four indicators (IPHGS1-IPHGS4), with factor loadings ranging from 0.740 to 0.819. This construct shows strong psychometric properties, with an AVE of 0.607, CR of 0.861, and Cronbach's Alpha of 0.784. These values suggest good convergent validity and internal consistency for the IPHGS construct.

All constructs in the study demonstrate AVE values above the recommended threshold of 0.5, indicating adequate convergent validity. Additionally, all constructs exhibit CR and Cronbach's Alpha values exceeding 0.7, signifying good internal consistency. Most factor loadings across all constructs are above 0.7, further supporting the constructs' validity and reliability.

The Individual Innovation (II) construct has the highest validity and reliability values. At the same time, environmental concerns (EC), Halal Product Knowledge (HPK), and the intention to purchase Halal Green Skincare (IPHGS) show slightly lower but still adequate values. This comprehensive analysis of psychometric properties provides a solid foundation for further statistical analyses and interpretation of the study's findings.

Table 3 presents the results of the Fornell-Larcker Criterion Test, a crucial discriminant validity assessment in the Structural Equation Modeling - Partial Least Squares (SEM-PLS) model. This test evaluates the extent to which constructs in the model are genuinely distinct by comparing each construct's square root of the Average Variance Extracted (AVE) with its correlations with other constructs. The table displays four primary constructs: Environmental Concern (EC), Individual Innovation (II), Halal Product Knowledge (HPK), and Intention to Purchase Halal Green Skincare (IPHGS). The diagonal values in bold represent the square root of the AVE for each construct, while off-diagonal elements show the correlations between constructs.

For the Environmental Concern construct, the square root of AVE is 0.760, which is higher than its correlations with other constructs (0.490 with II, 0.281 with HPK, and 0.583 with IPHGS). This result indicates good discriminant validity for the EC construct. Individual Innovation demonstrates a square root of AVE of 0.718, exceeding its correlations with other constructs (0.490 with EC, 0.607 with HPK, and 0.651 with IPHGS), thus establishing its discriminant validity.

Halal Product Knowledge exhibits the highest square root of AVE at 0.868, substantially surpassing its correlations with

**Table 2: Validity and reliability test**

| Indicators | Code | Indicators/Dimensions | Factor loading | AVE | CR | Cronbach alpha |
|---|---|---|---|---|---|---|
| Environmental concern | EC 1 | I use Halal green skincare products as a form of concern for environmental issues | 0.766 | 0.578 | 0.891 | 0.854 |
| | EC 2 | I believe that the use of eco-friendly Skincare products can help reduce the negative impact on the environment | 0.785 | | | |
| | EC 3 | It is necessary to pay attention to the packaging of environmentally friendly skincare products | 0.794 | | | |
| | EC 4 | I pay attention to the content of Skincare products that pay attention to the environment | 0.812 | | | |
| | EC 5 | Consumer behaviour in the awareness of choosing environmentally friendly skincare products | 0.706 | | | |
| | EC 6 | Halal Skincare products that are environmentally friendly get support and attention from me. | 0.689 | | | |
| **Indicators** | **Code** | **Individual innovation indicators/dimensions** | **Factor loading** | **AVE** | **CR** | **Cronbach alpha** |
| Individual innovation | II 1 | I like to try new halal skincare products. | 0.847 | 0.753 | 0.901 | 0.836 |
| | II 2 | I am usually the first to try a new halal skincare product among my friends or relatives. | 0.887 | | | |
| | II 3 | I like to experiment with skincare products that I have never used while they have safe ingredients, are suitable for the skin, and have a halal logo. | 0.868 | | | |
| **Indicators** | **Code** | **Halal product knowledge indicators/dimensions** | **Factor loading** | **AVE** | **CR** | **Cronbach alpha** |
| Halal Product Knowledge (HPK) | HPK 1 | I have a good knowledge of Halal Skincare products | 0.770 | 0.578 | 0.891 | 0.854 |
| | HPK 2 | I agree that the skincare/skincare products that has a halal logo from LPPOM MUI and has been strictly tested by LPPOM MUI | 0.635 | | | |
| | HPK 3 | I agree that skincare products that contain alcohol should not be used by Muslims | 0.741 | | | |
| **Indicators** | **Code** | **Indicator/dimension of intention intention to purchase Halal green skincare** | **Factor loading** | **AVE** | **CR** | **Cronbach alpha** |
| Intention to Purchase Halal Green Skincare (IPHGS) | IPHGS 1 | I have a good knowledge of Halal Skincare products. | 0.800 | 0.607 | 0.861 | 0.784 |
| | IPHGS 2 | I prefer skincare with a Halal logo because it guarantees that all ingredients and production processes are by Sharia standards from official institutions such as the Indonesian Ulema Council (MUI) | 0.819 | | | |
| | IPHGS 3 | I agree that Skincare products that contain haram ingredients (such as pigs, carcasses, blood) should not be used by Muslims | 0.754 | | | |
| | IPHGS 4 | I agree that the Skincare/skincare products that has a halal logo from LPPOM MUI and has been strictly tested by LPPOM MUI | 0.740 | | | |

