



RESEARCH ARTICLE

Indonesia's online shopping sector transformation: Analyzing the effects of online shopping app growth, e-commerce user adoption, Generation Y and Z, and shopping app advertising

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ARTICLE INFO	ABSTRACT
Received: Jul 21, 2024	<p>This study investigates the influence of digital marketing on the purchase intention of e-commerce customers in Indonesia, with a particular focus on Generations Y and Z. Due to swift technical progress, digital marketing and advertising are progressively focusing on younger demographics. The e-commerce market in Indonesia is forecast to achieve a value of USD 332 billion by 2025, propelled by the extensive adoption of smartphones and internet connectivity. Although there has been an increase in shopping ads, the impact they have on technologically adept Generation Y and Z buyers has not been well investigated. This study aims to fill the existing knowledge gap by investigating the impact of demographic characteristics on purchase intent through the use of shopping ads. Data from Generations Y and Z of Indonesia were obtained using a cross-sectional design and analyzed using structural equation modeling with partial least squares (SEM-PLS). The findings demonstrated a noteworthy correlation between contentment, active involvement in social media, environmentally conscious actions, and aspirations to make pro-environmental purchases. The study demonstrates a favorable correlation between consumer satisfaction and social media usage and ecologically responsible conduct. This behavior, in turn, fosters an intention to make sustainable purchases. These insights are essential for firms seeking to develop impactful digital marketing strategies specifically designed for Generation Y and Z. Gaining insight into the distinct attitudes and behaviors of these generations will assist marketers in maximizing their digital marketing strategies in Indonesia's fast-expanding e-commerce industry. The study offers useful insights into consumer behavior and digital marketing, benefiting both scholars and professionals.</p>
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INTRODUCTION

The advent of the digital age has precipitated a substantial metamorphosis in the realm of marketing and advertising. The exponential advancement of technology and the efficiency of digital platforms in addressing younger demographics have facilitated enhanced precision and personalization of promotional messages (Lamberton & Stephen, 2016; Tuten & Solomon, 2017). This advancement has created fresh prospects for marketers to efficiently connect with and interact with consumers through digital platforms. An exceptional platform in the realm of digital advertising is the Shopping Ads app. These applications let marketers present pertinent product advertisements to consumers according to their search patterns and preferences. As the number of people embracing online shopping continues to grow, shopping ad applications are becoming a crucial platform for marketers to connect with their target audiences. Indonesia exhibits a conspicuous trend in its e-commerce

sector, which is seeing tremendous growth. Statista predicts that Indonesia's e-commerce sector will achieve a value of USD 33.2 billion by 2025, propelled by the rising internet penetration rate and the growing prevalence of smartphones. An important trend in the digital advertising industry in Indonesia is the increasing popularity of online shopping applications. Based on the e-Conomy SEA 2022 report conducted by Google, Temasek, and Bain & Company, the e-commerce industry in Indonesia experienced a significant growth of 49% in 2022, reaching a total value of \$53 billion (Rivaldi, 2022). The incre

ase is propelled by the rising prevalence of online purchasing among customers, particularly among Generation Y and Z cohorts, who are recognized for their dependable use of technology.

Despite significant advancements in contemporary advertising platforms like Shopping Ads apps, there remains a limited comprehension of the factors that impact purchase intent behavior through these apps, particularly among Generation Y and Z, who are recognized as skilled technology users (Lissitsa & Col, 2016; Williams & Page, 2011). Furthermore, the statement emphasizes the substantial advancement of technology and the efficiency of digital platforms in addressing youthful audiences. This has facilitated enhanced targeting and customization of promotional communications (Lamberton & Stephen, 2016; Tuten & Solomon, 2017). Despite significant advancements in contemporary advertising platforms, there has been a notable deficiency of scientific studies conducted in this field. This study aims to assess the variables that influence purchase intention behavior among the Generation Y and Z cohorts, who are avid users of online shopping applications, specifically focusing on the Shopping Ads application. According to a survey conducted by Alvara Research Center in 2021, 69% of respondents from Generations Y and Z in Indonesia utilize online purchasing applications (Alvara Research Center, 2021). Furthermore, the 2022 Populix Survey revealed that a staggering 97% of individuals belonging to Generation Y and 95% of individuals belonging to Generation Z in Indonesia utilize online purchasing applications on a monthly basis. This demographic cohort is distinguished by their proficiency in using digital technology and their eagerness to adopt new technological advancements, making them a crucial target audience for marketers of online shopping applications. This trend presents the potential for advertisers to target audiences using the Shopping Ads app, which is a prominent digital advertising platform. According to a survey by Statista, the projected ad expenditure on the Shopping Ads app in Indonesia is expected to reach \$1.2 billion by 2023 (Statista, 2023).

