

Understanding Indonesian Consumer Responses in the Digital Economy: A Lens of The Information Adoption Model

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Abstract

This research examines marketing communication patterns in electronic commerce (e-commerce) in the big data era that can influence customer online behavior. This study employs the Information Adoption Model to explain the developed research framework. Data were collected using a questionnaire distributed to 338 e-marketplace users in Indonesia selected through a purposive sampling technique. Data were analyzed using Structural Equation Modeling-Partial Least Square (SEM-PLS) with a Path Analysis approach by SMART-PLS. This study indicates that advertisements customized with information about incentives and delivered through a quality platform are considered as appropriate information, encouraging customer behavior to click on advertisements. This study recommends that marketers develop customer communication strategies aligned with the era of big data. To gain positive customers' responses or benefit marketers in the big data era, an effective online advertising strategy should utilize customer profile data and their product traces to create customized offer information that is delivered at the right time and benefit the customers. There are many factors that need to be elaborated regarding online advertising and consumer behavior. In addition, this study does not classify customers based on ages, making it difficult to analyze customer behavior based on generations.

Keywords: advertising, app design quality, incentive, personalization

JEL : M31, M37, D81

DOI : 10.24002/kinerja.v30i2.14094

Received : 02-Feb-2026

Revised:14-Aug-2026

Accepted:17-Sep-2026

1. INTRODUCTION

The development of the internet has now greatly influenced individual behavior, including the behavior on online shopping activities. The tremendous increase in the number of customers buying online and their spending have motivated many businesses to operate online (Dhingra et al., 2020). This statement is supported by data released by Tech in Asia 2025 taken from the Ministry of Trade, which shows an increase in e-commerce users in Indonesia over the past five years, from 2020 to 2024, as shown in the graph below:

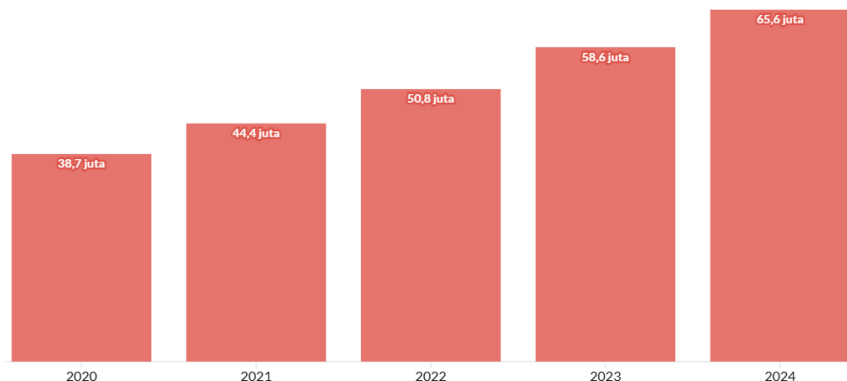


Figure 1. Increase in the Number of E-Commerce Users in Indonesia
(Source: Ministry of Trade Data and Information Systems Center, 2024)

The concept of e-commerce that combines elasticity and precision adopts the role of technology and has the potential to facilitate improvements in business operations (Omar & Elmansori, 2021). One type of online platform that is more competitive, dynamic and widely used by customers is the e-marketplace. The use of e-marketplace applications can enable companies to collect customer profile data and records of product search activities which then become big data. According to Andriani and Nugroho (2025), the most prominent advantage of sales activities through online marketplaces is that companies obtain more complete and accurate customer information so that it can be used to map patterns in designing advertising strategies. The development of the internet and digital technology has made it easier for retailers to collect information for consumer profiling, this is obtained from online users increasingly being burdened with requests for personal data when completing purchases (Aiello et al., 2020). Many companies are now focusing on implementing personalization strategies in advertising to provide customers with real experience based on the information they acquire through customer interaction and usage (Shukla et al., 2021).

Utilization of customer data enables marketers to provide personalized product offers and recommendations, price discounts, free services, and more relevant marketing communications and media content (Ardiansyah et al., 2018; Martin and Murphy, 2017). This gave rise to a new strategy in communication with customers, namely personalization of advertising. Therefore, advertisements that are delivered in a customized manner expose customers to the product offering information they expect. However, according to Tran (2017), personalized advertising sometimes does make customers unhappy or uncomfortable, thus leading to negative responses and feelings towards advertisements, such as avoidance and skepticism.

