

Analysis of The Impact of Website Aesthetics, Accessibility, Security, and Artificial Intelligence on Purchasing Decisions in the Digital Era

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Abstract

The shift in consumer behavior from offline to online shopping requires sellers to consider several aspects for consumer comfort and an engaging experience. Consumers can easily navigate from one marketplace to another. Some aspects of consumer concern are website aesthetics, accessibility, security, and artificial intelligence support. Therefore, this study aims to analyze the influence of website aesthetics, accessibility, security, and artificial intelligence support on purchasing decisions. This study distributed questionnaires to 100 Purwokerto residents, and the data were analyzed using t-test and F-test approaches. The results showed that website aesthetics and accessibility did not influence purchasing decisions. However, security and artificial intelligence did influence purchasing decisions.

Keywords

Website Aesthetics, Accessibility, Security, Artificial Intelligence, Purchasing Decisions.

INTRODUCTION

The digitalization process has significantly shifted consumer behavior, shifting from traditional brick-and-mortar shopping to online shopping, allowing consumers to easily make purchases without having to visit a store. Consumers are offered convenience and an engaging online transaction experience. Consumers can browse from one site to another or from one marketplace to another to find the information they need and even compare products before making a purchase. This situation encourages manufacturers to improve their shopping websites. The consumer's shopping experience from start to finish is connected to the company's website, so the website's appearance provides a comfortable experience for consumers, leading to a desire to purchase their products (Tran, Tran, Le, & Doan, 2023). In other words, website design is considered an important factor in influencing consumer attention which will ultimately drive purchasing decisions (Blagoeva, Mijoska, & Pulevska-Ivanovska, 2023). However, exposure in a matter of seconds of website aesthetics does not immediately create a desire for consumers to make a purchase, it takes longer exposure to convince consumers to decide to make a purchase (Lorenzo-Romero, Constantinides, & Alarcón-del-Amo, 2013). Companies are

very aware of this, so an aesthetic website appearance is one of the marketing strategies adopted by companies to increase sales (Mateja & Wlekly, 2024). This statement is supported by research findings that found a link between e-commerce purchasing decisions and website aesthetics. Furthermore, poor website design drives consumers to websites with a more aesthetic appearance (Jinnevall & Kullar, 2022).

Online purchasing decisions are also influenced by accessibility. Accessibility is a factor that enhances the consumer shopping experience and engagement, thereby enhancing a company's reputation (Rachmawati, Kurniawati, & Kurniawan, 2023). Accessibility is associated with the ease of using an application, system or website by users so that there are no obstacles in using the application, system or website. High accessibility will make it easier for users to find the information they need, such as information about products obtained through online reviews which has a significant impact on purchasing decision making [Agnihotri and Bhattacharya, 2016 in (Han & Jun, 2021); (Wrabel, Kupfer, & Zimmermann, 2023)]. This shows that accessibility provides convenience in transactions such as easy site layout, simple payment process, and clear product information, as a result consumers

tend to be more motivated to make online purchases. (Ridwan & Sutopo, 2024). This statement is reinforced by good accessibility of information that deepens consumers' understanding of the product they are going to buy, thereby building confidence in making purchasing decisions (Wardhana & Soesanto, 2025). Indicators in measuring accessibility that have been studied, such as perceivability, operability, understandability, robustness, are able to significantly influence purchasing decisions (Hussein, Hossam, & Rady, 2022). However, accessibility does not always lead to purchasing decisions (Rahayu, Subagyo, & Widodo, 2022).