This study seeks to address the existing gaps in the literature by examining the factors that impact purchase intent behavior across Generation Y and Z groups using the Shopping Ads app. This research is crucial due to the substantial increase in the utilization of online shopping apps and the potential of shopping ad apps as a very successful advertising medium. This research aims to provide significant insights for marketers and academics by examining the elements that influence purchase intent through this app. It seeks to enhance understanding of consumer behavior in the constantly changing digital environment. The rise of e-commerce is primarily fueled by the widespread use of online purchasing platforms. According to a 2023 study conducted by Hootsuite and We Are Social, a staggering 92% of internet users in Indonesia utilize online shopping applications. The most widely used platforms for online shopping in the country are Tokopedia, Shopee, and Lazada. This underscores the crucial significance of online shopping applications in influencing customer behavior in Indonesia.

Prior studies have examined similar subjects, such as forecasting pro-environmental conduct and the intention to recommend based on a feeling of belonging (Bhattacharya & Sen, 2003), the influence of social media involvement on the adoption of environmentally conscious behavior (Koritos et al., 2014), and the effect of on-site engagement on feelings of belonging and satisfaction (Kyle et al., 2005). In their study, Bhattacharya and Sen (2003) discovered that a robust feeling of affiliation with a company can foster pro-environmental conduct and generate favorable recommendations from

consumers. Meanwhile, a study conducted by Koritos et al. (2014) emphasized the significance of active participation on social media platforms in shaping the acceptance of environmentally conscious actions among individuals belonging to Generation Y. Kyle et al. (2005) also investigated how being physically present in nature settings affects one's feeling of belonging and contentment.

1. LITERATURE REVIEW

Despite the excellent insights gained from prior research, there remains a lack of awareness of the elements that impact buy intent behavior among Generations Y and Z while using shopping ad applications. This study seeks to address this deficiency by assessing the factors that influence purchase intent behavior within the context of shopping ad applications.

1.1. Satisfaction

Consumer satisfaction is a crucial factor in consumer behavior research since it has a direct impact on purchasing behavior and brand loyalty. According to Westbrook (1987), consumer satisfaction is the personal assessment of the buying process, encompassing the consumer's impression of the obtained product or service's quality. Anderson and Sullivan (1993) conducted empirical research that demonstrates a positive correlation between consumer satisfaction and brand loyalty. The study found that satisfied consumers are more likely to repurchase products from the same brand, indicating a strong connection between consumer satisfaction and loyalty. Consumer happiness is a vital factor in determining both brand loyalty and purchasing behavior. According to Kim et al. (2020), there is a strong association between consumer pleasure and brand loyalty. The study demonstrates that consumers who experience satisfaction with their purchasing encounter exhibit higher levels of brand loyalty, an increased likelihood of recommending the brand to others, and a greater propensity for making repeat purchases. This underscores the significance of upholding consumer satisfaction levels to bolster long-term brand performance.

H1: Satisfaction exerts a favorable influence on the level of engagement in social media involvement.

1.2. Social Media Involvement

Participation in social media has emerged as a significant determinant in the examination of contemporary consumer conduct. Lee et al. (2011) found that when consumers actively engage in conversations on social media, it has a substantial impact on their perception of the brand and their intention to make a purchase. The research suggests that those who actively participate in content and interactions on social media platforms generally hold a favorable opinion of the company and are more inclined to contemplate buying the product or service being offered (Lee et al., 2011). Zhang et al. (2014) stated that active participation in social media not only influences consumers' purchasing habits but also enhances their allegiance to a specific brand. Zhang et al. (2014) found that consistent and attentive engagement between brands and customers on social media can establish powerful emotional connections, leading to higher levels of consumer loyalty towards the brand.

H2: Satisfaction has a positive effect on environmentally responsible behavior.

1.3. Environmentally Responsible Behavior

Environmentally responsible conduct refers to the actions taken by persons who make purchasing decisions and use items based on a careful evaluation of their environmental impact. Recent research indicates that consumers' purchasing decisions for eco-friendly products are influenced by their environmental consciousness and adherence to societal standards. A study conducted by Gomes et al. (2023) demonstrates that customers' perception of the advantages of environmentally friendly items has a substantial impact on their level of environmental consciousness, thereby leading to an increased inclination to buy sustainable products. Furthermore, a study conducted by Tian et al.

(2022) showed that increased environmental consciousness and understanding might positively influence consumers to select eco-friendly items with greater frequency.

Consumer behavior is increasingly being influenced by concerns about environmental responsibility. Consumers exhibiting environmentally conscious behavior typically opt for brands that have a strong dedication to sustainability and the environment. The study conducted by Kim et al. (2021) demonstrates that consumers' purchasing intentions are positively influenced by their perception of the risk and value associated with sustainable fashion products. Moreover, research conducted by Ketelsen et al. (2020) revealed that eco-friendly food packaging has a substantial impact on consumer reactions, as people tend to favor products that are packaged in a manner that showcases environmental accountability.

