INNOVATIVE MARKETING STRATEGIES FOR SUSTAINABanLE DIGITAL PRODUCTS: EXAMINING THE INFLUENCE OF PERSONALIZATION, PRIVACY, AND ECO-DESIGN ON PURCHASE INTENTIONS

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Abstract – *In the increasingly competitive landscape of Indonesia's digital shopping platforms, understanding consumer behavior toward mobile applications has become crucial for sustaining market relevance. This study investigates the influence of personalization, privacy, and eco-design on consumers' purchase intentions within mobile commerce applications. Anchored in the Technology Acceptance Model (TAM), this research emphasizes the importance of integrating perceived usefulness and ease of use through personalized experiences, trust-based privacy assurances, and eco-conscious design strategies. The research employs a quantitative approach with data collected from 250 users of shopping mobile applications in Indonesia. The analysis was conducted using Structural Equation Modeling (SEM) through SmartPLS software. Results indicate that personalization, privacy, and eco-design each have a significant and positive impact on purchase intention. These findings suggest that integrating user-oriented features, data privacy assurance, and environmentally responsible design into digital product strategies is essential to influence consumer decision-making. This study contributes to the discourse on sustainable digital marketing by emphasizing how these variables can serve as strategic levers for enhancing purchase intention in highly saturated and dynamic mobile commerce markets.*

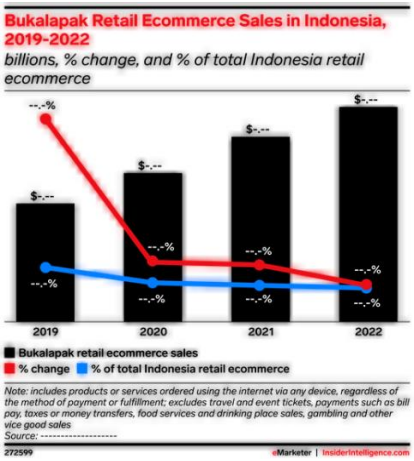
Keywords: *Purchase Intention, Personalization, Privacy, Eco-Design, Sustainable Digital Products*

I. INTRODUCTION

The accelerated advancement of digital technologies has revolutionized consumer behavior and reshaped the landscape of contemporary commerce. One of the most transformative developments in this evolution is the rise of mobile commerce (m-commerce), enabling consumers to make purchases anytime and anywhere through mobile applications (Zhou, 2013). In Indonesia, the widespread adoption of smartphones and increasing internet penetration have made m-commerce a central driver of digital economic growth. As a result, consumer expectations have shifted toward convenience, personalization, transparency, and sustainability (Statista, 2024).

Despite these opportunities, several established platforms face significant challenges in maintaining user engagement. Bukalapak, previously one of Indonesia's leading e-commerce players, has experienced a considerable decline in visibility and usage. According to DailySocial (2022), Bukalapak's monthly web traffic dropped drastically from approximately 100 million visits in 2018 to just 21 million by mid-2021. This sharp downturn reflects a waning market presence and signals deeper strategic and experiential issues (see Figure 1).

Figure 1
Declining Monthly Web Traffic of Bukalapak (2018–2022)



Source: DailySocial (2022)

Among the contributing factors to Bukalapak's decline are its outdated user interface (UI) and lack of advanced personalization, which stand in contrast to its competitors like Shopee and Tokopedia that consistently invest in seamless, intuitive, and data-driven designs. Moreover, the emergence of TikTok Shop offering interactive commerce through short videos, livestreaming, and influencer engagement has redefined consumer expectations by merging entertainment and purchase behavior (Putra & Santosa, 2024). Additionally, concerns over data privacy and environmental sustainability have become increasingly influential in shaping digital purchase decisions, particularly among Gen Z and millennial consumers (Ding et al., 2022; Prasetyo et al., 2023).

These shifts underscore the need for digital platforms to revisit their value propositions. Today's mobile consumers are no longer satisfied with basic functionality or price competitiveness. They demand experiences that are personalized, privacy-assured, and environmentally responsible. While prior research has addressed these constructs independently such as personalization (Pappas et al., 2014), privacy protection (Xu et al., 2008), and eco-design (Joshi & Rahman, 2015) limited attention has been given to their simultaneous influence within mobile commerce contexts, especially in emerging digital economies like Indonesia.