FL: Factor loading; CR: Composite reliability; AVE: Average variance extracted; α: Cronbach's alpha

**Table 3: Fornell-Lacker criterion test as discriminant validity**

| Variables | EC | II | PPC | IPHGS |
|---|---|---|---|---|
| Environmental concern | 0.760 | | | |
| Individual innovation | 0.490 | 0.718 | | |
| Halal product knowledge | 0.281 | 0.607 | 0.868 | |
| Intention to purchase Halal green skincare | 0.583 | 0.651 | 0.672 | 0.779 |

EC: Environmental concern, II: Individual innovation, HPK: Halal product knowledge, IPHGS : Intention to purchase halal green skincare

other constructs (0.281 with EC, 0.607 with II, and 0.672 with IPHGS). This result suggests excellent discriminant validity for the HPK construct. The Intention to Purchase Halal Green Skincare construct shows a square root of AVE of 0.779, more excellent than its correlations with other constructs (0.583 with EC, 0.651 with II, and 0.672 with HPK), confirming its discriminant validity. Notably, the highest correlation is observed between IPHGS and HPK (0.672), indicating a strong relationship between the intention

to purchase halal green skincare products and knowledge of halal products. This result is followed closely by the correlation between IPHGS and II (0.651), suggesting that individual innovation also plays a significant role in purchase intention.

Overall, the Fornell-Larcker Criterion test results provide strong evidence of discriminant validity for all constructs in the model. Each construct's square root of AVE exceeds its correlations with other constructs, confirming that the measurement instrument possesses good psychometric properties. This validation supports the constructs' reliability and validity for further research analysis on the intention to purchase environmentally friendly halal skincare products.

Table 4 illustrates the relationship between environmental concern (EC) and Intention to Purchase Halal Green skincare (IPHGS), Halal Product knowledge (HPK) with Intention to Purchase Halal Green skincare (IPHGS), Individual Innovation (II) with Intention

to Purchase Halal Green skincare (IPHGS), Individual innovation and environmental concern with Intention to Purchase Halal Green skincare (IPHGS) and Halal Product Knowledge and Individual Innovation with Intention to Purchase Halal Green skincare. These five hypotheses were tested, and the results were that 3 were accepted and 2 were rejected. Based on statistical analysis, the first hypothesis (H1) states that there is a relationship between environmental concern and the intention to buy halal green skincare. This relationship proved statistically significant, with a path coefficient of 0.291 and a t-statistic of 4.744. A P-value of 0.000 indicates a very significant result, as it is well below the conventional threshold of 0.05. This study shows that environmental concern positively and substantially influences the intention to buy halal green skincare. Hypothesis 2 (H2) indicates that knowledge about halal products positively and significantly affects the intention to purchase environmentally friendly halal skincare. The path coefficient for this relationship is 0.219, with a t-statistic of 3.492. The P-value is 0.000. Hypothesis 3 (H3) shows that individual innovation positively and significantly influences the purchase intention of environmentally friendly halal skincare. The path coefficient for this relationship is 0.489, with a t-statistic of 8.520 and a P-value of 0.000.

Furthermore, HPK × EC → IPHGS (H4) This hypothesis is rejected, showing that the interaction between halal product knowledge and environmental concern does not have a significant influence on purchase intention with a path coefficient of −0.033, t-statistic 1.072 and P-value 0.284 where t-statistic is less than 1.96 and P-value exceeds 0.005. The latter hypothesis, HPK × II → IPHGS (H5) This hypothesis is also rejected, indicating that the interaction between halal product knowledge and individual innovation has no significant influence on purchase intent. The path coefficient is 0.076 with a t-statistics of 1.551 and a P-value of 0.121.