H3: Social media involvement has a positive effect on pro-environmental behavior.

1.4. Pro-Environmental Behavior

Pro-environmental conduct encompasses tangible behaviors that promote and endorse ecologically sustainable methods and products. Stern (2000) posits that psychological elements, societal norms, and external situations, such as government regulations, exert an influence on pro-environmental conduct. According to a study conducted by Steg et al. (2014), individuals who possess a pro-environmental mindset are more likely to engage in pro-environmental actions in their everyday activities. A study conducted by Gifford and Nilsson (2014) highlights the crucial role of individuals' comprehension of climate change in determining their engagement in pro-environmental actions. Furthermore, a study conducted by Zhang et al. (2019) demonstrates that community support and environmentally sustainable infrastructure are significant factors in promoting pro-environmental behavior.

Pro-environmental behavior encompasses the concrete acts taken by individuals to promote and uphold environmental sustainability. Mostafa (2020) suggests that individuals' attitudes towards environmental concerns and their perception of the consequences of their activities can have an influence on their pro-environmental behavior. According to a study conducted by Wang et al. (2021), recent research indicates that pro-environmental behavior is mostly influenced by environmental awareness and an individual's sense of responsibility. In a study conducted by Li et al. (2022), it was discovered that the combination of impactful economic incentives and comprehensive environmental education can significantly enhance community engagement in pro-environmental actions. Therefore, a multitude of elements, including personal views and external assistance, significantly impact individuals' behavior towards the environment.

H4: Environmentally Responsible behavior has a positive effect on pro-environmental behavior.

1.5. Generation Y & Z

Generations Y and Z are significant subjects of study in consumer behavior research due to their distinct tastes and features when it comes to selecting and utilizing products and services. According to Han et al. (2021), these two generations exhibit distinct preferences for technology usage, brand contact, and response to marketing campaigns (Hubspot, 2023; Intel, 2023). Generation Y, also known as Millennials, has a heightened focus on ethical and corporate social responsibility factors when making purchase choices. They frequently select items based on their environmental and social consequences (Hubspot, 2023). Generation Z, in contrast, has an inclination towards valuing technological advancements and efficiency in services. They have a strong affinity for virtual experiences and tailored digital interactions (Talon, 2023; Deloitte, 2023).

Moreover, Generation Y exhibits a higher propensity to select businesses that they have confidence in and that exhibit a strong dedication to social justice and sustainability. Conversely, Generation Z is more swayed by the entertainment and social interaction aspects provided by brands. Recent

research indicates that Generation Z exhibits a greater inclination towards financial pragmatism and less brand loyalty. However, they place a high value on items that provide additional value through innovative and ethical attributes (Han et al., 2021; Gogolan & Veith, 2023). These two generations exemplify the significance of organizations comprehending and adjusting their marketing strategies to align with changing consumer expectations in the digital age (Han et al., 2021; Mintel, 2023; Gogolan & Veith, 2023).

H5a: The relationship between social media involvement and pro-environmental behavior is stronger in Generations Y and Z.

H5b: The relationship between environmentally responsible behavior and pro-environmental behavior is stronger in Generations Y and Z.

2. Research Methodology

The objective of this study is to investigate the correlation between social media involvement, contentment, conscientiousness towards the environment, and environmentally-friendly actions among individuals belonging to Generations Y and Z. This study is relevant due to the influential impact of social media in shaping pro-environmental views and practices among younger generations (Smith & Anderson, 2020; Liobikienė & Poškus, 2019). This study employs a quantitative research methodology to examine the given hypotheses and the structural models illustrated in a conceptual framework. This approach is proficient in discerning and quantifying the correlation between variables within the realm of consumer behavior and the environment (Hair et al., 2021; Fornell & Larcker, 2018). In addition, the study employed a cross-sectional survey approach, using structured questionnaires to gather data from respondents belonging to Generations Y and Z. This approach is appropriate for examining the connections between variables at a certain moment in time and offering a distinct representation of present attitudes and actions (Dillman, Smyth, & Christian, 2014; Bryman, 2016).

2.1. Sample and Sampling Technique

The target population includes individuals from Generation Y (born 1981–1996) and Generation Z (born 1997–2012). This demographic classification is crucial because it captures two different generational groups with unique behaviors and preferences, influencing consumer research and marketing strategies (Smith, 2021; Williams et al., 2022). The stratified random sampling technique will be used to ensure representation across various demographics such as age, gender, education level, and geographic location. This method is recognized as improving the accuracy and reliability of survey results by reducing sampling bias and ensuring the sample reflects the population structure (Babbie, 2020; Johnson & Christensen, 2022). The sample size will be calculated using the Krejcie and Morgan (1970) formula, targeting at least 355 respondents to achieve statistical significance and representativeness. This approach ensures sufficient power to detect significant differences and relationships in the data, aligned with best practices in quantitative research (Krejcie & Morgan, 1970; Babbie, 2020).