This gap is significant, as most existing studies are rooted in desktop-based environments and developed markets, which differ fundamentally from mobile-first behaviors observed in Indonesia. M-commerce applications present unique constraints and opportunities such as smaller screen sizes, location-based targeting, and real-time personalization which call for a fresh theoretical and empirical approach (Lee et al., 2022).

Therefore, this study investigates how personalization, privacy, and eco-design simultaneously influence purchase intention among Indonesian m-commerce users. The research addresses three key questions:
(1) To what extent does personalization affect purchase intention in m-commerce applications?
(2) How does perceived privacy protection influence users' purchase intention?
(3) What is the impact of eco-design features on mobile consumer purchase intention?

By examining these constructs within a unified model, this study contributes to the growing discourse on mobile consumer behavior and sustainable digital marketing. Theoretically, it integrates multiple

psychological and value-based dimensions into the m-commerce framework. Practically, it provides strategic insights for platforms like Bukalapak and other digital retailers to enhance consumer engagement, foster trust, and align with emerging sustainability values in a mobile-first economy.

The following Table of Previous Studies to strengthen the literature gap. This table summarizes prior relevant research on personalization, privacy, and eco-design in the context of purchase intention and highlights how the present study addresses gaps that have not been widely explored, particularly within the m-commerce context in emerging markets such as Indonesia.

Table 1. Prior Studies on Factors Influencing Purchase Intention in E-Commerce/M-Commerce Context

No.	Author(s) & Year	Context/Platform	Variables Studied	Key Findings	Research Gap
1	Pappas et al. (2014)	E-commerce (UK)	Personalization, Trust, Risk, Purchase Intention	Personalization increases trust and reduces perceived risk, thus enhancing purchase intention.	Desktop-based, Western market; mobile-specific constraints not considered.
2	Liébana-Cabanillas et al. (2017)	M-banking (Spain)	Privacy, Trust, Intention to Use	Privacy concerns strongly affect user trust and intention to use mobile financial services.	Focus on m-banking, not commerce; does not examine personalization or eco-design.
3	Xu et al. (2008)	Online retail	Privacy, Personalization, Perceived Control	Trade-off between personalization and privacy affects consumer decisions.	Early study; outdated for current mobile commerce realities.
4	Joshi & Rahman (2015)	Green product marketing (India)	Eco-design, Green Awareness, Purchase Intention	Eco-design and green credibility positively influence green purchase intention.	Focused on offline product marketing; not integrated into m-commerce platforms.
5	Bansal et al. (2010)	Ethical consumerism	Environmental concern, Ethical values	Ethical concerns influence consumption choices.	Theoretical; lacks empirical data from mobile application usage.
6	Putra & Santosa (2024)	Social commerce in Indonesia	Livestreaming, Emotional Value, Impulse Buying	Livestream-based commerce increases emotional engagement and purchases.	Emotional value explored, but lacks privacy and eco-design perspectives.
7	This study (2025)	M-commerce (Indonesia)	Personalization, Privacy, Eco-design, Purchase Intention	All three factors have significant influence, with personalization being the strongest predictor of purchase intention.	Addresses mobile context in emerging market; integrates three key constructs within one model.

Source: Data procesed by Author (2025)

II. LITERATURE REVIEW

2.1 Mobile Commerce and Purchase Intention

Mobile commerce (m-commerce) refers to the conduct of commercial transactions through wireless handheld devices such as smartphones and tablets (Ngai & Gunasekaran, 2007). The widespread use of mobile devices, coupled with the development of user-friendly applications, has led to the exponential growth of m-commerce globally, including in Indonesia. High mobile penetration and increasing internet accessibility have positioned m-commerce as the dominant mode of digital consumption in the country.

However, the rapid evolution of the digital landscape and the emergence of interactive platforms such as TikTok Shop have heightened competition and disrupted conventional e-commerce business models. To remain competitive, m-commerce platforms must prioritize user-centric features that align with evolving consumer expectations, such as personalization, privacy assurance, and sustainability.

Purchase intention is defined as the degree to which a consumer is inclined to buy a product or service (Dodds et al., 1991), and it is recognized as a strong predictor of actual purchasing behavior. In mobile commerce, purchase intention is influenced not only by perceived product value but also by app usability, trust, emotional engagement, and innovative experiences (Yang, 2021).

