

Strategizing Sustainable Style: Examining Green Marketing for Natural Dye Batik in Indonesia

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Abstract. This study investigates green marketing mix strategies for stimulating purchase intentions of natural dye batik products among 199 Indonesian consumers. The results of PLS-SEM analysis indicate that product and price significantly influence intentions positively whereas place and promotion exhibit insignificant effects. Additionally, gender differences moderately impact price and place on intentions but not product and promotion. By providing empirical evidence on components that enhance natural dye batik appeal, this research addresses a substantive literature gap and offers actionable guidelines for practitioners to craft targeted green marketing mixes resonating with the Indonesian batik customer base. The findings contribute new theoretical insights into gender-based consumer behavior variations regarding sustainable product strategies.

Keywords: natural dyes batik, green marketing mix, gender moderation

1. Introduction

Natural dye batik is an increasingly popular product in Indonesia. This batik uses natural dyes derived from plants, such as leaves, bark, or roots. The uniqueness and authenticity of natural dye batik have attracted consumers who care about the environment and local culture (Borshalina, 2015; Kazan et al., 2020). So, batik using natural dyes is more preferred by consumers than using chemical dyes, especially foreign tourists (Putra, 2016). Therefore, research on the potential of natural dye products in Indonesia is an exciting issue because it has excellent potential to develop the natural dye industry in Indonesia (Elsahida et al., 2020).

Although many marketing strategies have been used to market natural dye batik in Indonesia, it is essential to test these strategies' effectiveness empirically. By empirically testing their effectiveness, we can better understand how those green marketing strategies impact purchasing decisions. Studies on natural dye batik have been carried out several times with mixed focus and results (Abdullah et al., 2023; Borshalina, 2015; Creignou & Nuangjamnong, 2022; S. Guo et al., 2020; Moser, 2016).

Research by Hashem & Al-Rifai (2011), conducted a study highlighting the substantial impact of implementing green marketing mix elements by chemical industry companies globally on the mental image of consumers. The research revealed that applying green marketing mix elements by chemical industry firms across all countries significantly influences consumers' mental perceptions. Furthermore, the study emphasized the significance of employing green marketing mix elements by chemical industry companies in three countries, namely the Arab States in West Asia (Jordan, Kuwait, and Syria), further emphasizing the pronounced impact on consumers' mental images. The resulting study of Borshalina (2015) also indicated that using environmentally friendly natural colouring materials in Batik Trusmi resulted in higher selling prices due to increased perceived quality, which was well-received by consumers. This contributed to the market growth for Batik Trusmi using natural colouring materials. One of the key factors supporting this market development was the growing consumer interest in environmentally friendly Batik Trusmi, which provided a solution to address the challenge of attracting workers to engage in batik production using natural colouring materials. In response, SMEs in the Batik Trusmi industry educated workers about the advantages of using natural colouring materials. This resulted in a rapid sale of batik products with such materials.

According to Moser (2016), consumer attitudes towards the environment strongly influence their purchasing behavior, with norms and willingness to pay to be significant predictors of Sustainable, Responsible Behavior (SRB). Meanwhile, Mahmoud (2018), concludes that there is significant relationship between green marketing mix elements and consumers' purchase intention. Similarly, in the apparel industry, Guo et al. (2020) found that the optimal level of greenness for fashion products decreases as market competition intensifies. This suggests that higher market competition leads to a lower optimal greenness level. Additionally, an increase in consumer return rates substantially reduced the optimal product greenness level. Expanding on the joint decisions regarding greenness and pricing, Guo et al. (2020) discovered that in scenarios where both retailers charge higher retail prices, the overall optimal product greenness level across the channel is consistently higher compared to cases with lower retail prices. Moving on to factors impacting green customer satisfaction and loyalty in the fashion industry, Creignou & Nuangjamnong (2022) identified two key factors: green product quality and price. Examining buying decisions towards organic products specifically, Abdullah et al. (2023) revealed that price, product quality, and promotional strategies significantly influenced respondents' buying decisions. Furthermore, they observed that nationalities played a moderating role in product and promotion effects on buying decisions; these effects were more pronounced among Malaysians compared to Chinese consumers. In summary, consumer attitudes towards sustainability are crucial in purchasing behavior within various industries, such as fashion and organic products. Factors such as market competition levels, return rates, pricing strategies, and cultural influences have been shown to impact optimal levels of environmental friendliness or greenness for products.

While numerous studies have explored various aspects of marketing strategies for green marketing, there remains a significant research gap in empirically testing the effectiveness of these strategies (Abdullah et al., 2023; Borshalina, 2015; Creignou & Nuangjamnong, 2022; S. Guo et al., 2020; Moser, 2016). Previous studies have conducted comprehensive studies in areas such as green marketing, consumer behavior towards green products, and the apparel industry's response to market competition and consumer preferences, but they have not specifically addressed natural dye batik products in Indonesia. These products are unique in terms of cultural significance and production methods, and there is a gap in understanding how the marketing mix affects their purchase intention in the Indonesian context. The traditional significance and artisanal value of natural dye batik in Indonesia may interact differently with modern marketing mix elements, under explored in existing literature. While there is growing research on sustainable consumerism, its application to specific, culturally significant product categories like natural dye batik in the Indonesian context has not been sufficiently explored. This is especially relevant given the increasing global focus on sustainability and how it intersects with cultural preservation.

Furthermore, existing research provides limited insights into how gender moderates the relationship between marketing mix strategies and consumer purchasing behavior, especially in a culturally nuanced market like Indonesia. There's a need to understand if and how gender influences the effectiveness of different marketing mix elements on purchase intentions, particularly for products like natural dye batik, which may have different appeal and significance across gender lines. The inclusion of gender as a moderating variable addresses a critical gap in existing literature, aligning with the observations of Mittal & Kamakura (2001) on the importance of gender differences in consumer behavior. This approach is particularly novel in examining the interaction between these gender differences and green marketing strategies, offering deeper insights into tailored marketing approaches. So, by addressing these gaps, this article will contribute significantly to the existing literature on batik marketing, offering practical implications for marketers and a deeper understanding of consumer dynamics in the sustainable green fashion industry.

Understanding how gender influences consumer preferences is crucial for companies to develop effective marketing strategies tailored to different gender groups (Lin et al., 2019). By analyzing gender differences in response to the marketing mix, companies can customize their systems and enhance customer satisfaction, ultimately gaining a competitive advantage (Cron et al., 2009; Mehta, 2020). Moreover, considering gender in marketing analysis reflects social responsibility and compliance with regulations while providing valuable insights for research and development efforts (Chung et al., 2016; Huhmann & Limbu, 2016; Jones et al., 2017; Mansfield et al., 2015; Rzemieniak & Wawer, 2021). Therefore, incorporating gender analysis into the study of the influence of green marketing mix on purchase intention for batik products using natural coloring materials is essential for optimizing marketing strategies.

This study aims to expand the understanding of green marketing's effectiveness in the Indonesian natural dye batik industry, particularly examining the role of gender as a moderating variable on purchase intention. The theoretical contribution of this research lies in bridging a notable gap in existing literature: while previous studies have extensively explored consumer attitudes towards environmental sustainability and green marketing in various industries, the specific impact of gender on these dynamics in the context of Indonesia's batik industry remains underexplored.

From a practical standpoint, this study provides actionable insights for marketers and industry practitioners. By identifying gender-specific responses to green marketing strategies, businesses can develop more targeted and effective marketing campaigns, enhancing customer engagement and satisfaction. This is particularly relevant in the context of Indonesia's burgeoning natural dye batik market, where consumer preferences are evolving rapidly.