2.2. Data Collection

Data will be gathered via online surveys disseminated through social media platforms and email lists. The survey tools will consist of a validated scale for each aspect of construction.

- Social Media Engagement: Derived from Turel & Serenko's research in 2012
- Satisfaction: Assessed utilizing a scale developed by Oliver (1997)
- Ecologically conscious conduct: Derived from Kollmuss & Agyeman's study in 2002.
- Pro-Environmental Behavior: As measured by the scale developed by Kaiser et al. (2007)

The grading of each item will be based on a 5-point Likert scale, where 1 represents severe disagreement and 5 represents strong agreement. In addition, a preliminary test was carried out using 30 samples in order to minimize the use of specialized language and unclear wording in the questionnaire. Ultimately, the process of gathering data involved the utilization of an online questionnaire, which was disseminated to participants in Indonesia by email, social media, and Google Forms. A total of 392 questionnaires were received, and after evaluating their completeness, we chose 355 replies for data analysis. We utilized G*Power to perform both a priori power analysis and post-hoc analysis in order to assess the sufficiency of the sample size. In our analysis, we utilized a total of 355 samples, surpassing the recommended amount. This substantiates the appropriateness of our sample size. In order to determine the generation to which the respondents belonged (Generation Y or Z), we inquired about their year of birth. Furthermore, we sought supplementary demographic information, such as gender, age, and education, in order to gain a comprehensive understanding of the sample's variety.

2.3. Data Analysis

The data will be evaluated with Structural Equation Modeling—Partial Least Squares (SEM-PLS) through the application of SmartPLS software. SEM-PLS is well-suited for evaluating intricate and resilient models in the presence of atypical data distributions (Hair et al., 2017; Henseler et al., 2015). The analysis process will encompass multiple sequential stages:

- 1) Descriptive statistics will be utilized to succinctly characterize the demographic features and distribution of responses. Understanding sample makeup and achieving data generalization are crucial aspects of this stage (Fornell & Larcker, 1981).
- 2) Assessment of Measurement Models;
 - a) Reliability will be evaluated using Cronbach alpha and composite reliability (CR). In order to validate internal consistency, both measurements need to surpass the threshold of 0.70, as stated by Hair et al. (2017) and Wong (2013).
 - b) The evaluation of validity will be conducted using average variance extracted (AVE) and confirmatory factor analysis (CFA). A value of AVE greater than 0.50 shows that there is convergent validity. To assess the validity of discrimination, the Fornell-Larcker criterion (Hair et al., 2017; Henseler et al., 2015) will be used.
- 3) Structural Model Evaluation: Path Coefficient: The relevance of the hypothesized link will be tested by examining the path coefficient. The importance of the path will be determined using bootstrapping with 5,000 resamples, as described by Hair et al. (2017) and Wong (2013).
 - a) R-squared (R^2) is a statistical measure that represents the proportion of the variance in the dependent variable that can be explained by the independent variable(s). The R^2 value will be assessed to determine the explanatory power of the model. The R^2 values of 0.25, 0.50, and 0.75 are categorized as weak, moderate, and considerable, respectively, according to Hair et al. (2017).
 - b) Effect Size (f^2): The effect size will be computed to evaluate the influence of each predictor variable on the dependent variable. The F^2 values of 0.02, 0.15, and 0.35 indicate minor, moderate, and substantial impacts, respectively, according to Cohen (1988).
- 4) A mediation analysis will be performed to examine the mediating impact of environmentally responsible behavior on the relationship between social media participation and pro-environmental behavior. The bootstrapping method will be used to evaluate the importance of the indirect effect (Preacher & Hayes, 2008; Zhao et al., 2010).

2.4. Ethical Considerations

The Institutional Review Board (IRB) at the affiliated university shall be formally approached to obtain ethical approval. Participants will get information regarding the research's objective, the option to participate voluntarily, and the assurance that their responses will be kept confidential. Prior to the completion of the survey, participants will be required to provide informed consent.