From a theoretical standpoint, this study adopts the Technology Acceptance Model (TAM) developed by Davis (1989) as a foundational framework. TAM posits that two key constructs—Perceived Usefulness (PU) and Perceived Ease of Use (PEOU)—significantly influence an individual's intention to use technology. In the context of m-commerce, these perceptions are influenced by app features such as personalization, privacy policies, and eco-friendly design, which in turn affect users' purchase intentions.

2.2 Personalization and Purchase Intention

Personalization refers to the adaptation of products, services, or content based on individual user preferences, behaviors, or demographic characteristics (Tam & Ho, 2006). In mobile commerce, personalization is commonly implemented through recommendation algorithms, customized user interfaces, and targeted marketing messages, all aimed at enhancing relevance and engagement.

Research has consistently shown that personalization positively impacts Perceived Usefulness and user satisfaction, thereby increasing purchase intention (Pappas et al., 2014). Personalized digital environments create a sense of relevance and user control, fostering trust and increasing the likelihood of conversion. In mobile settings, where users interact with constrained screen space and short attention spans, the ability to deliver concise, relevant content is crucial.

In the case of Bukalapak, the platform's failure to adopt advanced personalization features has contributed to reduced user engagement and lower transaction rates compared to competitors who actively leverage user data for customized experiences.

2.3 Privacy and Purchase Intention

Privacy concerns have become central to digital commerce, particularly as platforms increasingly collect, store, and utilize user data. In this context, perceived privacy refers to users' belief that their personal information is collected and managed securely and transparently.

Xu et al. (2008) emphasized the role of perceived control over personal data in building trust and influencing users' behavioral intentions. According to TAM extensions such as the Trust-enhanced

TAM, trust and privacy assurance can significantly shape both perceived usefulness and intention to use. When users perceive robust data protection mechanisms, they are more likely to engage with and purchase from the platform (Bansal et al., 2010). Conversely, vague or weak privacy policies can lead to user hesitation and abandonment of transactions.

Mobile applications, which often require access to sensitive user data (e.g., location, contacts), must communicate privacy practices clearly. Bukalapak's lack of visible data protection mechanisms and privacy transparency poses a disadvantage in a market increasingly shaped by digital ethics and data sovereignty.

2.4 Eco-Design and Sustainable Consumer Behavior

Eco-design refers to the incorporation of environmental considerations into the design and operation of digital products and services. This includes promoting environmentally friendly products, using low-energy app features, and highlighting sustainability metrics (Chen et al., 2020). With rising awareness of climate change, consumers particularly younger generations are increasingly factoring sustainability into their purchase decisions.

Joshi and Rahman (2015) found that environmental consciousness positively influences purchase intention, especially when consumers perceive that a platform or brand aligns with their personal values. Eco-design not only enhances brand image but also contributes to perceived ethical responsibility, which strengthens user-brand relationships.

In m-commerce, eco-design can manifest through features such as "green product" labels, carbon footprint disclosures, and minimalistic interface designs that reduce digital energy consumption. Nonetheless, these practices are still limited in Indonesia's local platforms, including Bukalapak, creating a potential space for competitive differentiation.

2.5 Research Gap and Integration with TAM

While a growing body of research has explored personalization (Pappas et al., 2014), privacy (Xu et al., 2008), and eco-design (Joshi & Rahman, 2015) as individual antecedents of consumer behavior, few studies have integrated these dimensions into a unified framework, particularly within the context of mobile commerce in developing economies.