Moreover, this research addresses a critical gap in understanding how green marketing mix

elements influence purchase intentions within the Indonesian cultural and economic landscape. By focusing on this local context, the study offers valuable insights into consumer behavior in emerging markets, contributing to the broader discourse on sustainable marketing practices globally. Fundamentally, this investigation transcends merely contributing to the scholarly conversation by filling an existing research void; it also presents practical marketing approaches that are sensitive to cultural nuances and mindful of environmental sustainability. Such a twofold benefit is instrumental in advancing the realm of green marketing, while concurrently fostering the growth of Indonesia's natural dye batik sector.

2. Literature Review

2.1. Green Marketing

Green marketing involves any marketing activity undertaken by an organization to mitigate or eliminate a specific product's negative environmental impact (Stanton et al., 1997). According to (Kotler & Keller, 2006), green marketing as a movement geared towards environmentally responsible production by organizations. According to (Kotler, 1967), consumer choices are influenced by a combination of product characteristics that cater to their needs in terms of value, cost, and satisfaction. These characteristics encompass primary features that offer essential benefits and secondary features that provide supplementary elements, adding value and advantages (Fuller, 1999; Zikmund & d'Amico, 1993). While it's challenging to find an industry entirely devoid of environmental impact, certain products can be deemed environment-friendly if their aim is to minimize adverse environmental effects (Hindle et al., 1993; Pujari & Wright, 1996). Achieving this involves focusing on the quality of technology and raw materials used in manufacturing and efforts to reduce overall production-related environmental pollution.

2.2. Green Marketing Mix

Kotler (1967) expanded traditionally represented the '4Ps': product, price, promotion, and place (Chen, 2016). Examining market segmentations and strategies within Hong Kong's higher education sector, (Cheung et al., 2010) argue that decision-makers at institutional and governmental levels should heed the significance of the 4P variables in shaping effective marketing strategies. Each company adopts a unique marketing mix strategy, with variations ranging from the traditional 4 P's to more comprehensive 7 P's. In green marketing, the fundamental 4 P's remain analogous to conventional marketing. However, the real challenge for marketers lies in the innovative utilization of these 4 P's (Mahmoud, 2018). The research conducted by Al-Bakri (Al-Bakri, 2007) and Mahmoud (Mahmoud, 2018) focused on four key elements of green marketing: product, pricing, distribution, and promotion.

3. Hypothesis Development

Wanninayake & Randiwela (2008) introduced the Oxford Business and Economic Conference program, highlighting the interconnectedness of product, package, price, place, and promotion elements and their respective correlations with purchase decisions. The product stands at the core of the green marketing mix, representing a pivotal component within the overarching green marketing strategy. It is crucial to remember that a green product transcends its final form, encompassing various facets such as the materials utilized, the production processes employed, and the packaging composition (Fan & Zeng, 2011). The significance of the product in the green marketing context is underscored by its direct and intricate relationship with consumers' purchase intentions. Research has consistently shown that consumers are more inclined to exhibit positive purchase intentions when a product aligns with their environmental values and demonstrates sustainability throughout its lifecycle (e.g., materials, production, and packaging) (P. B. Singh & Pandey, 2012). In essence, a well-conceived green product is an ecological commodity and a key driver in shaping consumers' intentions to make environmentally conscious purchasing decisions (Mahmoud, 2018). This intricate connection emphasizes the pivotal

role of the product in influencing and fostering positive purchase intentions in green marketing. Thus, the hypothesis that can be proposed is:

H.1 There is a positive relationship between green products and purchase intention.

Ansar (2013) developed a framework that examines the influence of Green Marketing on Consumer Purchase Intention, considering socio-demographic variables, pricing, environmental advertising, and ecological packaging about Green Purchase Intention. The study revealed that among these variables, a positive and significant correlation was identified, indicating a favorable association with Green purchase intention. Moreover, competitive pricing and the quality of green products positively impact customers' Green Purchase Behavior when there is a high and positive intention to make such purchases (Mahmoud, 2018). Accordingly, Lee et al. (Lee et al., 2021) elucidated that a positive inclination towards purchasing environmentally friendly products persists despite a higher associated cost.

Furthermore, the competitive pricing and quality of green products positively influence customers' Green Purchase Behavior, particularly when coupled with a heightened and positive intention to make such purchases. The influence of economic resources on consumer behavior revealed that a lack thereof amplified the impact of pricing, acting as a deterrent to the acquisition of green products. Conversely, low price sensitivity among consumers was identified as a positive factor contributing to green purchase behavior. Conversely, heightened price sensitivity was associated with a negative impact on both green purchase behavior and consumers' intention, underscoring the deterrent effect of higher prices. Hence, a plausible hypothesis emerges from this justification:

H.2 There is a positive relationship between green price and purchase intention.

Within the marketing context, place denotes the location where a product is available for purchase, encompassing both physical and virtual stores. Effective product distribution requires optimal channels and meticulous placement in environmentally secure locations without contamination (Kalama, 2007). Companies must ensure their distributors are ecologically conscious of establishing competitive green businesses, emphasizing the need for a green distribution strategy. Contrary to being a mere cost generator, place exhibits diverse features that can generate revenue and specific outcomes, focusing on managing distance in marketing practices (Awan, 2011). Logistics is pivotal in this correlation, encompassing procurement, material handling, distribution, storage, and material recovery. Decisions regarding the availability of a product, in terms of location and timing, significantly impact customer behavior, considering that only a limited number of customers will actively seek out green products solely for their environmental benefits (Sharma, 2011). The delicate nature of green distribution necessitates assuring customers of the ecological integrity of the products, requiring strict adherence to environmental regulations during distribution (Yazdanifard & Mercy, 2011). Given the limited number of customers willing to actively seek out green products, maintaining a high level of compliance becomes crucial in the distribution process (G. Singh, 2013). Consequently, a plausible hypothesis can be formulated from these considerations.

H.3 There is a positive relationship between green place and purchase intention.

Pickett - Baker & Ozaki (2008) found that, except for cleaning products, most consumers cannot identify greener products. This may be because most green message labels are falling flat and not making an impression in shoppers' minds. Hence, green communication is a major area of weakness for green marketers. Furthermore, Carlson et al. (1993) results affirmed a parallel rise in environmental advertising accompanied by greater consumer interest in the environment. Advertising terms such as "recyclable, environmentally friendly, ozone safe, biodegradable" can be seen regularly in green advertisements. Consumers are often exposed to such messages, whilst some also pertain to consumer resistance. Likewise, Mathur & Mathur (2000) argued that consumers who were more positive towards environmental messages in advertisements are more credible. Thus, this study posits that:

H.4 There is a positive relationship between green promotion and purchase intention.

Based on previous research, it can be assumed that gender plays a significant role in moderating green product purchase intentions. For example, a study by Lin et al. (2019) showed that consumer preferences influenced by gender require customized marketing strategies. Similarly, research by Mehta (Mehta, 2020) and Cron et al. (2009) highlighted that analyzing gender differences to the marketing mix provides a competitive advantage through customizing marketing strategies. Furthermore, previous researches (Chung et al., 2016; Huhmann & Limbu, 2016; Jones et al., 2017; Mansfield et al., 2015; Rzemieniak & Wawer, 2021) show that considering gender in marketing analyses reflects social responsibility and regulatory compliance, while providing valuable insights for research and development efforts. Furthermore, (Utama et al (2021) conclude that the impact of tendencies toward actual consumer behavior was contingent upon gender as a moderating factor. More specifically, it can be assumed that preferences and responses to green marketing strategies will vary by gender, and the impact on purchase intention will also differ between male and female consumers. Thus, the hypothesis that can be proposed is:

H5: Gender will moderate the relationship between green product and purchase intention of batik natural dyes.