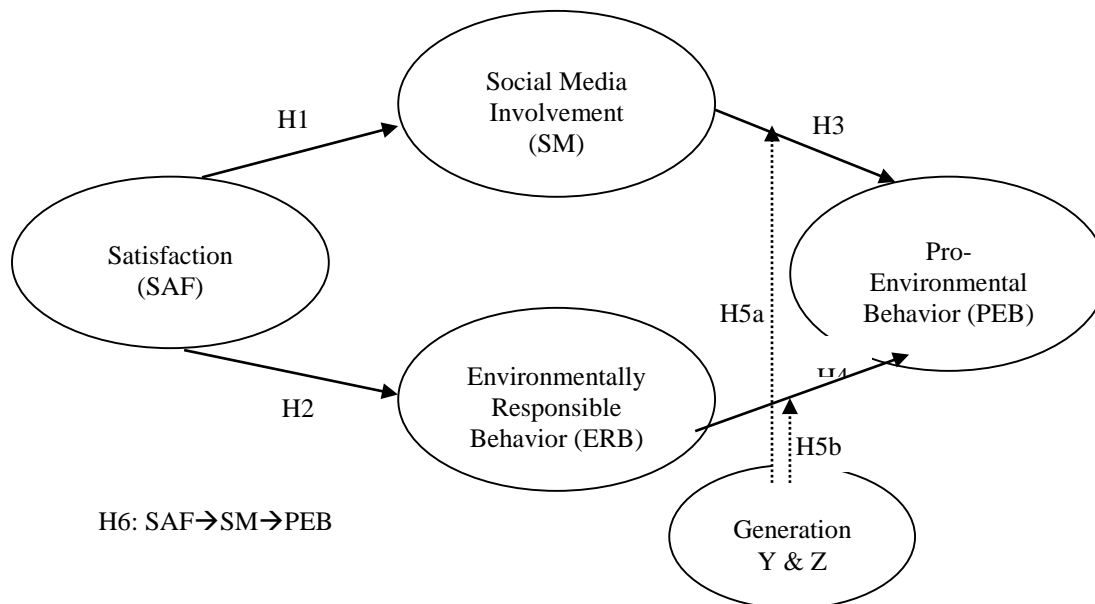


Figure 1. Proposed model and research hypotheses

3. RESULT

The data was analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with the assistance of SmartPLS software (version 3.3.9). PLS-SEM evaluates the model in two components, namely measurement and model structure, as described by Hair et al. (2020). In order to determine the generation to which the respondents belonged (Generation Y or Z), we inquired about their year of birth. In order to comprehend the diversity of the sample, we also sought supplementary demographic information such as gender, age, and education. The study had a participation rate of 57.2% (203) among female respondents and 42.8% (152) among male respondents. Out of the respondents, 26.8% (95) had a secondary education (bachelor/license; master/PHD degree). Additionally, 13.2% (47) of the respondents belonged to Generation Y and Generation Z, with Generation Y accounting for 64% and Generation Z accounting for 36% of the total.

3.1. Measurement model

Initially, to check the internal consistency and reliability of the model, PLS-SEM assessed the reliability of Cronbach's composite and alpha. As per Table 1, all composite reliability and Cronbach alpha values are greater than 0.70. To determine the validity of convergence, PLSSEM estimates the external load and the extracted average variance (AVE). Hair et al. (2017) recommend that the outside load should be greater than 0.70 and the AVE should be greater than 0.50. Table 1 reveals that reliability is good and supports convergence validity.

Also, the validity of discrimination among constructions is assessed using Fornell-Larcker's criteria (Fornell and Larcker, 1981). The study also assesses the variance inflation factor (VIF) to examine

the problems of common method bias (CMB) and multicollinearity. After testing, we concluded that this study had no problems related to CMB and multicollinearity.

Table 1. Indicators' loading, composite reliability, Cronbach's alpha and AVE

Variable	Factor Loading	Cronbach's Alpha	Composite Reliability	Average extracted variance (AVE)
Environmentally Responsible Behaviour		0.862	0.845	0.678
ERB_1	0.862			
ERB_2	0.872			
ERB_3	0.880			
ERB_4	0.876			
ERB_5	0.864			
ERB_6	0.847			
Satisfaction		0.854	0.872	0.766
SAF_1	0.838			
SAF_2	0.808			
SAF_3	0.823			
SAF_4	0.795			
SAF_5	0.753			
SAF_6	0.728			
SAF_1	0.874			
Social Media Involvement		0.839	0.861	0.667
SM_1	0.846			
SM_2	0.753			
SM_3	0.792			
SM_4	0.819			
SM_5	0.825			
SM_6	0.870			
Gen		0.895	0.897	0.679
GEN_1	0.812			
GEN_2	0.869			
GEN_3	0.857			
GEN_4	0.785			
GEN_5	0.871			
GEN_6	0.792			
GEN_7	0.751			
GEN_8	0.839			
GEN_9	0.851			
GEN_110	0.834			
Pro-Environmental Behavior		0.795	0.867	0.618
PEB_1	0.721			
PEB_2	0.809			
PEB_3	0.766			
PEB_4	0.835			
PEB_5	0.833			
PEB_6	0.827			