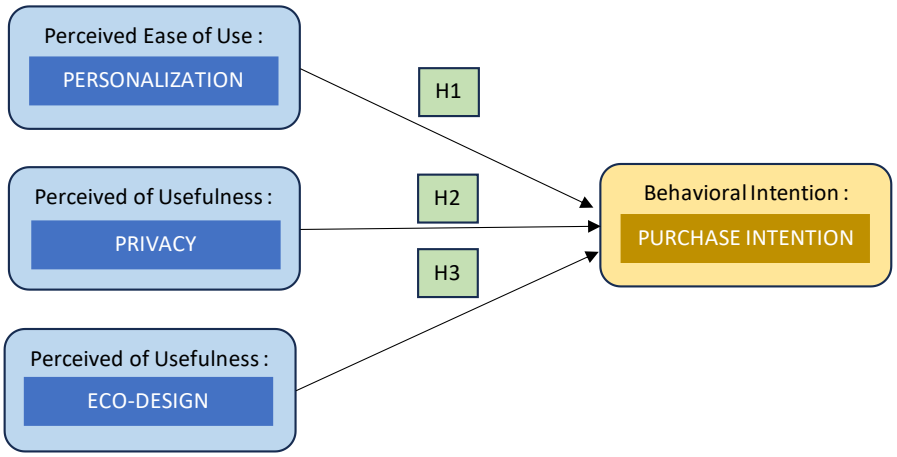
Moreover, existing research tends to focus on dominant platforms with high user engagement, while underperforming platforms like Bukalapak remain underexplored in scholarly literature. This represents a critical gap, especially given Bukalapak's current challenges with user experience, trust, and platform innovation.

To address this gap, the current study proposes an integrated model grounded in the Technology Acceptance Model (TAM), incorporating personalization, privacy, and eco-design as key predictors of purchase intention. The study aims to provide empirical evidence on how these constructs jointly influence users' behavioral intentions in m-commerce, with specific application to Indonesia—a mobile-first, digitally emerging market.

2.6 Conceptual Framework and Hypotheses

Based on the literature reviewed, a conceptual framework is developed to examine the direct influence of personalization, privacy, and eco-design on users' purchase intention in mobile commerce applications. The framework aligns with the TAM paradigm, where these three constructs are posited to influence perceived usefulness, trust, and ultimately, purchase intention. The model is visually presented in Figure 2.1.

Figure 2.1 The Proposed Framework



Source: Data procesed by Author (2025)

Based on this conceptual model, the following hypotheses are proposed:

- **H1**: Personalization has a positive and significant effect on purchase intention in mobile commerce applications.
- **H2**: Privacy has a positive and significant effect on purchase intention in mobile commerce applications.
- **H3**: Eco-design has a positive and significant effect on purchase intention in mobile commerce applications.

This framework serves as the basis for empirical testing using a quantitative approach to determine the strength and significance of these relationships in shaping consumer decision-making within Indonesia's increasingly competitive and sustainability-oriented m-commerce environment.

III. METHODS

This study adopts a quantitative research approach to investigate the influence of personalization, privacy, and eco-design on purchase intention within the context of mobile commerce (m-commerce) applications in Indonesia. The research is designed as a causal-explanatory study, aiming to empirically test the relationships between the proposed independent and dependent variables using a hypothesis-driven model.

3.1 Research Design

This study employs a cross-sectional design and utilizes a hypothesis testing approach based on the Technology Acceptance Model (TAM) as the theoretical foundation. The research framework integrates key constructs derived from TAM and relevant extensions to explore user behavior in adopting m-commerce applications. The causal relationships among variables are examined through structural equation modeling (SEM) using the partial least squares (PLS) technique.

3.2 Population, Sample, and Sampling Technique

The population in this study comprises individuals in Indonesia who have used mobile-based e-commerce (m-commerce) platforms such as Shopee, Tokopedia, TikTok Shop, or Bukalapak. The sampling method employed is purposive sampling, a non-probability technique used to ensure that

only respondents who meet specific criteria are selected. The inclusion criteria required respondents to have made at least one online purchase via a mobile commerce application within the past six months. A total of 250 valid responses were collected and included in the final analysis. This sample size meets the minimum requirements for SEM-PLS analysis, as suggested by Hair et al. (2021), particularly considering the complexity of the proposed research model.

3.3 Data Collection Procedure

Primary data were gathered through a structured online questionnaire, distributed via digital platforms including social media, online communities, and instant messaging applications. The questionnaire consisted of four main sections: respondent profile, personalization, privacy, eco-design, and purchase intention.

All measurement items were adopted and refined from validated scales in previous studies, ensuring contextual relevance and clarity in the m-commerce environment. Each item was measured using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), to capture respondents' perceptions.

To ensure instrument validity and reliability, a pilot test was conducted with 30 respondents. The results were used to revise ambiguous or unclear items before full-scale distribution.