H6: Gender will moderate the relationship between green price and purchase intention of batik natural dyes.

H7: Gender will moderate the relationship between green place and purchase intention of batik natural dyes.

H8: Gender will moderate the relationship between green promotion and purchase intention of batik natural dyes.

4. Research Methodology

This research focuses on the positivism paradigm, using a quantitative approach to analyze specific populations and data collection. This study adopts a purposive sampling method to specifically target and include respondents who are over 17 years old and possess knowledge about natural dye batik. Purposive sampling is particularly suitable for studies where the research subject is very specific, such as individuals interested in or potential buyers of natural dye batik products. This approach facilitates the inclusion of individuals as study participants who possess pertinent knowledge or expertise, thereby enhancing the validity of the research outcomes.

The scales used in the questionnaire, previously validated in other studies, have been slightly adjusted in this study to better fit its unique aims and objectives. The 5-point Likert scale ranging from 1 to 5 with strongly disagree assigned to 1 and strongly agree to 5. Thus far, the measurement of marketing mix of product, price, place, promotion adapted from Hashem & Al-Rifai (2011) and Lim et al. while purchase intention adapted from Chiu et al. (2012) and Mahmoud (Mahmoud, 2018). (see Appendix A).

The sample size was chosen based on the population parameters and the researcher's estimation precision. Hair et al. (Hair et al., 2019) recommend a sample size 150-400 for Maximum Likelihood Estimation (MLE) in statistical analysis. The rule of thumb for determining the minimum sample size is based on the total number of question items multiplied by 5 (Hair et al., 2019). The total number of respondents who filled out the questionnaire and was valid for statistical analysis was 199. Therefore, the number of respondents in this study has met the criteria.

This study uses Partial Least Square Structural Equation Modeling (PLS-SEM) to analyze the relationship between latent variables and their indicators. PLS-SEM is used to validate and test hypothesis models through classifying factors, predicting construct and determining direct relationships,

moderation and mediation value. Parameter estimates obtained through PLS can be categorized into weight estimate, path estimate, and means and location of parameters. The model consists of two parts: the measurement model and the structural model.

From the profile respondents in Table 1, 33.7% of the respondents in this study were male, while the female respondents were 66.3%. The dominance of the respondent's education level is a bachelor (62.3%), while those who have education under bachelor are 25.63%, and 19.6% The remaining 19.6% have postgraduate and doctoral degrees only 9%. According the age of respondent, the dominant groups in 15-25 years old (72.9%), 26-35 years old (13.6%), 46-60% years old (9.00%) and the remaining is 36-45% only 4.5%. Meanwhile, from the income level, it is known that the highest income is at IDR 1.500.000 - 2.499.000 (69.5%) and the group income of IDR 2.500.000 – 3.999.000 (17%). For the type of natural dye products that are dominant in demand to be purchased by respondents, namely batik clothes (47.7%), then the second position is good clothes and fabrics (31.7%), then fabrics by 4%, then the remaining other products, namely shawls, bags, hats, headscarf are in the percentage of each below 4%.

Table 1: Profile of Respondent

Profile	Characteristic	Frequency	Percentage
Gender	Male	67	33.7
	Female	132	66.3
Total		199	
Age	15-25	145	72.9
	26-35	27	13.6
	36-45	9	4.5
	46-60	18	9.0
	Total	199	
Education	High school	15	7.5
	Diploma	3	1.5
	Bachelor	21	10.6
	Master	124	62.3
	Doctoral	36	18.1
	Total	199	
Income	IDR 1.500.000 - 2.499.000	139	69.5
	IDR 2.500.000 - 3.999.000	4	2.0
	IDR 4.000.000 - 5.999.000	15	7.5
	IDR 6.000.000 - 7.999.000	34	17.0
	> IDR 8.000.000	7	3.5
	Total	199	
Natural dyes product	Batik shirt	95	47.74
	Scarf	1	0.50
	Fabric	16	8.04
	Batik shirt and scarf	8	4.02
	Batik shirt and fabric	63	31.66
	Scarf and fabric	5	2.51
	Bag	1	0.50
	Hat	1	0.50
	Headscarf	2	1.01
	All	7	3.52
	Total	199	

5. Result and Discussion

5.1. Measurement Model Validation

The measurement model is evaluated using convergent validity, discriminant validity, internal consistency, and reliability (Hair et al., 2019). Table 1 summarizes convergent validity and reliability. Convergent validity has a loading factor value greater than the benchmark value of 0.70 (ranging between 0.702 and 1.000), AVE value greater than the benchmark value >0.5 (ranging between 0.642 and 1.000). Composite reliability value greater than the benchmark value >0.6 (between 0.877 and 1.000). Cronbach's alpha value is greater than the benchmark value >0.7 (between 0.811 and 1.000). In addition, discriminant validity is calculated to ensure that each concept of each latent variable is different from other variables. Several methods are used: Fornell-Larcker and Heterotrait - Monotrait Ratio (HTMT). The test results using Fornell-Larcker show that the square root of each construct's AVE is higher than the highest construct's correlation with other constructs in the model used. Furthermore, the test results using the HTMT criterion show that the ratio is lower than 0.850 and 0.900, and there is no value between the lower and upper levels of the confidence interval (Hair, 2009). Each test result is shown in Tables 2, 3 and 4.

Table 2. Measurement Model Analysis Summary

Latent Variable	Convergent Validity			Reliability	
	Indicator	Loading	AVE	Composite Reliability	Cronbach's Alpha
Purchase intention (PI)	Y1.1	0.824	0.655	0.919	0.894
	Y1.2	0.836			
	Y1.3	0.812			
	Y1.4	0.834			
	Y1.5	0.799			
	Y1.6	0.741			
Green Product (P1)	X1.1	0.85	0.748	0.922	0.888
	X1.2	0.889			
	X1.3	0.875			
	X1.4	0.845			
Green Price (P2)	X2.1	0.702	0.642	0.877	0.811
	X2.2	0.86			
	X2.3	0.878			
	X2.4	0.753			
	X2.5	0.702			
Green Place (P3)	X3.1	0.802	0.702	0.921	0.895
	X3.2	0.894			
	X3.3	0.73			
	X3.4	0.884			
Green Promotion (P4)	X4.1	0.895	0.805	0.925	0.88
	X4.2	0.91			
	X4.3	0.886			

Table 3. Discriminant Validity Value (Fornell-Larcker)

	Gender	Intention	Green Place	Green Price	Green Product	Green Promotion
Gender	1.000					

Purchase Intention	0.035	0.808				
Green Place	0.128	0.432	0.838			
Green Price	0.157	0.618	0.580	0.802		
Green Product	0.018	0.596	0.411	0.566	0.865	
Green Promotion	0.145	0.455	0.587	0.545	0.432	0.897

Table 4. Heterotrait - Monotrait Ratio (HTMT)

	Gender	Intention	Green Place	Green Price	Green Product	Green Promotion
Gender						
Purchase Intention	0.069					
Green Place	0.135	0.463				
Green Price	0.171	0.721	0.652			
Green Product	0.024	0.659	0.433	0.674		
Green Promotion	0.156	0.509	0.653	0.635	0.483	

5.2. Hypothesis Testing

The Direct Effect: Green Product, Price, Place, Promotion and Purchase intention

The bootstrapping procedure produces a t-statistic value for each relationship path used to test the hypothesis. The t-statistic value will be compared with the t-table value. This study uses a 95% confidence level so that the level of precision or limit of inaccuracy (α) = 5% = 0.05, and the value of the t-table value is 1.96. The hypothesis is not supported if the t-statistic value is smaller than the t-table value (t-statistic < 1.96). The hypothesis is supported if the t-statistic value is greater than or equal to the t-table (t-statistic $\geq$ 1.96) (Hair et al., 2019). Based on the data processing that has been done, the statistical value of the path coefficient is obtained in Table 4.