Providing incentives or financial benefits to customers is expected to reduce feelings of disturbance due to online advertising. Incentive-based mobile advertising triggers positive customer attitudes toward mobile advertising; a finding reinforced by various studies and markets (Gao and Zang, 2016). This is related to the psychological perspective of customers who feel benefited by the existence of an incentive offer in an advertisement they receive. Incentives are the strongest driving factor for customers and have a significant impact on their perception of financial benefits and financial management (Le and Wang, 2020).

In addition to sending customized information and sharing financial benefits to customers, the most important thing in e-commerce activities is the platform used. User engagement and satisfaction on interactive websites are influenced by interface simplicity, content readability, navigational usability, personalized experience, intuitive design, timely feedback, and excessive customization options (Lun et al., 2024). High customer trust strengthens the positive effects of website design and usability on customer satisfaction, while usability weakens satisfaction effects (Guo et al., 2023). Following aesthetic rules in interface design significantly improves the effectiveness of product recommendations and highlights in online fashion stores context (Sulikowski et al., 2022).

Success in online advertising also needs to consider value based on the ability to achieve marketing and communication goals (Karamchandani et al., 2021). Perceived value is associated with customer perceived benefits and trade-offs from online advertising that affect their response (Lin et al., 2016). The use of value constructs becomes important as a measure of advertising effectiveness in the case of online advertising (Ha et al., 2014). The perception of value in advertising is a marketer's concern to shape customer behavior because it determines success in e-commerce.

Besides, the success of e-commerce is also determined by the ability to attract customers' attention and provoke a reaction to the advertisement by clicking, reading, or sharing it with other users (Wu et al., 2018). Several previous studies have examined click intent based on individual characteristics and personalized targeting based on the customer's prior knowledge of the product or service (Celli et al., 2016; Lin et al., 2015). Clicking on an advertisement is an action that reflects the customer's curiosity for more detailed information. Consumer attitudes, which previously tended to be passive in responding to traditional advertising, have changed drastically in today's highly connected environment (Divya et al., 2025). Customer attitudes have become more interactive by providing feedback to marketers due to the ease of the latest technology. Therefore, the advertising click construct can measure customer behavior on exposure to information in the form of advertisement they receive.

Based on several literature studies, such as research conducted by Liu-Thompkins (2019) and Mou et al. (2019), the construct of advertising personalization is relatively new. This is also supported by findings from Varnali (2019) suggesting exploring the use of contextual information to improve the predictive ability of profiling based on online behavioral data and reflecting customer responses. Varnali (2019) also mentioned the three-layer structure of online behavioral advertising that became a reference for research, namely customer characteristics, personalized advertising, and websites where advertising was customized based on customer behavior. Then, Yang and Zhai (2022) stated that click through intention is still a relevant topic to be researched in relation to advertising. In addition, studies conducted by Kalantari (2017) stating that researchers and industry experts are

interested in exploring customer decision processes and determining the factors that can motivate individuals and businesses to adopt and use technology. Therefore, this study attempts to combine the personalization in advertising, incentives, apps design quality, and advertising value to see customer behavior reflected by the advertising click construct in the e-marketplace context.

Several studies on online advertising, such as those conducted by Andriani and Nugroho (2025), Cyr et al. (2018), Deng et al. (2022), Segev and Fernandes (2023), Tseng and Ou (2025), use Elaboration Likelihood Model (ELM) to explain the conceptual framework. Besides the ELM, the theory of Technology Acceptance Model (TAM) has been widely used in the context of e-commerce (Guo and Zhang, 2024; Hossain et al. 2023; Nuralam et al. 2024; Vărzaru et al. 2021; Vo et al. 2022). This study applies the Information Adoption Model developed by Sussman and Siegal (2003) as a grand theory. This is based on the Information Adoption Model proposed by Sussman and Siegal (2003) which is a development of the previous theory, namely the Elaboration Likelihood Model (ELM) by Petty and Cacioppo (1986) and the Technology Acceptance Model (TAM) by Davis (1989) which explains how individuals adopt information to ultimately influence intentions and behavior through technology-based communication.

This study aims to examine customer perceptions of personalization, incentives, apps design quality, advertising value, and advertising click in the e-commerce context. The Information Adoption Model is used in this study as a powerful lens to explain the interrelationships of all the constructs used in this study. The focus of this study is on customers in Indonesia to examine their responses to advertisements they encounter in e-marketplaces, especially their behavioral tendencies to interact with such advertisements.