The use of innovative technologies such as artificial intelligence (AI) within companies will support the improvement of different shopping experiences for consumers (Ylilehto, Komulainen, & Ulkuniemi, 2021). Finding the right product according to consumer desires is a challenge in online shopping, so AI is the right tool in providing solutions and recommendations that suit consumer preferences, thus enabling users to make the best purchasing decisions (Winarto & Wisesa, 2024); (Manikandan & Bhuvaneswari, 2024); (Bilal, Zhang, Cai, Akram, & Halibas, 2024). AI applications such as personalized recommendations, chatbots, predictive analysis and social media engagements will influence consumer purchasing behavior (Dai & Liu, 2024). The existence of AI in the digital world is strengthened by research results that clearly show that AI features not only increase its usability but also foster positive emotions and improve purchasing behavior, creating a more comfortable, enjoyable, and ultimately profitable shopping experience (Thamma, Anywatnapong, Tunpornchai, & Saetang, 2024).

RESEARCH METHODS

The study will analyze variables that can influence purchasing decisions using dependent variables such as website appearance (website aesthetics), accessibility, security, and the application of artificial intelligence. Data were obtained by distributing questionnaires to respondents from the Purwokerto community. The questionnaire was distributed using Google Forms and the questionnaire scale used a Likert scale. The data used will be analyzed using SPSS to test the influence of website appearance (website aesthetics), accessibility, security, and the application of

artificial intelligence on purchasing decisions through security. Verify the analysis using the t-test and F-test (Allen, 2007) with a significance approach. The test concept that will be proposed is as in Figure 1.

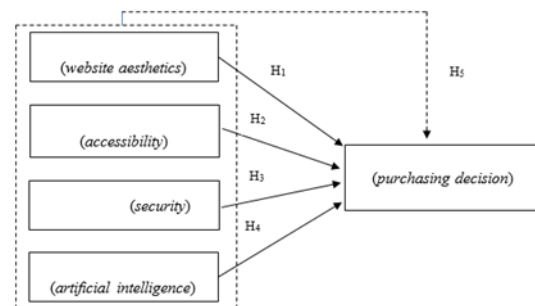


Figure 1. Model Test

The hypotheses to be tested are based on the research model in Figure 1, the literature review, and previous research as follows:

H1: Website aesthetics influence purchasing decisions

H2: Accessibility influences purchasing decisions

H3: Security influences purchasing decisions

H4: Artificial intelligence influences purchasing decisions

H5: Website aesthetics, accessibility, security, and AI can influence purchasing decisions in the digital era

RESULTS AND DISCUSSION

The study respondents were 100 Purwokerto residents, divided into five regions within Purwokerto. North Purwokerto comprised 57 respondents (57%), South Purwokerto comprised 17 respondents (17%), East Purwokerto comprised 16 respondents (16%), and West Purwokerto comprised 10 respondents (10%). This indicates that the majority of respondents reside in North Purwokerto. Respondent characteristics can be seen in table 1. If based on gender, around 60 respondents or 60 percent are female and around 40 respondents are male or 40 percent. If seen based on the age of respondents, it is dominated by the age of <20 years with 36 respondents or 36 percent; and followed by the age between 21-25 years with 15 percent, the age of 26-30 years with 25 respondents or 25 percent and the age of 36-40 years with 7 percent of the total respondents, above 41 years as much as 9 percent of the total respondents. Looking at frequently used marketplaces, Shopee was

the most popular, with 70 percent of respondents, followed by Tokopedia (20 percent), Bukalapak, Lazada, BliBli (0 percent), and others (10 percent). Marketplace purchase frequency was dominated by 1-3 visits per week, accounting for 65% of visits; 4-6 visits and 7-9 visits each, accounting for 10 visits; and 15 percent of visits exceeding 10. Respondents were also divided into two categories: general respondents (60 respondents) and MSME owners (40 respondents).

The analysis results in Table 2 show that website aesthetics are unable to influence purchasing decisions in the digital era. Previous research has shown that website aesthetics play a significant role in influencing consumers, thus driving their purchasing decisions (Tran et al., 2023); (Blagoeva et al., 2023); (Mateja & Wlekły, 2024). Accessibility doesn't influence purchasing decisions in the digital age. However, high levels of accessibility will make it easier for users to find the information they need, such as product information obtained through online reviews, which significantly impact the purchasing decision-making process. Agnihotri and Bhattacharya, 2016 in (Han & Jun, 2021). However, based on the results of interviews with several respondents, it was stated that website aesthetics and accessibility have become absolute or standard and must be present in a marketplace so that they are not significant in influencing purchasing decisions. This condition is in line with the sig. value greater than 0.05, namely 0.517 and 0.636.