Table 4. Path Coefficient

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Green Product -> Purchase Intention	0.321	0.321	0.065	4.975	0.000
Green Price -> Purchase Intention	0.373	0.377	0.059	6.317	0.000
Green Place -> Purchase Intention	0.036	0.036	0.067	0.544	0.587
Green Promotion -> Purchase Intention	0.105	0.109	0.070	1.508	0.132

Table 4 shows that the product has a positive and significant effect on intentions to buy with a parameter coefficient value of 0.321 and significant at α 5% with a p-value of 0.000. The calculated t value is greater than the t table (4.975 > 1.96). Similarly, price positively and significantly influences intentions to buy with a parameter coefficient value of 0.373 and significant at α 5% with a p-value of 0.000. The calculated t value exceeds the t table (6.317 > 1.96). Place does not have a positive and significant effect on intentions to buy with a parameter coefficient value of 0.036 and significant at α 5% with a p-value of 0.587. The calculated t value is smaller than the t table (1.247 < 1.96). Furthermore, promotions also do not positively and significantly influence intentions to buy, with a parameter coefficient value of 0.150 and significant at α 5% with a p-value of 0.132. The calculated t value is greater than the t table (1.508 < 1.96) (Hair et al., 2019). Thus, hypotheses 1 and 2 in this research are supported, while hypotheses 3 and 4 are rejected.

The Moderating Effect: Gender, Green Product, Price, Place, Promotion and Purchase Intention

It can be seen through the path coefficients moderation effect as shown in Table 5 to determine how strongly moderation variables are related to other variables.

Table 5 Path Coefficients

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Green Place*Gender -> Intention	-0.143	-0.143	0.067	2.131	0.034
Green Price*Gender -> Intention	0.133	0.128	0.063	2.128	0.034
Green Product*Gender -> Intention	-0.058	-0.059	0.060	0.979	0.328
Green Promotion*Gender -> Intention	0.082	0.081	0.072	1.128	0.260

Based on the results of measuring the moderation effect as shown in Table 5, it is known that gender moderates the effect of place and price on the intention to purchase natural dye batik based on the respective p-value of 0.034 or less than 0.05 and the t-statistic value $> t$ -table, ($2.128 > 1.96$) and ($2.131 > 1.96$). Thus, hypotheses 6 and 7, which state that gender moderates the effect of price and distribution channels on the intention to purchase natural dye batik, are supported. Based on the mean and standard deviation values on the price factor, it can be seen that women (Mean = 3.61, SD = 0.60) are higher in their intention to purchase natural dye batik than men (Mean = 3.47, SD = 0.51). Moreover, women (M = 3.43, SD = 3.81) also showed higher levels of place perception than men (M = 3.23, SD = 0.70) in the purchase intention of natural dye batik.

Furthermore, based on the hypothesis test, it is also known that gender does not significantly moderate products and promotions on the intention to purchase natural dye batik as indicated by the p-value of 0.328 and 0.260, respectively, and the t-statistic value $< t$ -table, ($0.979 < 1.96$) and ($1.128 < 1.96$). Thus, hypotheses 5 and 8, which state that gender moderates the effect of products and promotions on the intention to purchase natural dye batik, are not supported. By employing bootstrapping calculations, the values acquired are depicted in Figure 1.

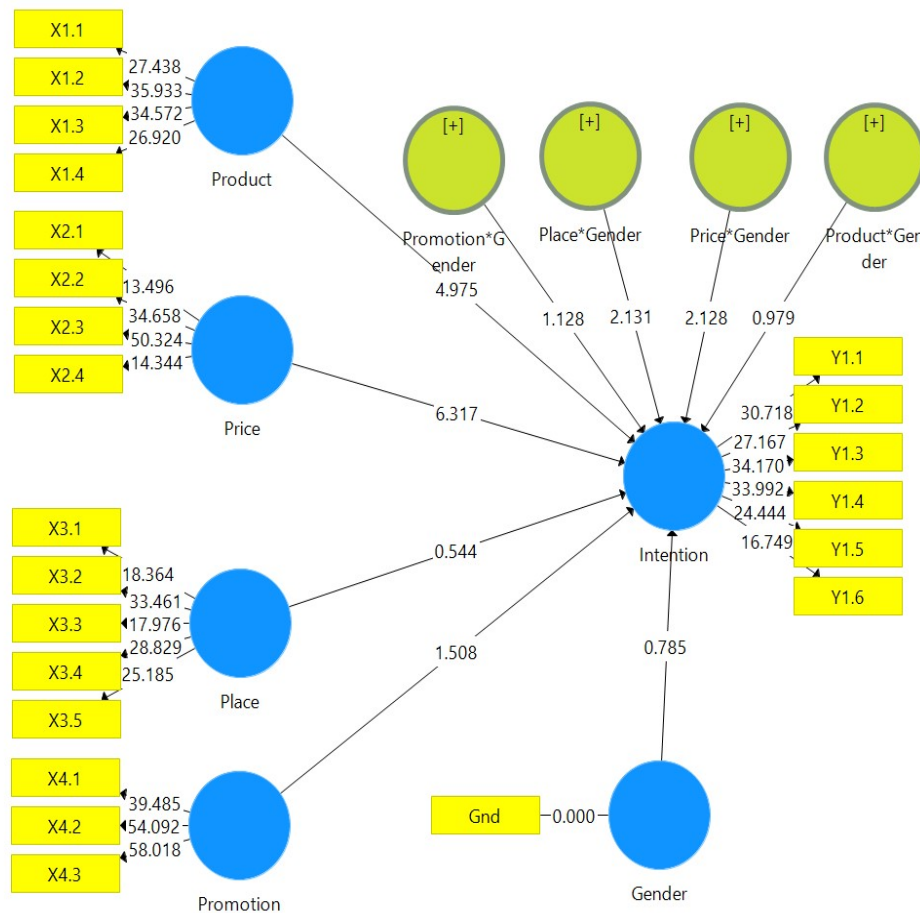


Fig.1: Structural Model

This study aims to examine the green marketing mix on batik natural dyes purchase intention in Indonesia. The result of this study supports the hypothesis 1 that green product has a positive effect on batik natural dyes purchase intention. These results are in line with previous research (Fan & Zeng, 2011; Mahmoud, 2018; P. B. Singh & Pandey, 2012). The observed favorable intention among consumers to purchase batik natural dyes when perceived as environmentally friendly or sustainable underscores the importance of eco-friendly attributes in shaping consumer preferences within the batik industry. This result suggests that emphasizing and promoting the environmentally conscious aspects of batik natural dyes could be a strategic avenue for practitioners seeking to enhance consumer appeal and stimulate purchasing decisions. It highlights the potential for sustainability considerations to play a pivotal role in influencing consumer choices within the batik market.