2. LITERATURE REVIEW

2.1. Information Adoption Model

Information Adoption Model tries to integrate ELM and TAM where individuals will feel the benefits of information and then process to receive it when the quality of the information and the credibility of the source are validated. This is the highlight of the Information Adoption Model, argument quality captures the extent to which individuals perceive information as complete, consistent, and accurate, while source credibility refers to the extent to which individuals perceive information sources as credible, knowledgeable, and trustworthy (Sussman and Siegal, 2003). Argument quality and source credibility are the main predictors in adopting information to investigate whether the information can influence the individual's perception (Shu and Scott, 2014). According to Cheung (2014), the Information Adoption Model needs to consider the characteristics of the webpage search facility and the relevance of the information to customers when adopting the information.

Wang (2016) found it crucial for companies to understand the various factors that influence the process of adopting potential customer information, so that companies can take full advantage of these various factors to promote their products or services online. Therefore, this study uses Information Adoption Model as a foundation theory to explain customer behavior in adopting personalized advertising by adding incentives and involving perceptions of app design quality to determine customer behavior. So far, the Information Adoption Model

has been widely used to explain studies related to reviews, recommendations, electronic word of mouth. However, to the best of our knowledge, it has not been explored much to explain customer behavior in adopting customized advertising as the quality information in the context of e-commerce.

2.2. The Relationship between Personalization and Advertising Value

Personalization is the extent to which an e-retailer's website can identify customers to customize the customer's choice of products, services, and shopping experience (Srinivasan et al., 2002). Personalized advertising refers to the inclusion of information specific to the recipient of a marketing message including demographic characteristics, location, personal interests, purchase history, and online behavioral information about the customer (De Keyser et al., 2022; McKee et al., 2024; Yeo et al., 2025), prior knowledge of the customer's relationship with the product, preferences, attitudes, emotions, goals (Wu et al., 2018), transactional, behavioral and demographic data (Taylor et al., 2009). Personalization at the customer journey level requires a deep understanding of diverse customer needs and behaviors (Van Nguyen et al., 2024). Personalization refers to the ability of an online business to customize its services to meet the specific needs and demands of customers (Dhingra et al., 2020) based on past and present customer behavior (Baek and Morimoto, 2012).

Meanwhile, Chhabria et al. (2023) in the retail sector found that personalized marketing has a positive impact on customer satisfaction and loyalty, leading to increased engagement, retention, and revenue growth. Customers feel that personalization in online advertising gives value to their activities in browsing product information. Lee et al. (2017) and Aydin (2018) stated that personalization affects customers' perception of advertising value. According to Lee et al. (2017) and Kim and Han (2014), online advertising can be optimized for customers increasing the value of advertising. Moreover, personalization on retail websites enhances the customer experience, thereby encouraging greater focus on favorite products and increasing the likelihood of a purchase (Lambillotte et al., 2022). This also provides value for the delivery of online advertising. Therefore, customized advertising can increase the value of product offering information, making it easier for customers to find products that really match their preferences. Consequently, the first hypothesis is constructed as follows:

H1: Personalization has a positive effect on advertising value.

2.3. The Relationship between Incentives and Advertising Value

There are two types of incentives, namely cash incentives and non-cash incentives. Cash incentives are defined as gifts worth a currency or currency equivalent, such as gifts or discounts on future purchases, while non-cash incentives are defined as benefits that do not have a cash equivalent value, such as information, assistance, or adjustments (Taylor et al., 2009). Similarly, Zhang et al. (2024) found that promotional incentives can be monetary, such as discounts, or non-monetary, such as free gifts. Ducoffe (1996) stated that online shopping incentives including discounts, coupons, and gifts, as well as time-saving benefits such as priority service, were consistently shown to be positive predictors of customer attitudes and responses in the context of e-commerce.

Incentives are conceptually considered as a positive reinforcement mechanism that contributes to explaining the advertising value (Chaihanchai et al., 2026). When customers see promotions in the form of product bonuses or discounts in advertisements through their devices, they will seek ways to take advantage of the offer (Kim and Han, 2014). Meanwhile, Kashyap et al. (2026) perceived that incentives are classified as external stimulus factors that have been proven to influence advertising value. Le and Wang (2020) added that if customers are more attracted to incentives, they drive a more significant response to make a purchase. Therefore, advertising that contains incentives will lead advertising into valuable information. Therefore, the second hypothesis is formulated as follows:

H2: Incentives have a positive effect on advertising value.