PEB_7	0.901			
PEB_8	0.887			
PEB_9	0.831			
PEB_10	0.854			

The table displays the outcomes of the confirmatory factor analysis (CFA) for five constructs: environmentally responsible behavior (ERB), satisfaction (SAF), social media engagement (SM), generation (GEN), and pro-environmental behavior (PEB). The findings display the factor loading, Cronbach alpha, composite reliability, and extracted mean variance (AVE) for each structure. The loading factor varies between 0.721 and 0.901, suggesting a substantial relationship between all components and their respective structures. The load is typically substantial, suggesting that the item is a reliable indicator of the underlying construction. The Cronbach's alpha values range from 0.845 to 0.897, which suggests that all constructs exhibit a high level of internal consistency. This demonstrates a strong correlation between the components in each construction, indicating that they are measuring the same fundamental notion. The composite's reliability value ranges from 0.618 to 0.766, suggesting that the construction is both reliable and consistent. This demonstrates that the pieces within each building are a dependable indicator of the fundamental concept. The AVE value varied between 0.618 and 0.679, suggesting that the construction accounts for a substantial amount of the variability in the relevant elements. This demonstrates that the construction is precisely defined and accurately represents the fundamental concept.

3.2. Structural model

This model's structure is based on prior research that highlights the significance of construct validity and reliability in confirmatory factor analysis. Based on the research conducted by Hair et al. (2017), convergent validity is deemed satisfactory when the average variance extracted (AVE) of the construct exceeds 0.50 and the composite reliability is greater than 0.70. Within this framework, all the generated measurements exhibited satisfactory AVE (average variance extracted) and CR (composite reliability) values, signifying that the model possesses strong convergent validity and reliability.

3.3. Hypothesis testing of the model

In addition, the hypothesis is evaluated using bootstrapping techniques. This technique involves analyzing the sample by repeatedly drawing 5,000 sub-samples and calculating the path coefficient, t-value, standard error, and p-value (Hair et al., 2020). The findings from H1 show a positive and substantial relationship. Therefore, H1 is accepted. In addition, the study found a strong correlation between H2 and generations, suggesting that consumers who actively participate take actions that are beneficial to the well-being and prosperity of future generations. Statistical analysis revealed a significant relationship between the two variables, and the p-value was less than 0.05 among the respondents. Thus, H2 is considered valid. H3 has shown that, in general, it is positively associated with concern for the environment. This association is statistically significant; the p-value is less than 0.05. H4 acceptance shows that generacity leads to adaptive change in response to environmental problems and the development of strong environmental problems, as evidenced by a p-value of less than 0.05. The findings of the study showed that an H5 p-value less than 0.05 was accepted. This shows that customers need to care about eco-friendly products to address relevant environmental issues.

3.4. Moderation effects of emotional loyalty and generation

To analyze the connections in the model, we used a multi-group analysis (MGA) to investigate the moderation effects of emotional and generational loyalty (Y and Z). To assess the potential influence of emotional loyalty on our model, we divided the data into two different groups: strong emotional

loyalty and low emotional loyalty. As proposed by Yi and La (2004), we formed this group by dividing the score in two, and in our example, the average split score was 4.00. This is because we are currently using a Likert scale with five points, where 1 represents extreme disagreement and 5 represents strong agreement. As a result, the group was categorized into two MGA models estimated to use three techniques: the Henseler MGA test, the parametric test, and the Welch-Satterthwaite approach (Sarstedt et al., 2017). According to the findings of this study, genes play an important role in marketing, and when customers feel emotionally devoted to a product, it generates good sentiment towards it (Hartel and Russell-Bennett, 2010). Thus, to have a comprehensive understanding of the consequences of the suggested model, MGA is conducted by utilizing pro-environmental behavior.

Table 2. Discriminant validity

	ERB	PEB	SAF	GEN	SM
ERB	0.818				
PEB	0.683	0.786			
SAF	0.849	0.687	0.748		
GEN	0.760	0.822	0.730	0.757	
SM	0.855	0.862	0.843	0.787	0.836

Table 3. Values of R-square, Rsquared adjusted and Q²

	R-square	R-square adjusted	Q ²
ERB	0.600	0.599	0.583
PEB	0.657	0.654	0.611
GEN	0.538	0.521	0.372
SM	0.590	0.589	0.512

4. DISCUSSION

Research has demonstrated that environmentally friendly advancements have a favorable impact on present societal attitudes and considerations for future generations, ultimately resulting in the adoption of environmentally conscious buying habits. The literature has covertly conducted research on green consumption models utilizing environmental innovations, and more recently, academics have examined the correlation between green innovation and sustainable consumption (Severo et al., 2018). Nevertheless, there is a significant lack of research that explores the specific and comprehensive connection between ecoinnovation and green purchasing behavior in existing literature. This framework aims to enhance the existing literature by introducing a novel model of green consumption that incorporates green innovation and its connection to the environment. It does so by investigating the link between general pro-social attitudes, generation, environmental concerns, purchase intention, and purchasing behavior. The study also examined the influence of emotional and generational loyalty (Y and Z) on customer purchasing behavior in relation to environmental innovation, employing a comprehensive approach.