On the other hand, the finding of an insignificant moderating effect by gender on the indirect relationship introduces an additional layer of understanding. While the positive impact of environmental friendliness on purchase intention remains consistent across genders, the lack of a significant gender-based moderation suggests that the observed effect is uniform and not influenced by gender differences. This implies that, regardless of gender, consumers generally respond similarly to the eco-friendly attributes of batik natural dyes in shaping their purchase intentions.

The study also supports the hypothesis 2 that green price also has a positive effect on batik natural dyes purchase intention. The study aligns with previous research (Ansar, 2013; Lee et al., 2021; Mahmoud, 2018). Similarly, when testing gender moderation also shows a significant relationship. This suggests that consumers respond positively to the environmentally friendly attributes of batik natural

dyes and are influenced by the pricing strategy associated with these sustainable products. The observed significant relationship in gender moderation further enriches the understanding of the impact of green pricing on purchase intention. This implies that the influence of green pricing on purchase intention may vary between genders. Recognizing and understanding these gender-based variations can be instrumental for marketers and practitioners. Tailoring marketing strategies to emphasize the pricing aspects of batik natural dyes in a way that resonates effectively with each gender could enhance these products' overall appeal and marketability. Additionally, this result highlights the importance of considering demographic factors, such as gender, in shaping consumer responses to sustainable and eco-friendly pricing (Mehta, 2020; Tan et al., 2019). It underscores the need for a nuanced approach in marketing and pricing strategies, acknowledging that different consumer segments may respond differently to the interplay of environmental consciousness and pricing considerations.

The place variable shows an insignificant direct relationship to the purchase intention of natural dye batik (Hypothesis 3 do not supported). This do not supports previous studies (Awan, 2011; Kalama, 2007; Yazdanifard & Mercy, 2011). Meanwhile, in testing gender moderation, the study shows a significant relationship between place and purchase intention. This suggests that, overall, the physical or virtual locations where natural dye batik is made available do not directly influence consumers' intentions to purchase these products. The lack of a significant direct effect implies that other factors, such as product attributes or pricing, may substantially influence consumers' purchase intentions for natural dye batik. However, the significant relationship observed in the gender moderation analysis introduces an important nuance. This implies that the impact of place on purchase intention may be contingent upon gender differences (Cron et al., 2009; Mehta, 2020). Further exploration is needed to understand the specific dynamics at play. For marketers and practitioners, recognizing the gender-specific influence of place on purchase intention can inform targeted strategies. Tailoring the presentation or accessibility of natural dye batik to align with gender preferences or expectations regarding product availability and distribution could enhance the overall effectiveness of marketing efforts.

Finally, promotion do not significant effect to natural dyes purchase intention. It indicates that hypothesis 4 do not supported. Likewise, when gender moderation testing is carried out, it shows an insignificant relationship. This result do not support with regularity theory in previous research (Mathur & Mathur, 2000; Pickett-Baker & Ozaki, 2008). These results underscore the need to reconsider promotional strategies for natural dyes. A more nuanced and effective approach may be required to highlight natural dyes' unique features and benefits to enhance their appeal to consumers. Additionally, the uniform impact of promotion across genders suggests an opportunity for marketers to develop broad-reaching promotional campaigns that resonate with a diverse audience.

The significant direct influence of product and price on purchasing intentions aligns with the Theory of Planned Behavior (Ajzen, 1991a), which emphasizes the role of perceived behavioral control (encompassing elements like price) and attitudes towards the behavior (influenced by product attributes) in shaping intentions. However, our findings diverge from traditional marketing theories which posit equal importance of all marketing mix elements. This divergence suggests a unique characteristic of the green market, where product quality and ethical pricing overshadow the traditional roles of place and promotion (Kotler et al., 2020). This observation calls for a reevaluation of the traditional marketing mix in the context of green marketing, highlighting the need for theories that specifically address the peculiarities of this market segment.

Moreover, the non-significant impact of place and promotion on purchasing intentions is particularly intriguing. Studies have focused on the cognitive factors influencing green purchase intention, integrating models like the Theory of Planned Behavior (TPB) (Ajzen, 1991) and Attitude-Behavior-Context (ABC) theory (Peattie, 2010). These models suggest that consumer perceptions, including perceived value and quality of green products, significantly influence green purchase

intentions. Furthermore, consumers inclined towards environmentally friendly products often prioritize their environmental benefits, indicating a value-driven decision-making process. This aligns with the Value-Attitude-Behavior model, where consumer decisions in green marketing are rooted in personal values and ethical considerations, making logistical and persuasive elements like place and promotion less impactful.

In the evolving landscape of green marketing, the traditional emphasis on place and promotion is increasingly overshadowed by more pertinent factors. With a significant shift in consumer awareness towards sustainability and ethical practices, the effectiveness of conventional marketing strategies is being reevaluated. In this context, the dominance of digital marketing and e-commerce has transformed the traditional concept of place, making physical location less pivotal as consumers engage more with brands online (Ganesh et al., 2010). Moreover, in green marketing, the authenticity and sustainability of a product often outweigh the impact of aggressive promotion tactics, as excessive promotion can be perceived as greenwashing and diminish consumer trust. This shift is further reinforced by the trend towards Integrated Marketing Communications (IMC), suggesting that a singular focus on promotion is less effective compared to a holistic approach that emphasizes sustainable practices. Additionally, the significance of place is further diluted in niche markets where specialized distribution channels are more effective. Regulatory and ethical constraints in green marketing also limit the scope of traditional promotional activities, making them less impactful. Lastly, there is an increased emphasis on the product itself and pricing strategies in green marketing, reflecting the true cost of sustainability, which often plays a more influential role in consumer decision-making than place and promotion (Miao et al., 2022). This paradigm shift highlights the need for marketers to adapt and develop more nuanced strategies that align with the evolving priorities of environmentally conscious consumers.

The role of gender as a moderator in the relationship between place and price to purchasing intentions brings a critical dimension to these interpretations. This finding suggests that gender-specific perceptions and values might influence how consumers interpret and react to different elements of the green marketing mix. This observation is consistent with Gender Schema Theory (GST), which posits that gender influences how information is processed and decisions are made (Bem, 1981). The significant moderation by gender implies that men and women may prioritize different aspects of the product and its marketing, reflecting broader socio-cultural influences on consumer behavior. This nuanced understanding challenges and extends traditional marketing theories, suggesting a need for more gender-sensitive approaches in marketing research and practice (Garbarino & Strahilevitz, 2004).

The non-significance of the gender variable in influencing purchase intentions for natural dye batik products can be justified by recent research trends. Studies suggest that in the context of green consumption, such as purchasing natural dye batik, consumer decisions are influenced more by environmental awareness and product-specific knowledge rather than traditional gender norms. This indicates a shift in consumer behavior where environmental and ethical considerations are paramount, overshadowing gender-based differences in the context of eco-friendly products like natural dye batik (Sunarjo et al., 2021).