3.4 Data Analysis Technique

The collected data were analyzed using the Structural Equation Modeling – Partial Least Squares (SEM-PLS) method, which is particularly suitable for predictive modeling involving latent variables and relatively small to moderate sample sizes. This method enables the simultaneous analysis of both the measurement model (outer model) and the structural model (inner model).

The analysis was conducted using SmartPLS version 4.0, involving the following steps:

1. Measurement Model Evaluation:
   This stage tested the reliability and validity of the constructs, including internal consistency reliability (using Cronbach's alpha and composite reliability), convergent validity (via Average Variance Extracted), and discriminant validity (using Fornell-Larcker criterion and HTMT ratio).
2. Structural Model Evaluation:
   This stage examined the path coefficients, t-values, and p-values using a bootstrapping technique with 5,000 resamples to assess the significance of the hypothesized relationships. Additionally, the model's predictive relevance (Q^2) and coefficient of determination (R^2) were evaluated to determine the explanatory power of the model.
3. Assessment of Multicollinearity:
   The variance inflation factor (VIF) was also analyzed to ensure no multicollinearity existed among the predictors.

SEM-PLS was selected due to its flexibility in handling non-normally distributed data, robustness in exploratory studies, and its capacity to handle complex models with multiple constructs and indicators. Given the sample size and model complexity, SEM-PLS offers an optimal approach for testing the theoretical framework developed in this study.

Table 3.1 Description of Variables and Indicators

Variable	Indicator Code	Indicator Description	Source
Personalization	PERS1	The app provides product recommendations based on my interests and shopping behavior	Pappas et al. (2014)
	PERS2	I feel my shopping experience is more relevant due to personalization features	Tam & Ho (2006)

Variable	Indicator Code	Indicator Description	Source
	PERS3	I can customize the app interface or personal preferences	Liang et al. (2006)
	PERS4	The content shown in the app matches my needs	Pappas et al. (2014)
Privacy	PRIV1	I believe the app keeps my personal data confidential	Xu et al. (2008)
	PRIV2	The app transparently explains how my data is used	Bansal et al. (2010)
	PRIV3	I feel safe sharing personal information with this app	Liébana-Cabanillas et al. (2017)
	PRIV4	I am aware of and can control what permissions the app has over my data	Shin (2010)
Eco-Design	ECO1	The app displays and promotes environmentally friendly products	Joshi & Rahman (2015)
	ECO2	I am interested in using apps that promote sustainable lifestyles	Chen et al. (2020)
	ECO3	The app provides information about the environmental impact of the products it sells	Dangelico & Vocalelli (2017)
	ECO4	I consider environmental aspects when shopping through mobile apps	Prakash et al. (2019)
Purchase Intention	INT1	I intend to purchase products through this m-commerce app again in the future	Dodds et al. (1991)
	INT2	I will recommend this app to others for online shopping	Pavlou (2003)
	INT3	I am likely to continue using this app for future purchases	Fishbein & Ajzen (1975)
	INT4	I am interested in exploring more products through this app	Liébana-Cabanillas et al. (2017)

Source: Data processed by Author (2025)

IV. RESULTS AND DISCUSSION

This section presents the empirical findings based on data collected from 250 active users of m-commerce applications in Indonesia. The analysis was conducted using SmartPLS 4.0, employing the Structural Equation Modeling–Partial Least Squares (SEM-PLS) approach to examine the relationships among the study variables.

4.1 Respondent Profile

The demographic characteristics of the respondents offer valuable insights into the user base of m-commerce applications in Indonesia. The sample includes a diverse cross-section of the population in terms of gender, age, geographic location, and occupation, reflecting the widespread adoption of mobile commerce across the country.