2.4. The Relationship between Apps Design Quality and Advertising Value

The design on the online platform is a collection of elements that are perceived by the customer on the site of information search and product selection (Ha and Stoel, 2009). The online platform is the key to the company's success in reaching communication channels with customers (Chen et al., 2017). In the era of e-commerce, shopping is impersonal and e-retailers do not know the customers and cannot see them. However, they can transact with customers in a digital environment through a capable application or web (Venkatakrisnan et al., 2023). Pšurný et al. (2022) reinforced that consumers from various segments increasingly prefer to access e-commerce platforms through websites or applications on digital devices. Therefore, online retailers should pay attention to e-store operations, including technical solutions that enhance ease of use, to ensure a comfortable shopping experience through web browsers or applications.

Therefore, maintaining the quality of the online platform is very important for retaining customers and encouraging them to make return visits, which in turn will foster customer loyalty. Myunghee and Miyoung (2017) added that an online platform with a great design must also have a good navigation function allowing users as potential customers to explore the platform more thoroughly and prevent them from confusion. Sharma and Lijuan (2015) also argued that a more visually acceptable website often results in a better quality of service and can impact on the customer experience which ultimately maintains the long-term relationship between the service provider and the customer.

Good website design has a positive influence on consumer trust in the e-commerce environment (Arizal et al., 2024). Website quality significantly influences the perception of customer value and loyalty within the online shopping experience (Tsao et al., 2016). Fatta, Musotto, and Vesperi (2016) conducted a meta-analysis and showed that perceived platform quality has a significant effect on ease of use, usability, and enjoyment, thereby encouraging the use of online platforms for shopping. These findings indicate that design quality in applications, such as online shopping platforms, is an important aspect that requires attention because it enables customers to comfortably access and adopt information, thereby enhancing the perceived value and acceptance of advertising content. Therefore, the ease of access due to good design quality on online shopping platforms will increase the value of online advertising. Thus, the third hypothesis is structured as follows:

H3: Apps design quality has a positive effect on advertising value.

2.5. The Relationship between Advertising Value and Advertising Clicks

Ducoffe (1995) defines advertising value as a subjective evaluation of the relative value or utility of advertising to customers. Advertising value should also be able to meet customer expectations because the value of advertising becomes the orientation of promotional activities (Ducoffe, 1996). According to Ye et al. (2025), the ability of advertisements to present product information is viewed as the primary reason why consumers pay attention to them. Advertising value can predict behavior strongly in the context of online advertising (Ha et al., 2014).

One of the behaviors in online advertising is clicking on advertising to explore more detailed information. Zhang and Lee (2022) in social media context research stated that social media advertisements often contain links that consumers can click to access further information. Further click-through is mostly used in advertising serving for more detailed information. Advertising click is not only driven by customer responses to specific advertisements, but also their general attitude towards online advertising in particular (Taylor et al., 2011). When they click and watch the advertisement, they can get more clues about the advertised product (Yu et al., 2019).

The higher the click-through intensity will lead customers to a better response to banner advertisement on the online platform (Yu et al., 2019). One of them is because product offering information is considered valuable or beneficial to customers so that it can direct customer behavior to click on online advertisement. This indicates that customers' general liking or disliking of social media advertisements will be transferred to their attitudes and behavior towards certain forms of advertising (Zhang & Mao, 2016). Yu et al. (2019) stated that the click-through intention of customers' advertisement increased one of them because of visual appeal and quality of information to customers. This is reinforced by Gudipudi et al. (2023) which states that click-through rates in online advertising improve business performance and maximize revenue. Therefore, online advertisements perceived as valuable information by customers can encourage them to seek further product information. Therefore, the fourth hypothesis is stated as follows:

H4: Advertising value has a positive effect on advertising click.

3. METHODOLOGY

This study applied a quantitative study with an explanatory approach aiming to test the causal relationship between variables. This study used a purposive sampling technique with the criteria of respondents being Indonesian citizens, aged at least 16 years, who have made purchases at least once a year through e-marketplaces, namely Lazada, Tokopedia, or Shopee. The total respondents in this study were 338 users of e-marketplaces. Meanwhile, the target respondents in this study were calculated referring to the sample determination formula by Hair et al., (2021) where 5 to 10 were multiplied by the number of items, resulting in 10 multiplied by 18 items equaling 180 respondents. Therefore, the number of samples in

this study has exceeded the targeted number of samples. The demographics of the respondents can be seen in detail in Table 1. Data collection used a questionnaire distributed online with a Likert scale of 1 (strongly disagree) to 5 (strongly agree).

The instruments used were adopted from previous studies and then translated into Indonesian. The indicator that represents personalization consists of five items adapted from Srinivasan et al. (2002). Indicators that represent incentives consist of three items adapted from Kim and Han (2014). Meanwhile, indicators that represent apps design quality consist of four items adapted from Ha and Im (2012). Then, the indicator that represents the advertising value consists of three items adapted from Ducoffe (1995). The indicator that represents advertising click consists of three items proposed by Zhang and Mao (2016). All the indicators have been modified to suit the research topic.