Table 4. Hypothesis testing of structural model (H1-H5)

Hypothesis	Path	Path coefficient	t-values	P values	Results
H1	ERB -> PEB	0.846	0.717	0.000	Accepted
H2	SAF -> ERB	0.708	0.707	0.000	Accepted
H3	SAF -> PEB	0.721	0.815	0.000	Accepted
H4	SAF -> SM	0.715	0.714	0.000	Accepted

H5	SM -> PEB	0.769	0.768	0.000	Accepted
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Table 5. Hypothesis testing using Generation Y and Z consumers

Hypothesis	Variables	Path coef.dif (Y)-(Z)	t-value	Parametric test	PLSMGA	WelchSatterthwaite Test	Results
H5a	SM→PEB	-0.373	2.466	0.307	0.030	0.000	Accepted
H5b	ERB→PEB	0.316	2.223	0.021	0.002	0.002	Accepted

Table 6. Mediating effects

Hypothesis	Path	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values	Results
H6	SAF -> SM -> PEB	0.479	0.477	0.105	4.547	0.000	Supported
H7	SAF -> ERB -> PEB	0.146	0.153	0.116	1.256	0.209	Not Supported

Using norm activation theory as a basis, this study originally investigated the correlation between ecoinnovation and pro-social attitudes across different generations. The results indicated a substantial positive association. The study determines that environmentally friendly innovations have a favorable impact on customer attitudes towards the welfare of others. Hence, this study highlights that sustainable development can be achieved by prioritizing innovation that is both environmentally benign and socially conscious, as demonstrated by the correlation between ecoinnovation, social consciousness, and concern for future generations. While general and generational pro-social views were determined to be favorable and substantial, the focus was on the correlation between eco-innovation and general pro-social attitudes rather than eco-innovation and generation. Innovation may have a more significant influence on present circumstances than on future ones. Environmental innovation enables consumers to prioritize present social attitudes and concern for others over future care and action plans due to the urgent and precarious nature of the current environmental predicament (Coffey, 2021). Hence, the potential for environmental innovation has a greater impact on contemporary social attitudes than generationality. Furthermore, we analyzed the correlation by classifying the sample according to emotional allegiance and generation. Research has acknowledged that consumers who exhibit strong emotional loyalty are significantly influenced by eco-friendly innovations, leading to positive attitudes and pro-social behaviors in general. The study found that consumers who had a strong emotional connection to the environment and activities connected to innovation were more likely to exhibit higher levels of social concern for both the present and the future, as opposed to consumers who had weaker emotional loyalty. However, the role of generation is unaffected by the relationship because it has been disclosed that Generations Y and Z have a negligible influence. Eco-innovation may influence pro-social attitudes and overall generations, since both Generation Y and Generation Z acknowledge the significance of environmental innovation. This recognition influences their sense of societal duty and concern for the future (Severo et al., 2018).

Furthermore, we conducted a study to examine the correlation between overall pro-social attitudes and generational pro-social attitudes on environmental matters. The findings of our investigation

revealed a strong and statistically significant relationship. The study determines that individuals' attitudes towards the welfare of others and their consideration for the future have an impact on their anthropocentric viewpoints as consumers. This, in turn, improves their understanding and actions towards environmental preservation, as the present condition of the environment poses a danger to both others and the future (Coffey, 2021). Currently, the environmental situation is highly precarious (Sharma and Paço, 2021), which likely contributes to the significant influence of pro-social attitudes that demonstrate concern for society and others. This concern extends to the environment and is influenced by both generational factors and future-oriented environmental concerns. Nevertheless, the evaluation of emotional loyalty reveals that both high and low levels of emotional loyalty do not influence general prosocial attitudes towards environmental concern or generational attitudes towards environmental concern. This suggests that attitudes towards others and concern for the future remain consistent, regardless of the level of emotional engagement. Due to the current alarming scenario, characterized by the presence of plastic waste (Chau et al., 2020) and other forms of waste (Gebremariam et al., 2020), there is cause for concern and disturbance. However, when it comes to generations, the disparities are evident, as research has demonstrated that Generation Y exhibits a more pronounced influence on environmental issues in comparison to Generation Z. According to Doerwald et al. (2021), their metaanalysis confirms that older individuals exhibit a stronger sense of generationality and are more inclined to mentor younger generations. Furthermore, Shiel et al. (2020) argue that older generations exhibit a tendency towards environmental orientation. Within Generation Z, the correlation between overall pro-social attitudes and environmental concerns had a more significant influence compared to Generation Y. Our findings corroborate the meta-analysis conducted by Chen et al. (2019), which suggests that Generation Z has a substantial influence on pro-social attitudes.