In analysing the contribution of the marketing mix influence on purchase intention, an R-squared value of 0.499 signifies that about 49.9% of the variation in the dependent variable, purchase intention, is accounted for by the elements of the green marketing mix (see Appendix B). This moderately high percentage indicates a significant but not exhaustive explanatory power of the model. Therefore, while it demonstrates that the green marketing mix plays a substantial role in shaping consumer purchase intentions, it also implies that over half of the variance remains unexplained by this model. Consequently, this leaves scope for other influential factors, possibly including economic aspects (Berger, 2019), cultural (Sutrisno & Dularif, 2020), or psychological (Zogaj et al., 2021) that also critically impact consumer behaviour. These findings suggest a need for further research to explore additional variables that could interact with the green marketing mix, enhancing the model's

comprehensiveness and accuracy in predicting purchase intentions. Thus, the R-squared value of 47.9% not only underscores the importance of green marketing strategies but also highlights the complex nature of consumer decision-making processes, where multiple factors converge to influence outcomes.

6. Conclusion

The study provides robust support for the positive influence of green product attributes and pricing on the purchase intention of natural dye batik. Consumers are favourable toward batik natural dyes when perceived as environmentally friendly and competitively priced (Fan & Zeng, 2011; Mahmoud, 2018; P. B. Singh & Pandey, 2012). Conversely, the study reveals that the place where natural dye batik is made available and promotional efforts do not independently contribute to consumers' purchase intentions. Place and promotion strategies, as currently employed, may need refinement to better align with consumer preferences and expectations. In gender moderation analysis demonstrates that gender differences do not significantly influence the relationships between place, promotion, and purchase intention. However, green pricing's impact on purchase intention is subject to gender-based variations. This emphasizes the need for nuanced and targeted strategies to promote natural dye batik's eco-friendly aspects.

This study yields tangible implications for practitioners. Marketing tactics for promoting eco-friendly attributes such as marketers and practitioners in the batik industry can aggressively emphasize the environmentally friendly qualities of natural dye materials. This can be achieved by proficiently conveying environmentally friendly characteristics and sustainable methodologies, in accordance with consumer inclinations for ecologically aware products. The concept of green pricing emphasizes the significance of implementing equitable and competitive pricing tactics for natural dye batik. Marketing endeavors should effectively convey the unique selling point of eco-friendly activities in conjunction with transparent and defensible pricing (Mehta, 2020; Tan et al., 2019). The lack of considerable influence from location and promotion indicates a requirement for improvement in marketing tactics (Cron et al., 2009; Mehta, 2020). Practitioners should reconsider the presentation and promotion of natural dye batik in order to increase its appeal to consumers (Pickett-Baker & Ozaki, 2008). Customizing promotional actions to closely match consumer tastes and expectations can amplify the efficacy of these techniques.

While gender moderation is significant for green pricing, the uniform impact of place and promotion across genders suggests that general marketing strategies can be employed. However, gender-specific nuances should be considered when promoting the eco-friendly aspects of natural dye batik, recognizing the potential for differing responses to green pricing based on gender (Sunarjo et al., 2021). In summary, the study offers valuable insights for practitioners in the batik industry, guiding them in refining product attributes, pricing strategies, and green marketing mix approaches to enhance the appeal of natural dye batik and drive positive consumer purchase intentions. In addition, our research provides some innovative insights that make a substantial contribution to the disciplines of green marketing and consumer behaviour theory. Firstly, the finding that product quality and ethical pricing significantly influence purchasing intentions, while place and promotion do not, challenges conventional marketing mix paradigms. This suggests a paradigm shift in green consumer behavior, where the intrinsic attributes of the product and its pricing take precedence over traditional promotional strategies and distribution channels. Such a shift indicates a move towards more value-driven consumerism in green markets, aligning with emerging theories that advocate for a greater focus on ethical and sustainable aspects in marketing strategies (Peattie, 2010). Secondly, the moderating effect of gender on the relationship between price, place, and purchasing intentions is a particularly novel finding. This suggests that gender plays a critical role in green consumer behavior, which has not been adequately addressed in existing marketing theories. It highlights the importance of understanding gender-specific preferences and decision-making processes in green marketing, aligning with and expanding upon Gender Schema Theory (Bem, 1981) and suggesting a need for more gender-inclusive

approaches in marketing research and practice. Moreover, our study's insights into the limited impact of place and promotion in green marketing contribute to the evolving understanding of the 4Ps in marketing. This challenges traditional marketing strategies and calls for a re-evaluation of the effectiveness of different marketing mix elements in the context of sustainability-focused products and services. This aligns with the growing body of research that emphasizes the need for marketing strategies to evolve in response to changing consumer priorities towards sustainability (Wu et al., 2021). In summary, our research not only questions the traditional application of the marketing mix in the green sector but also provides empirical evidence on the nuanced role of gender in shaping green purchasing intentions. These findings offer a fresh perspective on consumer behaviour in the green market and underscore the need for more refined and context-specific marketing theories that can better accommodate the complexities of sustainable consumerism.

Furthermore, when considering the constraints of our study, it is important to acknowledge many crucial factors. Firstly, the sampling methodology, while robust in its approach, presents certain constraints. Our sample, drawn from a specific demographic segment in Indonesia, may not fully encapsulate the diverse range of consumer behaviors present in the wider population. This limitation suggests caution when generalizing our findings to other demographic or geographic contexts. Additionally, the study's reliance on self-reported data could potentially introduce common method bias, a concern in behavioral research. While measures were taken to mitigate this bias, such as ensuring anonymity and reducing evaluation apprehension, its potential impact cannot be entirely ruled out. Finally, the contextual specificity of our study, focusing exclusively on the purchasing intentions for natural dye batik products in Indonesia, may limit the applicability of our findings to other product categories or cultural settings. This specificity, while providing in-depth insights into a particular market segment, also necessitates caution in extrapolating our results to different contexts or product domains. Recognizing these limitations is crucial for accurately interpreting our study's findings and for guiding future research to address these gaps.

References

- Abdullah, S. I. N. W., Teng, P. K., Heng, B. L. J., Subramaniam, K., Yuling, J., & Shoep, A. M. A. (2023). Effect of Marketing Mix Strategies on the Buying Behaviour of Organic Products: Comparison between Consumers in Malaysia and China. *IOP Conference Series: Earth and Environmental Science*, 1165(1). <https://doi.org/10.1088/1755-1315/1165/1/012007>
- Ajzen, I. (1991a). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211.
- Ajzen, I. (1991b). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Al-Bakri, T. (2007). Marketing and social responsibility. *Dar Wael, Amman, Jordan*.
- Ansar, N. (2013). Impact of green marketing on consumer purchase intention. *Mediterranean Journal of Social Sciences*, 4(11), 650.
- Awan, U. (2011). Green marketing: Marketing strategies for the Swedish energy companies. *International Journal of Industrial Marketing*, 1(2), 1.
- Bem, S. L. (1981). Gender schema theory: A cognitive account of sex typing. *Psychological Review*, 88(4), 354–364. <https://doi.org/10.1037/0033-295X.88.4.354>
- Berger, J. (2019). Signaling can increase consumers' willingness to pay for green products. Theoretical model and experimental evidence. *Journal of Consumer Behaviour*, 18(3), 233–246. <https://doi.org/10.1002/cb.1760>