Data analysis was conducted using SMART-PLS 3.0 software, employing the Structural Equation Modeling-Partial Least Squares (SEM-PLS). The analysis process comprised instrument evaluation (outer models) includes validity and reliability testing, structural model evaluation (inner models) examining VIF values for collinearity, and hypothesis testing via path analysis to assess the hypothesized relationships between variables.

Table 1. Demographic of Respondent

Description	Frequency	Percentage (%)
Gender		
Male	129	37.8
Female	209	61.3
Age (in year)		
16-25	124	36.4
26-35	191	56
36-45	19	5.6
46-55	4	1.2
Education Background		
Senior High School	41	12
Vocational	16	4.7
Bachelor	219	64.2
Master	58	17
Doctor	4	1.2
Average Expenditure per Month		
<IDR 1.000.000	62	18.2
IDR 1.000.000 - IDR 2.500.000	127	37.2
IDR 2.500.001 - IDR 5.000.000	97	28.4
IDR 5.000.001 - IDR 7.500.000	30	8.8
IDR 7.500.001 - IDR 10.000.000	13	3.8
>IDR 10.000.000	9	2.6
E-marketplaces		

Lazada	20	5.9
Shopee	253	74.2
Tokopedia	65	19.1

Source: Data analysis (2026)

Based on the demographics of the respondents obtained in this study, several findings are indicated, including, first, in terms of gender, this study is dominated by women. This indicates that women have a greater interest in shopping than men. Second, in terms of age, the majority of respondents were in the 12 to 35 years old. This represents a productive age range characterized by high shopping needs, particularly since individuals in this group are often employed and have the income to cover daily expenses. Third, regarding education, the majority of respondents held a bachelor's degree. This aligns with the dominant age group, as individuals of this age with such qualifications are typically already in the workforce. Fourth, regarding monthly expenditure, the largest group of respondents spent between IDR 1,000,000 and IDR 2,500,000, indicating an economic capacity that makes purchasing on e-marketplaces highly feasible. Fifth, Shopee emerged as the favorite e-marketplace. This indicates that Shopee is the easiest to operate and provides the most financial benefits for customers. Therefore, Shopee users were the largest respondents.

4. RESULT AND DISCUSSION

4.1. Result

Before the research instrument is used, it is first tested using validity and reliability tests. The validity test is divided into two, namely the convergent and discriminant validity tests. The convergent validity test is declared valid if the loading value is more than 0.7, but indicators with loading values between 0.4 to 0.7 will still be maintained if they do not interfere with the Average Variance Extracted (AVE) and Composite reliability (CR) Hair et al. (2021). Furthermore, the results of the reliability test are measured from the Composite Reliability (CR) and Cronbach's Alpha (CA) values that an instrument is declared reliable if the CR more than 0.7 and CA more than 0.7 reflects the internal consistency of the measuring instrument (Hair et al., 2021). All indicators in this research instrument have met the criteria for testing the validity convergent and reliability, as shown in Table 2.

Table 2. Item Construct Statistic

Constructs	Indicators	Loading Value	AVE	CR	CA
Personalization (P)	P1: Online advertisements that appear on e-marketplaces provide recommendations for	0.851	0.647	0.901	0.647
	product advertisements according to my needs.				

	P2: Online advertisements that appear on e-marketplaces are created specifically to suit my preferences.	0.816			
	P3: Online advertisements that appear on e-marketplaces are tailored to my needs.	0.859			
	P4: The appearance of online advertisements on e-marketplaces that have been tailored to my needs makes me feel like a special customer.	0.721			
	P5: I believe that online advertising on e-marketplaces is customized to my needs.	0.769			
Incentives (I)	I1: I am satisfied with getting advertisements on e-marketplaces that offer financial benefits (eg: free shipping, cashback, discounts, etc.)	0.836			
	I2: I tend to accept online advertisements that offer financial benefits (eg: free shipping, cashback, discounts etc.)	0.814	0.704	0.877	0.704
	I3: In my opinion, online advertisements displayed on e-marketplaces will provide me with financial benefits (eg: free shipping, cashback, discounts, etc.)	0.866			
Apps Design Quality (ADQ)	ADQ1: For me, online marketplaces are interesting.	0.832			
	ADQ 2: E-marketplace uses font types correctly.	0.862			
	ADQ 3: E-marketplaces use layout colors appropriately.	0.863	0.914	0.914	0.728
	ADQ 4: E-marketplaces use multimedia features well.	0.855			
Advertising Value (AV)	AV1: For me, advertising on e-marketplaces is valuable.	0.918			
	AV2: For me, advertising on e-marketplaces is useful.	0.917	0.941	0.941	0.841
	AV3: For me, advertising on e-marketplaces is important.	0.917			
Advertising Click (AC)	AC1: I clicked on an advertisement on an e-marketplace to understand more	0.909	0.915	0.915	0.782

about the product being advertised.	
AC2: I clicked on an advertisement in an e-marketplace to make a purchase.	0.863
AC3: I clicked on an ad on an e-marketplace to get more information about the product being advertised.	0.880