Table 4.1 Respondent Demographics (N = 250)

Variable	Category	Frequency	Percentage (%)
Gender	Male	110	44.0%
	Female	140	56.0%
Age	17–25 years	85	34.0%
	26–35 years	105	42.0%
	36–45 years	42	16.8%
	>45 years	18	7.2%
City	Jakarta	78	31.2%

Variable	Category	Frequency	Percentage (%)
	Surabaya	47	18.8%
	Bandung	43	17.2%
	Medan	39	15.6%
	Makassar	25	10.0%
	Other major cities	18	7.2%
Occupation	Student	64	25.6%
	Private sector employee	101	40.4%
	Entrepreneur	48	19.2%
	Civil servant	22	8.8%
	Others	15	6.0%

Source: Data processed by Author

A majority of the respondents were female (56%), suggesting a slightly higher engagement of women in m-commerce activities. The age distribution is dominated by individuals aged 26–35 (42%) and 17–25 (34%), indicating that digital shopping platforms are especially popular among tech-savvy young adults. In terms of geographic representation, the largest user bases were located in Jakarta (31.2%), Surabaya (18.8%), and Bandung (17.2%), highlighting the urban-centric nature of m-commerce adoption in Indonesia. With regard to occupation, the sample includes private sector employees (40.4%), students (25.6%), and entrepreneurs (19.2%).

These findings underscore the critical importance of targeting urban, digitally literate consumers particularly young adults as the primary market segment for m-commerce platforms in Indonesia. Understanding this demographic composition can assist platforms in tailoring their marketing, service design, and innovation strategies to better meet user expectations.

4.2 Measurement Model Assessment

To evaluate the reliability and validity of the research constructs, we conducted a thorough assessment of the measurement model. This included:

- Indicator Reliability: All item loadings exceeded the recommended threshold of 0.7, indicating sufficient reliability at the item level.
- Internal Consistency Reliability: Composite reliability (CR) values for all constructs ranged between 0.80 and 0.92, surpassing the minimum acceptable value of 0.70.
- Convergent Validity: Average Variance Extracted (AVE) values were above the 0.50 threshold, confirming that each construct explained more than half of the variance of its indicators.
- Discriminant Validity: Fornell-Larcker and HTMT criteria were satisfied, confirming that constructs are empirically distinct from one another.

This measurement model validation ensures that the structural model testing is based on sound and robust constructs.

Table 4.2 Outer Loadings and AVE

Variable	Indicator	Outer Loading	AVE	Cronbach's Alpha	Composite Reliability
Personalization	PERS1	0.812	0.679	0.842	0.886
	PERS2	0.793			
	PERS3	0.847			
	PERS4	0.816			
Privacy	PRIV1	0.803	0.688	0.835	0.881
	PRIV2	0.781			
	PRIV3	0.853			
	PRIV4	0.812			
Eco-Design	ECO1	0.821	0.695	0.849	0.891

Variable	Indicator	Outer Loading	AVE	Cronbach's Alpha	Composite Reliability
Personalization	PERS1	0.812	0.679	0.842	0.886
	ECO2	0.841			
	ECO3	0.812			
	ECO4	0.851			
Purchase Intention	INT1	0.832	0.702	0.857	0.896
	INT2	0.798			
	INT3	0.860			
	INT4	0.841			

Source: Data process by SmartPLS 4.0 (2025)

All indicators met the minimum threshold for outer loading (>0.70), AVE (>0.50), and composite reliability (>0.70), indicating acceptable levels of validity and reliability.

4.3 Structural Model Assessment and Hypothesis Testing

The structural model was tested using a bootstrapping procedure with 5,000 subsamples to assess the path coefficients and the significance of the hypothesized relationships. The model examined the effect of three independent variables personalization, privacy, and eco-design—on the dependent variable, purchase intention.

The results revealed that all three variables have positive and statistically significant effects on purchase intention at $p < 0.05$, as shown below:

- Personalization → Purchase Intention: $\beta = 0.341$, $t = 6.521$, $p < 0.001$
- Privacy → Purchase Intention: $\beta = 0.308$, $t = 5.884$, $p < 0.001$
- Eco-design → Purchase Intention: $\beta = 0.276$, $t = 5.173$, $p < 0.001$

The model shows that all three independent variables have positive and statistically significant effects on purchase intention at $p < 0.05$. Among the three, personalization has the strongest influence, followed by privacy and eco-design.