- Borshalina, T. (2015). Marketing Strategy and the Development of Batik Trusmi in the Regency of Cirebon which Used Natural Coloring Matters. *Procedia - Social and Behavioral Sciences*, 169(August 2014), 217–226. <https://doi.org/10.1016/j.sbspro.2015.01.305>
- Carlson, L., Grove, S. J., & Kangun, N. (1993). A content analysis of environmental advertising claims: A matrix method approach. *Journal of Advertising*, 22(3), 27–39.
- Chen, Y. C. (2016). The Drive Behind International Student Loyalty in Higher-Educational Institutions: A Structural Equation Model. *Asia-Pacific Education Researcher*, 25(2), 315–323. <https://doi.org/10.1007/s40299-015-0264-z>
- Cheung, A. C. K., Yuen, T. W. W., Yuen, C. Y. M., & Cheng, Y. C. (2010). Promoting Hong Kong's higher education to Asian markets: Market segmentations and strategies. *International Journal of Educational Management*, 24(5), 427–447. <https://doi.org/10.1108/09513541011055992>
- Chiu, C.-M., Hsu, M.-H., Lai, H., & Chang, C.-M. (2012). Re-examining the influence of trust on online repeat purchase intention: The moderating role of habit and its antecedents. *Decision Support Systems*, 53(4), 835–845.
- Chung, K.-H., Yu, J.-E., Kim, W., & Shin, J.-I. (2016). The Antecedent and Consequences of Brand Image in a Low-Priced Cosmetic Brand of South Korea: The Moderating Effect of Gender. *International Journal of U- and e- Service, Science and Technology*, 9(2), 175–184. <https://doi.org/10.14257/ijunesst.2016.9.2.18>
- Creignou, M., & Nuangjamnong, C. (2022). The Influencing Factors of Green Product Quality and Price on Green Customer Satisfaction and Loyalty: A Case Study of the Fashion Industry. *Global Scientific and Academic Research Journal of Multidisciplinary Studies*, 1(6(September)), 42–55. <https://gsarpublishers.com/wp-content/uploads/2022/09/GSARJMS292022-Gelary-script.pdf>
- Cron, W. L., Gilly, M. C., Graham, J. L., & Slocum, J. W. (2009). Gender differences in the pricing of professional services: Implications for income and customer relationships. *Organizational Behavior and Human Decision Processes*, 109(1), 93–105. <https://doi.org/10.1016/j.obhdp.2008.11.004>
- Elsahida, K., Fauzi, A. M., Sailah, I., & Siregar, I. Z. (2020). Sustainable production of natural textile dyes industry. *IOP Conference Series: Earth and Environmental Science*, 472(1). <https://doi.org/10.1088/1755-1315/472/1/012036>
- Fan, H., & Zeng, L. (2011). *Implementation of green marketing strategy in China: A study of the green food industry*.
- Fuller, D. A. (1999). *Sustainable marketing: Managerial-ecological issues*. Sage Publications.
- Ganesh, J., Reynolds, K. E., Luckett, M., & Pomirleanu, N. (2010). Online Shopper Motivations, and e-Store Attributes: An Examination of Online Patronage Behavior and Shopper Typologies. *Journal of Retailing*, 86(1), 106–115. <https://doi.org/10.1016/j.jretai.2010.01.003>
- Garbarino, E., & Strahilevitz, M. (2004). Gender differences in the perceived risk of buying online and the effects of receiving a site recommendation. *Journal of Business Research*, 57(7), 768–775. [https://doi.org/10.1016/S0148-2963\(02\)00363-6](https://doi.org/10.1016/S0148-2963(02)00363-6)
- Guo, L., Hu, X., Wei, X., & Cai, X. (2020). The influence of personal motivation and environmental stimuli on customer participation and engagement behavior: the mediating role of experience evaluation. *Journal of Hospitality and Tourism Technology*, 11(4), 643–666. <https://doi.org/10.1108/JHTT-02-2020-0043>
- Guo, S., Choi, T. M., & Shen, B. (2020). Green product development under competition: A study of the fashion apparel industry. *European Journal of Operational Research*, 280(2), 523–538. <https://doi.org/10.1016/j.ejor.2019.07.050>

Hair, J. F. (2009). *Multivariate data analysis*.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., Black, W. C., & Anderson, R. E. (2019). *Multivariate Data Analysis* (Eighth). Cengage. <https://doi.org/10.1002/9781119409137.ch4>

Hashem, T. N., & Al-Rifai, N. a. (2011). The Influence Of Applying Green Marketing Mix By Chemical Industries Companies In Three Arab States In West Asia On Consumer's Mental Image. *International Journal of Business and Social Science*, 2(3), n/a. <http://search.proquest.com/abiglobal/docview/904523595/abstract/9349D91324144DD1PQ/1?accountid=14681%5Cnhttp://media.proquest.com/media/pq/classic/doc/2514440701/fmt/pi/rep/NONE?hl=oil,s,oil,oils,oil&cit:auth=Hashem,+Tareq+N;Al-Rifai,+Nahla+A&cit:title=The>

Hindle, P., White, P., & Minion, K. (1993). Achieving real environmental improvements using value: impact assessment. *Long Range Planning*, 26(3), 36–48.

Huhmann, B. A., & Limbu, Y. B. (2016). Influence of gender stereotypes on advertising offensiveness and attitude toward advertising in general. *International Journal of Advertising*, 35(5), 846–863. <https://doi.org/10.1080/02650487.2016.1157912>

Jones, R. J., Reilly, T. M., Cox, M. Z., & Cole, B. M. (2017). Gender Makes a Difference: Investigating Consumer Purchasing Behavior and Attitudes Toward Corporate Social Responsibility Policies. *Corporate Social Responsibility and Environmental Management*, 24(2), 133–144. <https://doi.org/10.1002/csr.1401>

Kalama, E. (2007). *Green marketing practices by Kenya petroleum refineries: a study of the perception of the management of oil marketing companies in Kenya*. University of NAIROBI.

Kazan, H., Akgul, D., & Kerc, A. (2020). Life cycle assessment of cotton woven shirts and alternative manufacturing techniques. *Clean Technologies and Environmental Policy*, 22(4), 849–864. <https://doi.org/10.1007/s10098-020-01826-x>

Kotler, P. (1967). *Marketing Management: Analysis, Planning, and Control*. Prentice Hall.

Kotler, P., Armstrong, G., Harris, L., & He, H. (2020). *Principles of Marketing, 8th European Edition*. Pearson.

Kotler, P., & Keller, K. L. (2006). *Marketing management: Pearson international edition*. Pearson Prentice Hall.

Lee, C., Lim, S., & Ha, B. (2021). Green supply chain management and its impact on consumer purchase decision as a marketing strategy: Applying the theory of planned behavior. *Sustainability (Switzerland)*, 13(19). <https://doi.org/10.3390/su131910971>

Lim, X.-J., Cheah, J.-H., Ng, S. I., Basha, N. K., & Soutar, G. (2021). The effects of anthropomorphism presence and the marketing mix have on retail app continuance use intention. *Technological Forecasting and Social Change*, 168, 120763.

Lin, X., Featherman, M., Brooks, S. L., & Hajli, N. (2019). Exploring Gender Differences in Online Consumer Purchase Decision Making: An Online Product Presentation Perspective. *Information Systems Frontiers*, 21(5), 1187–1201. <https://doi.org/10.1007/s10796-018-9831-1>

Mahmoud, T. O. (2018). Impact of green marketing mix on purchase intention. *International Journal of ADVANCED AND APPLIED SCIENCES*, 5(2), 127–135. <https://doi.org/10.21833/ijaas.2018.02.020>

Mansfield, E. D., Mutz, D. C., & Silver, L. R. (2015). Men, Women, Trade, and Free Markets. *International Studies Quarterly*, 59(2), 303–315. <https://doi.org/10.1111/isqu.12170>

Mathur, L. K., & Mathur, I. (2000). An analysis of the wealth effects of green marketing strategies.