In addition, the study investigates the correlation between environmental worry and purchasing intent, as environmental concern is seen as a significant factor. Prior research has demonstrated that environmental concern is positively associated with the intention to purchase environmentally friendly products (Goel et al., 2021; Waris and Hameed, 2020). Similarly, the study demonstrated a consistent effect and found that consumers who recognized environmental issues exhibited an inclination towards adopting environmentally friendly practices. Similarly, these issues are comparable among both Generation Y and Generation Z, as well as among emotionally devoted consumers with varying levels of loyalty. Current environmental concerns may motivate consumers of all ages and levels of involvement to take action in support of the environment (Mhatre and Srivatsa, 2019). We conducted an analysis on the correlation between purchasing intention and purchasing behavior and found a statistically significant positive link, consistent with earlier research (e.g., Sharma et al., 2020). Furthermore, research has revealed that the purchase intention of consumers who exhibit strong emotional loyalty significantly influences their purchasing behavior, in contrast to those with weak emotional loyalty. Therefore, consumers who possess higher levels of trust, commitment, and affiliation with the environment will also purchase eco-friendly products. Previous research has provided support for the idea that loyalty has a moderating role in the relationship between green purchase intention and behavior, as demonstrated by Shapoval et al. (2018).

4.1. Implications

This study adds to the existing body of research on sustainability by confirming the significance of eco-friendly innovation in promoting positive attitudes towards social welfare and generativity. These attitudes, in turn, stimulate environmental concern, intentions to make purchases, and sustainable purchasing behavior (Li et al., 2021). The findings emphasize that individualistic norms and perceived market forces are essential in converting environmental concerns into consumer behavior towards items that are propelled by environmental innovation. Marketers can effectively employ attractive themes like "go green innovation, feel healthy life" by highlighting individualistic

traits instead of solely emphasizing words such as "go green" or "go eco-innovation." Furthermore, this study improves the comprehension of the significance of distinguishing between generational cohorts in order to encourage the adoption of environmental innovation. It emphasizes the necessity of employing cautious strategies to cultivate overall prosocial attitudes and tackle environmental concerns in emerging markets such as Indonesia.

From a policy and management standpoint, the findings underscore the importance of maintaining sustainable performance and promoting environmental improvement. This includes addressing policies that impede the spread and acceptance of environmental innovation. There is a pressing requirement for a worldwide ecosystem of environmental innovation that is focused on taking action, has high aspirations, can be easily communicated, is integrated, and is universally accepted by enterprises. In contemporary rising market economies characterized by market-driven dynamics, such as Indonesia, the achievement of sustainable consumption is contingent upon the implementation of legislative frameworks pertaining to renewable energy (Sharma et al., 2021) and the appeal of environmentally innovative products to consumers. This study offers valuable information for organizations that are motivated by environmental innovation. Prior to making any decisions, corporations should be cautious when evaluating self-reported prosocial attitudes, environmental concerns, and purchasing behavior. It is also important to evaluate different generational groups in order to accurately estimate market potential. Furthermore, it is crucial to include the identification of attitudes and purchasing intents that are pertinent to particular generations as a fundamental aspect of market research. This is because such information can either facilitate or impede the acceptance and implementation of environmental innovation. Furthermore, when it comes to ecologically advanced products and services that are marketed as chances for "sustainable consumption," it is essential to examine the differences in target generational market categories by considering a combination of norms and perceived market effects.

5. CONCLUSION

This study sought to examine the correlation between digital marketing, consumer behavior, and purchase intentions among Indonesian Generations Y and Z, with a specific emphasis on the influence of shopping ads. The findings, backed by statistical analysis, reveal substantial correlations among contentment, engagement in social media, environmentally conscious behavior, and intentions to make pro-environmental purchases. The investigated hypotheses demonstrated positive and statistically significant impacts, including the substantial impact of social media engagement on pro-environmental behavior. The results are consistent with recent research conducted in the last five years, including studies by Lamberton & Stephen (2016) and Tuten & Solomon (2017), which emphasize the significant influence of digital platforms on marketing and advertising tactics. The study highlights the increasing significance of shopping ads as a digital marketing strategy in the fast-rising e-commerce industry in Indonesia, especially among technologically proficient Generations Y and Z. The knowledge acquired from this research is extremely helpful for marketers who want to create successful digital advertising strategies that are customized to the preferences and behaviors of these specific generational groups. This research makes substantial contributions to academic literature and practical applications in the realms of consumer behavior and digital marketing. It enhances our understanding of the elements that influence buying intentions through shopping ads. Further investigation is warranted to examine the changing dynamics of digital marketing and its influence on customer behavior, specifically in growing markets such as Indonesia.

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