Table 4.3 Hypothesis Testing Results

Hypothesis	Path	β Coefficient	t-Statistic	p-Value	Decision
H1	Personalization → Purchase Intention	0.341	6.521	0.000	Supported
H2	Privacy → Purchase Intention	0.308	5.884	0.000	Supported
H3	Eco-Design → Purchase Intention	0.276	5.173	0.000	Supported

Source: Data process by SmartPLS 4.0 (2025)

4.4 Discussion

The findings offer several theoretical and practical contributions to the existing body of literature on mobile commerce and consumer behavior in emerging digital markets:

Personalization as the Dominant Predictor

The strong influence of personalization on purchase intention aligns with prior studies (e.g., Pappas et al., 2014; Bleier & Eisenbeiss, 2015), suggesting that customized content and experiences significantly enhance perceived relevance and user engagement. In the Indonesian context, where consumer expectations are increasingly shaped by global digital experiences, personalization serves as a key driver of consumer loyalty. The relatively weak performance of platforms like Bukalapak in this domain highlights an urgent need to integrate data-driven personalization features to compete effectively with more advanced platforms.

The Growing Importance of Privacy

The significant effect of privacy supports earlier findings by Xu et al. (2008) and Bansal et al. (2010), emphasizing that trust and transparency in data practices are critical in building consumer confidence. With the rise of digital literacy and public awareness around data protection in Indonesia, consumers now demand clearer privacy policies and better control over their personal information. M-commerce platforms that ignore these expectations risk losing user trust and market share.

Eco-Design as an Emerging Competitive Advantage

Although eco-design demonstrated a relatively lower impact compared to personalization and privacy, its positive and significant effect on purchase intention is noteworthy. This result echoes the work of Joshi & Rahman (2015) and reflects a growing consciousness among younger Indonesian consumers about environmental sustainability. The integration of eco-friendly design principles such as sustainable packaging, carbon-conscious logistics, and green certifications can serve as a competitive differentiator, especially for platforms aiming to appeal to Gen Z and millennial users.

4.5 Theoretical and Practical Implications

This study addresses a critical research gap by exploring the role of sustainable digital innovation (i.e., personalization, privacy, and eco-design) in shaping purchase intention on m-commerce platforms in emerging markets. While previous studies have primarily focused on dominant platforms like Shopee and Tokopedia, this research provides new insights by emphasizing the strategic potential for underperforming platforms such as Bukalapak to regain relevance through user-centered innovation.

From a theoretical standpoint, the findings extend the Technology Acceptance Model (TAM) by integrating non-technological but behaviorally relevant constructs (e.g., privacy and sustainability) into the acceptance framework. This enriches our understanding of how psychological and ethical considerations influence digital adoption.

Practically, m-commerce developers and marketers should prioritize the design and implementation of features that are not only functional but also value-driven and ethically aligned. Overreliance on promotional pricing is no longer a sustainable competitive strategy. Platforms must invest in data analytics for personalization, ensure compliance with data privacy regulations, and explore eco-design innovations to build deeper and more lasting user engagement.

V. CONCLUSION

This study investigated the influence of personalization, privacy, and eco-design on purchase intention within the context of mobile commerce (m-commerce) applications in Indonesia. Utilizing a quantitative approach with SEM-PLS analysis on 250 respondents, the findings confirmed that all three independent variables have a positive and significant effect on users' purchase intention.

Among these factors, personalization was found to be the most dominant predictor, emphasizing the critical role of customized user experiences in driving consumer decisions on m-commerce platforms. Privacy also demonstrated a significant impact, indicating that users are increasingly sensitive to how their personal data are managed and protected. Although eco-design exhibited the lowest path coefficient among the variables, its influence remains statistically significant, signaling a growing awareness among consumers toward environmentally responsible digital product design.

These results highlight the importance of integrating user-centric, privacy-assured, and eco-conscious design principles in m-commerce applications to enhance consumer engagement and purchase intention. The study provides practical insights for m-commerce platforms, particularly those facing challenges in user retention such as Bukalapak to adopt innovation-oriented strategies aligned with user preferences and emerging sustainability values.

Theoretical implications of this study lie in its support for extending the Technology Acceptance Model (TAM) by incorporating eco-design into behavioral intention models. Furthermore, practical contributions are evident for platform developers and digital marketers aiming to design more engaging, secure, and sustainable mobile shopping environments.

For future research, the inclusion of mediating variables (e.g., trust, satisfaction) or moderating factors (e.g., digital literacy, platform type) is recommended to provide a more comprehensive understanding of behavioral dynamics in m-commerce. Comparative studies across various digital platforms or regional markets could also offer broader generalizability and strategic insights into mobile-based consumer engagement.

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