Journal of Business Research, 50(2), 193–200.

Mehta, R. (2020). Gender-based differences in consumer decision-making styles: implications for marketers. *Decision*, 47(3), 319–329. <https://doi.org/10.1007/s40622-020-00252-8>

Miao, J., Liu, A., Li, Z., & Yuan, S. (2022). Green Product Pricing and Purchasing Strategies in a Two-Period Supply Chain considering Altruistic Preferences. *Discrete Dynamics in Nature and Society*, 2022. <https://doi.org/10.1155/2022/6324074>

Mittal, V., & Kamakura, W. A. (2001). Satisfaction, repurchase intent, and repurchase behavior: Investigating the moderating effect of customer characteristics. *Journal of Marketing Research*, 38(1), 131–142.

Mohammad Mahmoudi Maymand, & Ahmadinejad, M. (2012). Impulse buying: the role of store environmental stimulation and situational factors (An empirical investigation). *African Journal of Business Management*, 5(34). <https://doi.org/10.5897/ajbm11.2112>

Moser, A. K. (2016). Consumers' purchasing decisions regarding environmentally friendly products: An empirical analysis of German consumers. *Journal of Retailing and Consumer Services*, 31, 389–397. <https://doi.org/10.1016/j.jretconser.2016.05.006>

Peattie, K. (2010). Green consumption: Behavior and norms. *Annual Review of Environment and Resources*, 35, 195–228. <https://doi.org/10.1146/annurev-environ-032609-094328>

Pickett-Baker, J., & Ozaki, R. (2008). Pro-environmental products: marketing influence on consumer purchase decision. *Journal of Consumer Marketing*, 25(5), 281–293.

Pujari, D., & Wright, G. (1996). Developing environmentally conscious product strategies: a qualitative study of selected companies in Germany and Britain. *Marketing Intelligence & Planning*, 14(1), 19–28.

Putra, Y. M. P. (2016, April). *Batik Pewarna Alami Lebih Disukai Konsumen*.

Rzemieniak, M., & Wawer, M. (2021). Employer branding in the context of the company's sustainable development strategy from the perspective of gender diversity of generation Z. *Sustainability (Switzerland)*, 13(2), 1–25. <https://doi.org/10.3390/su13020828>

Sharma, Y. (2011). Changing consumer behaviour with respect to green marketing—a case study of consumer durables and retailing. *International Journal of Multidisciplinary Research*, 1(4), 152–162.

Singh, G. (2013). Green: The new colour of marketing in India. *ASCI Journal of Management*, 42(2), 52–72.

Singh, P. B., & Pandey, K. K. (2012). Green marketing: policies and practices for sustainable development. *Integral Review*, 5(1), 22–30.

Stanton, A. F., Bleil, R. E., & Kais, S. (1997). A new approach to global minimization. *Journal of Computational Chemistry*, 18(4), 594–599. [https://doi.org/10.1002/\(SICI\)1096-987X\(199703\)18:4<594::AID-JCC12>3.0.CO;2-G](https://doi.org/10.1002/(SICI)1096-987X(199703)18:4<594::AID-JCC12>3.0.CO;2-G)

Sunarjo, W. A., Manalu, V. G., & Adawiyah, W. R. (2021). Nurturing consumers' green purchase intention on natural dyes batik during craft shopping tour in the batik city of Pekalongan Indonesia. *Geojournal of Tourism and Geosites*, 34(1), 186–192. <https://doi.org/10.30892/gtg.34124-635>

Sutrisno, T., & Dularif, M. (2020). National culture as a moderator between social norms, religiosity, and tax evasion: Meta-analysis study. *Cogent Business and Management*, 7(1). <https://doi.org/10.1080/23311975.2020.1772618>

Tan, C. N. L., Ojo, A. O., & Thurasamy, R. (2019). Determinants of green product buying decision

among young consumers in Malaysia. *Young Consumers*, 20(2), 121–137. <https://doi.org/10.1108/YC-12-2018-0898>

Utama, A., Sawitri, H. S. R., Haryanto, B., & Wahyudi, L. (2021). Impulse Buying: The Influence of Impulse Buying Tendency, Urge to Buy and Gender on Impulse Buying of the Retail Customers. *Journal of Distribution Science*, 19(7), 101–111. <https://doi.org/10.15722/jds.19.7.202107.101>

Wanninayake, W., & Randiwela, P. (2008). Consumer attractiveness towards green products of FMCG sector: an empirical study. *Proceedings of the Oxford Business and Economics Conference, Oxford: UK*.

Wu, L., Li, J., Qi, J., Kong, D., & Li, X. (2021). The role of opinion leaders in the sustainable development of corporate-led consumer advice networks: Evidence from a chinese travel content community. *Sustainability (Switzerland)*, 13(19). <https://doi.org/10.3390/su131911128>

Yazdanifard, R., & Mercy, I. E. (2011). The impact of green marketing on customer satisfaction and environmental safety. *International Conference on Computer Communication and Management*, 5(1), 637–641.

Zikmund, W. G., & d'Amico, M. (1993). *Marketing, St. Paul*. West Publishing Company.

Zogaj, A., Tscheulin, D. K., & Olk, S. (2021). Benefits of matching consumers' personality: Creating perceived trustworthiness via actual self-congruence and perceived competence via ideal self-congruence. *Psychology and Marketing*, 38(3), 416–430. <https://doi.org/10.1002/mar.21439>

**Appendix
Appendix A**

Variable	Instruments	References
Marketing Mix - Product	1. In my opinion, natural dye products have good quality. 2. I feel this product is made from high-quality ingredients. 3. I feel this product comes from material that does not harm the environment. 4. Natural dye products are very durable and long-lasting products. 5. I feel confident that natural dye products are environmentally friendly products and come from safe manufacturers. 6. This product has high aesthetic value.	(Hashem & Al-Rifai, 2011; Lim et al., 2021)
Marketing Mix - Price	1. The price of this product is very affordable and fits my budget. 2. I feel this product has a fairly reasonable price for its quality. 3. I consider the price of natural dye products to have a reasonable price range. 4. The price of natural dye products shows an exclusive product image. 5. With the existing price, I feel this product provides excellent value.	(Hashem & Al-Rifai, 2011; Lim et al., 2021)
Marketing Mix - Place	1. This product is very easy to find online and offline. 2. This product is always available in stores, so I do not have any trouble finding it. 3. The product is known for its extensive availability in the market. 4. I find the product very affordable and easily accessible in stores around me. 5. The ease of buying products in various offline and online stores makes me happy and comfortable.	(Hashem & Al-Rifai, 2011; Lim et al., 2021)
Marketing Mix - Promotion	1. I felt interested in seeing advertisements for natural dye products. 2. I feel that the advertisements displayed by manufacturers portray natural dye products accurately and clearly. 3. Advertisements on social media helped me know about natural dye products in more detail. 4. Natural dye product advertisements describe products in detail and clearly. 5. Advertisements on social media helped me draw attention to natural dye products.	(Hashem & Al-Rifai, 2011; Lim et al., 2021)
Purchase intention	1. I am inclined to buy natural dye products in the future. 2. I am committed to buying these natural dye products. 3. I plan to buy natural dye products in the future.	(Chiu et al., 2012; Mahmoud, 2018)

Variable	Instruments	References
	4. Most likely, I will buy such natural dye products. 5. I want to buy natural dye products in the near future.	

Appendix B

Model after moderation with R-Square