The first hypothesis in this study tests whether Environmental Concern (EC) has a significant influence on the intention to buy halal green skincare with a coefficient of 0.291, a T-statistic of 5.424, and a P-value 0.000, which means that this hypothesis is accepted (P < 0.05). The results of this study show that there is a positive and significant correlation between EC and IPHGS, which means that the higher the level of environmental concern a person has, the more likely they are to intend to buy environmentally friendly skincare. This study strengthens or supports other studies that show that environmental concern significantly influences various forms of pro-environmental behaviour. The Nadiya Ishak (2022) study found that environmental concerns significantly positively affected the intention to buy environmentally friendly products, including skincare products. This study shows that consumers concerned about environmental awareness tend to be

**Table 4: Hypothesis testing**

| Hypothesis | Relationship | Path coefficient | T statistics | P-values | Conclusion |
|---|---|---|---|---|---|
| H1 | EC→IPHGS | 0.291 | 5.424 | 0.000 | Accepted |
| H2 | II→IPHGS | 0.489 | 3.422 | 0.001 | Accepted |
| H3 | HPK→IPHGS | 0.219 | 7.604 | 0.000 | Accepted |
| H4 | HPK×EC→IPHGS | −0.033 | 0.850 | 0.395 | Rejected |
| H5 | HPK×II→IPHGS | 0.076 | 1.414 | 0.157 | Rejected |

EC: Environmental concern, II: Individual innovation, HPK: Halal product knowledge, IPHGS : Intention to purchase halal green skincare



**Figure 2:** SEM-PLS path relationship
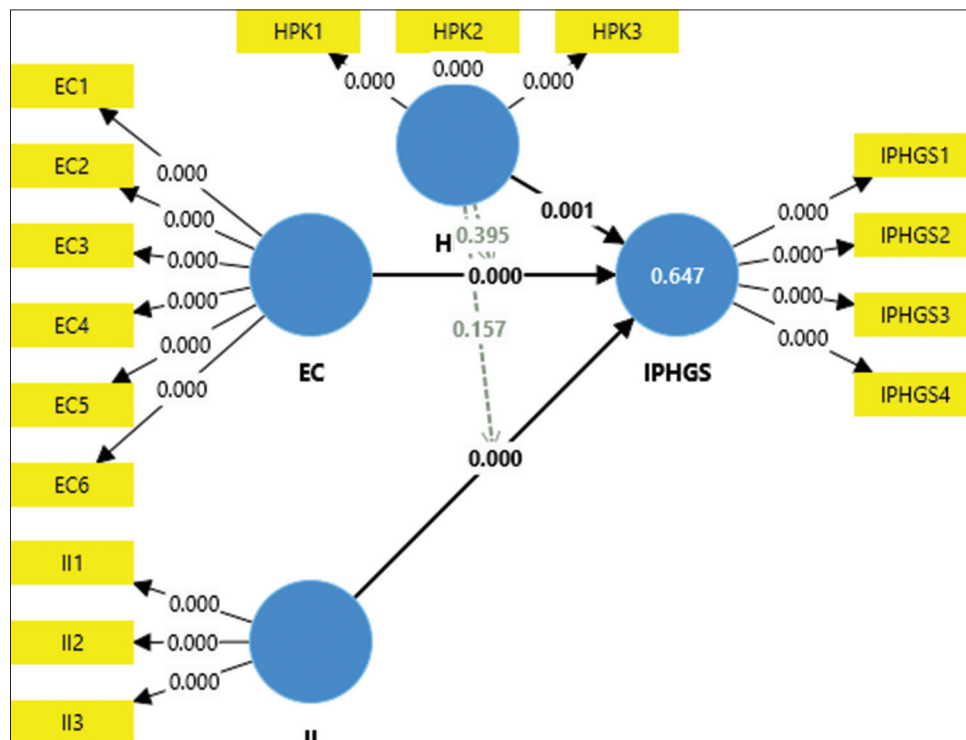
encouraged to buy environmentally friendly products to show their contribution. This finding is also reinforced by research (Satiti et al., 2024) that found that environmental concern positively affects purchase intention for environmentally friendly fashion products. These findings mean that when consumers have a high concern for the environment, they tend to have the intention to buy eco-friendly skincare products.

The study also showed that individual innovation positively influenced the purchase intention of halal green skincare with a coefficient of 0.489, a T-statistic of 3.422, and a P-value of 0.001, which means this hypothesis was accepted (P < 0.05). Consumers who innovate will be more likely to choose products that suit their needs and preferences, including safe, halal, and environmentally friendly products. A study by Lestari et al. (2023) found that individual innovation in trying new products that are halal and environmentally friendly has a positive effect on the intention to purchase beauty products. The study results show that consumers who care about halal and environmental awareness are more likely to buy products that suit their needs, including halal and environmentally friendly skincare products.

The results of this study also show that knowledge of halal products has a significant influence on the intention to buy halal green skincare products with a coefficient of 0.219, a T-statistic of 7.604, and a P-value 0.000, which means that this hypothesis was accepted (P < 0.05). This finding is reinforced by Harits and Habib (2023), who show that halal product knowledge positively and significantly influences the intention to purchase halal skincare products. Halal product knowledge, awareness, and intrinsic religiosity affect the intention to purchase halal skincare products. This finding is also strengthened by Matondang et al. (2023), who found that halal product knowledge can strengthen the influence of knowledge on purchasing decisions, which is relevant to the hypothesis that halal product knowledge strengthens the relationship between environmental considerations and purchase intentions. This study developed research by Ramadhanty and Masnita (2023) that does not explicitly discuss halal product knowledge as a moderator variable that strengthens the relationship between environmental considerations and consumer purchase intention.