Source: Data analysis (2026)

Furthermore, the discriminant validity test is used to ensure that each variable in the research model is significantly distinct from the others. In this study, discriminant validity was assessed using the Fornell-Larcker Criterion and the Heterotrait-Monotrait (HTMT) ratio. The Fornell-Larcker Criterion, seen from the cross-loading value of each construct, was declared good when the indicator of the construct had the highest loading value in the group or column, while the HTMT Ratio was declared fulfilled if the HTMT value was below 0.85 (Hair et al., 2021). In this study, the Fornell-Larcker Criterion and HTMT ratio tests have been fulfilled as shown in tables 3 and 4 below.

Table 3. Fornell-Larcker Criterion

	Advertising Click	Advertising Value	Apps Design Quality	Incentive	Personalization
Advertising Click	0.884				
Advertising Value	0.719	0.917			
Apps Design Quality	0.492	0.513	0.853		
Incentive	0.452	0.535	0.386	0.839	
Personalization	0.580	0.653	0.457	0.561	0.805

Tabel 4. Heteroit-Monotrait (HTMT)

	Advertising Click	Advertising Value	Apps Design Quality	Incentive	Personalization
Advertising Click					
Advertising Value	0.814				
Apps Design Quality	0.557	0.566			
Incentive	0.547	0.622	0.454		
Personalization	0.669	0.732	0.522	0.669	

Source: Data analysis (2026)

After the outer model is fulfilled, the next step is to evaluate the structural model reviewed from the collinearity test by looking at the VIF value and the coefficient of determination seen from the adjusted R squared value. Based on the collinearity test, all items in this study have a VIF value below 10 so they are declared free of collinearity. In addition, the coefficient of determination in this study on the advertising click variable shows an adjusted R square of 0.515, which indicates that advertising value influences advertising clicks by 51.5% and on the advertising value variable shows an adjusted R square of 0.507,

which indicates that personalization, incentives, and app design quality influence advertising value by 50.7%. Based on the structural model evaluation results, the model developed in this study met the necessary eligibility criteria and was deemed valid. After the research model is declared good, the hypothesis is feasible to test. The results of the structural model evaluation are presented in Tables 5 and 6.

Table 5. Collinearity

	VIF
AC1	2.712
AC2	1.937
AC3	2.283
ADQ1	1.777
ADQ2	2.430
ADQ3	2.739
ADQ4	2.454
AV1	3.004
AV2	2.834
AV3	2.987
I1	1.581
I2	1.712
I3	1.737
P2	2.111
P3	2.501
P4	1.450
P5	1.772
P1	2.337

Source: Data analysis (2026)

Table 6. Coefficient Determination

	R Square	R Square Adjusted
Advertising Click	0.517	0.515
Advertising Value	0.511	0.507

Next, hypothesis testing was conducted using a path analysis approach to examine the influence between hypothesized variables based on beta coefficient values. Hypotheses were considered accepted when p-values were below 0.005 and t-values exceeded 1.96 (Hair et al., 2021). The results indicate that the influence of personalization on advertising value is 0.431. Meanwhile, the influence of incentives on advertising value is 0.201, the influence of app design quality on advertising value is 0.239, and the influence of advertising value on advertising clicks is 0.719. All hypotheses in this study were accepted, as they met the criteria of a p-value of 0.000 and a t-value above 1.96, as summarized in the hypothesis results Table 7 and the SMART-PLS output presented in Figure 2.