Meanwhile, the security and AI variables are able to influence purchasing decisions in the digital era in the Purwokerto community, which is indicated by the Sig. value smaller than 0.05, namely 0.042 and 0.000. This condition is in accordance with the increasing public awareness of the security of personal identity on digital platforms so that for respondents if this identity security is maintained, it will increase consumer trust in the platform. AI has an influence because it has become a major factor in the shopping recommendation process in the marketplace, providing a more enjoyable and easy shopping experience, thus being able to influence purchasing decisions. This is in line with the research by (Winarto & Wisesa, 2024); (Manikandan & Bhuvaneswari, 2024); (Bilal et al., 2024).

Simultaneously, (Table 3) the four variables, namely website aesthetics and accessibility, security, and AI, are able to influence purchasing decisions in the digital era, as reflected in the Sig. value which is smaller than 0.05, namely 0.000. These four variables together form a total experience for consumers, thereby increasing satisfaction which drives purchasing decisions in the digital era.

Table 1. Respondent

Respondent Gender			
Gender	Number	Percentage	
Man	40	40%	
Woman	60	60%	
Total	100	100%	
Respondent Location			
Location	Number	Percentage	
North Purwokerto	57	57%	
South Purwokerto	17	17%	
East Purwokerto	16	16%	
West Purwokerto	10	10%	
Total	100	100%	
Respondent Age			
Age	Number	Percentage	
<20 year	36	36%	
21-25 year	15	15%	
26-30 year	25	25%	

31-35 year	8	8%
36-40 year	7	7%
>41 year	9	9%
Total	100	100%
Frequently Used Marketplace		
Marketplace	Number	Percentage
Shopee	70	70%
Tokopedia	20	20%
Bukalapak	0	0%
Lazada	0	0%
Blibli	0	0%
Others	10	10%
Total	100	100%
Frequency of purchases through the marketplace		
Frequency	Number	Percentage
1-3 times	65	65%
4-6 times	10	10%
7-9 times	10	10%
>10 times	15	15%
Total	100	100%
Respondent Category		
Category	Number	Percentage
General	60	60%
MSMEs	40	40%
Total	100	100%

Table 2. T-Test

Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.686	1.069		2.512	.014
	Aesthetic	.061	.094	.078	.650	.517
	Accessibilit y	.059	.125	.079	.475	.636
	Security	.190	.092	.306	2.061	.042
	AI	.180	.050	.354	3.573	.001

a. Dependent Variable: KP

Table 3. F-Test

ANOVA^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	258.510	4	64.627	27.160	.000 ^b
	Residual	226.050	95	2.379		
	Total	484.560	99			

a. Dependent Variable: KP

b. Predictors: (Constant), AI, Aestetchic, Security, Accesability

CONCLUSION

This study concluded that website aesthetics and accessibility variables had no effect on purchasing decisions. Conversely, security variables were shown to have a significant influence on purchasing decisions. The results also showed that artificial intelligence had a significant influence on purchasing decisions. Future research is recommended to focus more on the role of technology in digital business, particularly security and artificial intelligence, as these have been shown to influence purchasing decisions. Furthermore, future research can explore the indirect relationship between website aesthetics and accessibility on purchasing decisions, for example through mediating variables such as trust, user satisfaction, and user experience. In the context of digital business, this approach is important to understand that some digital elements do not always have a direct impact, but can influence consumer behavior indirectly. Future research is also recommended to use different digital business objects or models so that the results can provide a broader picture of the factors that influence purchasing decisions in digital businesses.

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