The study also shows a relationship between the three variables, namely between HPK – EC – IPHGS, but the relationship is not strong. With a T-stats 1,072 and P-value of 0.395, this hypothesis is rejected (P < 0.000). This result means that knowledge of halal products and environmental concerns do not significantly affect the intention to buy halal green skincare products. This phenomenon may be due to limited knowledge. Maybe not all consumers know enough about halal products, so this knowledge cannot strengthen the relationship between environmental considerations and purchase intentions. The results of this study support the research conducted by Sudarti and Lazuardi (2018), who found that halal product knowledge has no significant effect. Attitude in this study is considered an intervening variable, which means that halal product knowledge and environmental concern can influence purchase intention but not simultaneously with significant attitudes. This finding supports the idea that halal product knowledge does not necessarily strengthen the relationship

between environmental considerations and purchase intent. This study also shows that other factors cause the relationship between halal product knowledge and environmental concerns, such as price, product quality, and brand image, that are more dominant in influencing consumer purchasing decisions.

This study also shows that the influence of halal product knowledge as a variable does not significantly affect the relationship between individual innovation and consumer purchase intention with a T-stats 1.414 and a P-value of 0.157. This study also reveals that consumers with a high level of individual innovation are not always motivated by halal knowledge. They may be more concerned with the product's uniqueness, sophistication, or compatibility with their modern lifestyle. This condition makes halal knowledge as a moderator less relevant for the group. The results of this study support the study conducted by Nisa and Ridlwan (2022). It shows that halal product knowledge does not significantly affect consumer purchase intentions, especially for consumers with a high level of individual innovation. This phenomenon is because these consumers are more concerned about the product's uniqueness, sophistication, or compatibility with their modern lifestyle.

Figure 2 in the article presents the Structural Equation Modeling-Partial Least Squares (SEM-PLS) path diagram, which visually illustrates the relationships among the main variables studied: Environmental Concern (EC), Individual Innovation (II), Halal Product Knowledge (HPK), and Intention to Purchase Halal Green Skincare (IPHGS). The diagram shows how environmental concern and individual innovation directly influence purchase intention, while halal product knowledge acts both as an independent variable and as a moderator in the model. The arrows indicate the direction and hypothesized strength of these relationships, providing a clear overview of the research framework and the interactions tested in the study.

## 5. CONCLUSION

This research aims to determine the knowledge and intention of individuals to buy Halal Green skin care products. This study uses the Fornell-Larcker Criterion Test to test the validity of discrimination in the Structural Equation Modeling - Partial Least Squares (SEM-PLS) model. The test includes three constructs: Environment, Individual Innovation, Halal Product Knowledge, and Intention to Buy Halal Green skincare. Validity and reliability tests show that all constructs have an AVE value between 0.5 and 0.7, which indicates good internal consistency. EC and HPK constructs have higher validity and reliability, while IC constructs have lower validity and reliability. The study also found that EC constructs have higher validity and reliability, while HPK constructs have lower validity and reliability. This study shows that environmental considerations and individual innovation are essential factors in determining the validity and reliability of these constructs. The study also found a significant relationship between environmental concerns, individual innovation, Halal Product Knowledge, and intention to purchase Halal Green skincare products. The study results show that knowledge and intention to buy Halal Green skincare products are positively related to environmental concerns, individual innovation, Halal Product Knowledge, and individual

innovation. These findings show that Halal Green skincare products can contribute to environmental conservation and increase environmental awareness. Practical recommendations include developing Halal Green skincare products that meet halal standards and environmental sustainability criteria, emphasizing dual benefits in marketing strategies, and implementing educational initiatives to increase consumer awareness. Manufacturers and retailers should also consider creating dedicated sections for these products to make them more accessible to consumers.

Theoretical recommendations suggest exploring the development of a comprehensive framework integrating halal compliance, environmental sustainability, and consumer behavior in skincare products. Future research should investigate potential collaboration and conflicts between halal certification requirements and environmental sustainability standards and examine the role of cultural factors in shaping consumer attitudes towards Halal Green skincare products. Limitations of the study include its focus on Indonesian consumers, which may limit generalizability to other contexts. Future research could expand the geographical scope, explore other categories of halal and environmentally friendly products, and conduct longitudinal studies to assess how consumer attitudes evolve. Additionally, investigating the role of social media and digital marketing in promoting Halal Green skincare products could provide valuable insights for practitioners and researchers in this growing market segment.

# 6. ACKNOWLEDGMENT

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