Table 7. Hypothesis Results

Hypothesis	Paths	Direction	B Coefficient	T Values	P Values	Decision
H1	Personalization → Advertising Value	Positive	0.431	8.230	p<0.000	Approved
H2	Incentives → Advertising Value	Positive	0.201	3.721	p<0.000	Approved
H3	Apps Design Quality → Advertising Value	Positive	0.239	5.202	p<0.000	Approved
H4	Advertising Value → Advertising Click	Positive	0.719	23.090	p<0.000	Approved

Source: Data analysis (2026)

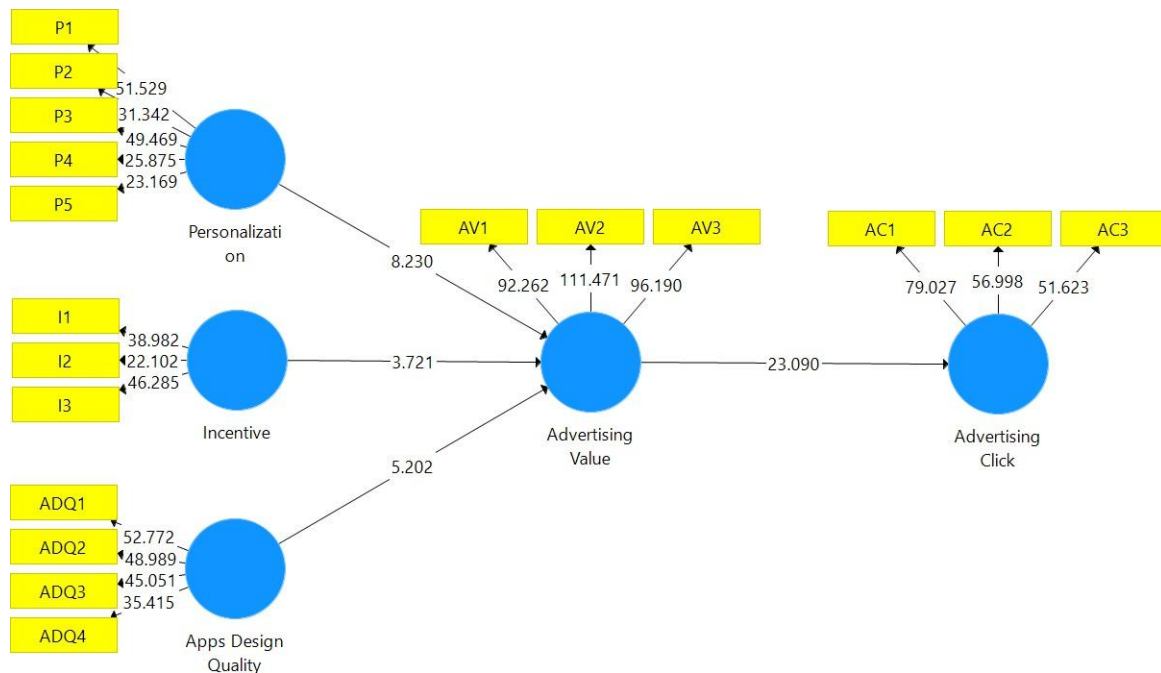


Figure 2. Output of SMART-PLS

4.2. Discussion

The general purpose of online advertising is to convey information to customers, attract their attention, encourage them to browse and click on advertisements, and ultimately persuade them to make purchases (Breuer and Brettel, 2012). This study has examined several important components of online advertising and identified the interrelationships between the constructs involved in the developed research model.

The relationship between personalization and advertising value has been approved. These findings support research from Aydin (2018), Lee et al. (2017), Shukla et al. (2021). Advertising value is an important key, so that online advertising can be accepted by customers (Lee et al., 2017). Dua and Uddin (2022) also perceive that buyer commonly look for convenience, personalized attention, and fast customer service to solve their problems.

Aljukhadar et al. (2012), Tam and Ho (2005), Ying Ho and Bodoff (2014), and Zhang et al. (2011) revealed that personalization strategy can improve the quality of customer decisions by reducing the excess information presented to customers. The reduction of information that is considered less relevant to the customer's condition helps customers to focus on the things they are looking for. Therefore, it is highly recommended to design an advertising personalization strategy to be aligned with the value that will be transferred to the customer. The findings of this study indicate that the more tailored the advertising to the customer's characteristics, the more valuable the online advertising is.

The relationship between incentive and advertising value has been approved (Arora and Agarwal, 2019; Kim and Han, 2014; and Martins et al., 2019). Moreover, Tibrani et al. (2024) also states that advertising strategies and promotional activities affect human behavior. Incentives make advertisements more interesting and valuable for customers. This is because financial benefits can psychologically motivate customers to seek more detailed information. This finding indicates that advertisements providing greater financial benefits are more likely to be perceived as valuable by customers because they offer meaningful benefits.

The relationship between apps design quality and advertising value has been approved. This finding strengthens the research of Wilson et al. (2019), Zhou et al. (2009) and Dua and Uddin (2022) who found that good design increases the value of an advertisement as it increases customer satisfaction. Design is one of the factors that provide convenience for customers to access product information, especially through the advertisements displayed. An easy-to-understand app design with harmonious navigation, colors, and fonts makes advertisements acceptable to customers. Good and valuable informational content on sales websites and an aesthetically pleasing design influence a customer's buying experience and the desire to shop online (Dua and Uddin, 2022).

Meanwhile, Omar and Elmansori (2021) suggested that an attractive framework is essential to encourage business practitioners to remain competitive in creating more effective information-based transactions. Moreover, customers believe that their ability to operate mobile applications also influences their adoption behavior (Ratten, 2009). Therefore, ease of application navigation design becomes an important consideration. This finding indicates that the better the quality of application design, the more customers appreciate advertisements.

The relationship between advertising value and advertising click has been approved. This finding is in line with research from Zhang and Mao (2016) that advertisements that are of value must be informative and entertaining affect the intention of click on advertisements by customers. In addition, according to Yu et al. (2019) the quality of information also leads customers to click on advertising. If an advertisement is very valuable information, then the interest of customers in accessing it will be high. On the other hand, if the information in the advertisement is considered less valuable for customers, customers will tend to skip it. This finding indicates that the more valuable the information in the advertising, the higher the customer's intention to click on an advertisement.

5. CONCLUSION

This study examines perceptions regarding personalization, incentives, app design

quality, advertising value, and advertising clicking behavior within the e-commerce context. Marketing activities are increasingly conducted within e-commerce environments, utilizing e-marketplaces as transaction platforms. Current marketing orientations are shifting toward a desire to understand customers more comprehensively through their intensive interactions on sales platforms like e-marketplaces. The first finding confirms that personalization has a significant positive impact on advertising value. This indicates that advertisement delivery should not be unstructured, as customized messages are proven to be preferred by customers. The second finding confirms that offering financial benefits or incentives creates advertising value for customers. This suggests that elements beneficial to the customer do not cause irritation when receiving advertisements but instead transform the experience into something valuable and enjoyable. The third finding in this study also proves that app design quality is a crucial aspect for easy information access, thereby contributing to the value of the advertisements received. The fourth finding shows that advertising perceived as valuable by customers drives clicking behavior. These results reinforce the overall conclusion that personalized advertisements combined with incentives become valuable information for customers. Furthermore, an attractive app quality design facilitates easy access to information, thereby enhancing the value of the advertising content received. Consequently, personalization perceived positively by customers encourages interaction with the advertisement, potentially increasing interest and surely driving purchase decisions following exposure to the advertisement.

5.1. Research Implications

This research contributes to proving that there needs to be a strategy to develop online advertising in the big data era. An effective online advertising strategy to get a good response or benefit marketers in the big data era is to utilize customer profile data and their product traces to create a customized offer information at the right time and benefit customers. In addition, from the customer perspective, it gives them an understanding that the marketers use their profile data submission to develop a customization strategy. The arrangement of customized advertisements is attempted to be as minimal as possible not to irritate them by paying attention to the information aspects of offerings that have been adjusted to their preferences, the accuracy of advertising delivery, and the various kinds of financial benefits they can get.

The theoretical contribution given through this study is to add research references related to the use of big data in compiling online advertising on e-commerce, especially e-marketplace sites. This is because online advertising research is more often done in the context of social media. In addition, expanding the application of Information Adoption Model in explaining the phenomenon of online advertising rather than the e-commerce context. This expansion of context shows that Information Adoption Model is not only relevant in explaining the information adoption process in the e-commerce context but can also be used to understand consumers' tendencies to evaluate the value of advertisements and respond to them in an e-marketplace environment.

5.2. Limitations and Future Research Agenda

This research still has some shortcomings. First, there are still many factors that need to be elaborated to become an antecedent of advertising value in the big data era. Second, this study has looked at online advertising behavior through advertising click, but this study has

not examined brand-related behavior. Third, this study examines in general without classifying customer age so that it cannot be analyzed customer behavior based on generation.

This study provides three suggestions for future research agenda. First, this study recommends increasing the number of factors that can be antecedents of advertising value related to the big data era, such as detection of customer location or presence, interactivity, etc. This is because the preparation of online advertising is the time to utilize big data more optimally in reaching customers. Second, this study suggests studying customer attitudes towards the brand as a consequent. This is because the brand is something that is very valuable and is always attached to the product. Third, it is useful for future research to classify generations of respondents for comparison. It is useful to see the character of the customer by generation.

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