Personalization and Privacy: Factors Influencing Users' Willingness to Accept Personalized Information in Multivitamin Purchases. A Case Study on Shopee.

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ABSTRACT

The e-commerce industry in Indonesia, particularly in the health sector such as multivitamin, has experienced significant growth in recent years. E-commerce platforms like Shopee leverage consumer data to offer personalized product recommendations, including in the multivitamin category. While this personalization strategy can enhance the shopping experience, concerns regarding consumer privacy, especially for health-related products, pose a major challenge. This study aims to identify the factors influencing consumers' willingness to accept personalized communication on e-commerce platforms, focusing on five key variables: perceived benefits, perceived risks, trust, privacy policy transparency, and data usage context. The study employs multiple linear regression to analyze the simultaneous and partial effects of these variables on consumers' decisions to share personal data. The results indicate that the data usage context variable has a significant partial effect, while the other variables do not show significant individual effects. However, all five independent variables collectively have a significant impact on consumers' willingness to accept personalized communication. These findings provide valuable insights for e-commerce practitioners in designing effective personalization strategies, while ensuring consumer privacy is safeguarded. Furthermore, the study contributes to privacy protection policies, particularly in the e-commerce context, by emphasizing the importance of transparency and trust in maintaining a healthy relationship between platforms and consumers.

Keywords: personalization, privacy, e-commerce, trust, shopee

1. INTRODUCTION

The Indonesian e-commerce industry continues to grow rapidly, with certain sectors, such as health products and supplements, experiencing significant growth. According to data released by the Central Statistics Agency (BPS) in January 2025, e-commerce transactions in Indonesia reached over IDR 400 trillion, with the health sector, including supplements, being one of the fastest-growing product categories (BPS, 2025). E-commerce platforms such as Tokopedia, Shopee, and Bukalapak leverage user data to provide more relevant product recommendations, including those in the health supplement category. This personalization strategy not only improves the user experience but also fosters customer loyalty and increases transaction volume (Alasa et al., 2025). However, the use of personal data in personalization creates significant challenges related to user privacy, especially in industries involving sensitive health products like supplements (Sun et al., 2023).

Concerns about the privacy of data shared for personalization purposes have become a major concern for users. Although personalization can increase user satisfaction, many users are reluctant to share personal data due to uncertainty about how it is used and safeguarded (Alkis & Kose, 2022). At the same time, users increasingly desire personalized shopping experiences, especially for products like supplements they consider important to their health (Gomes et al., 2025).

Previous studies have shown that while personalization can increase user engagement, the success of this strategy depends heavily on users' level of trust in the platform and transparency in managing their personal data (Hayes et al., 2021). User concerns about the misuse of personal data remain a significant barrier to increasing purchase intention.

This study aims to identify factors that influence users' willingness to accept personalized communications, particularly in the context of purchasing supplements through e-commerce platforms (Bol et al., 2018). Factors such as perceived benefits, perceived risks, trust in the platform, and transparency of privacy policies will be analyzed in relation to users' decisions to share their personal data (Mujitahid, 2022). Using multiple linear regression, this study aims to measure the simultaneous

influence of these factors on user readiness to accept personalized product recommendations (Alasa et al., 2025; Sun et al., 2023).

The results of this study are expected to significantly contribute to e-commerce businesses in designing effective personalization strategies, while ensuring user privacy is protected in accordance with applicable regulations and maintaining transparency in personal data management (Li, 2023).

2. SCOPE AND LIMITATION

This study aims to analyze the factors influencing Shopee users' willingness to accept personalized communications, specifically regarding multivitamin purchases. The variables studied focus on the influence of perceived benefits, perceived risks, trust in the platform, transparency of privacy policies, and the context in which data is used on users' decisions to share personal information (Sun et al., 2019).

The study is limited to the Shopee platform and does not include other e-commerce platforms, such as Tokopedia or Bukalapak. The focus of the study is on multivitamin products, which are considered sensitive health products and often involve more sensitive personal data. The study also only considers data collected through Shopee users, so external factors, such as promotions from social media or other external advertisements, will not be analyzed in this context. Furthermore, the study respondents only include users who have purchased multivitamins through the Shopee platform within a specific period (Benevento et al., 2023).

The expected outcome of this study is to identify the factors influencing users' decisions to accept personalized communications. The study aims to provide deeper insight into the factors most influential in encouraging users to provide personal data and to identify how the studied factors may influence these decisions. This research is expected to generate recommendations for e-commerce players, particularly Shopee, on designing effective personalization strategies while safeguarding user privacy. The findings are expected to provide insights for policymakers in formulating better regulations regarding personal data protection in the Indonesian e-commerce sector (Gupta et al., 2023).

3. MATERIAL AND METHOD

This research material is based on several key theories that are relevant to understanding personalization and privacy in e-commerce.

3.1 User trust

User trust theory in e-commerce suggests that trust in the platform is crucial in motivating users to share their personal data. This trust plays a key role in shaping the relationship between users and e-commerce platforms (Quintus et al., 2024).

3.2 User privacy

User privacy theory explains that privacy is one of the biggest concerns of users in sharing their personal data, especially in sectors that collect sensitive data such as health supplements (Morić et al., 2024)

3.3 Personalization in Marketing

Personalization theory in marketing underscores the importance of personalized shopping experiences to increase customer satisfaction and loyalty, although this also raises privacy concerns if not managed properly (Dahlin & Hjorstmark, 2024).

This study uses a survey research design with a cross-sectional method, where data is collected over a certain period of time to evaluate the relationship between the variables studied. The variables analyzed in this study are: perceived benefits: the benefits users feel in receiving personalized information, such as ease in finding more relevant products and offers. Perceived risks: user concerns about the security of personal data and the possibility of misuse of their information. Trust: the level of user trust in Shopee in managing their personal data safely and responsibly. Transparency: clarity of information regarding how user data is used and the extent to which users have control over the information. Context: the situation or reason behind the implementation of personalization, for example whether it is used for promotions or service improvements.
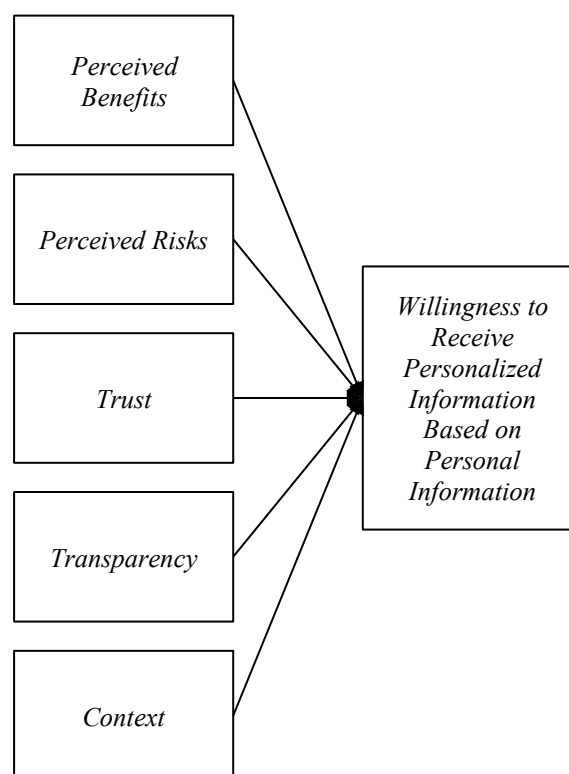

Figure 1. Research Method

4 DISCUSSION

This study involved 63 respondents from various demographic backgrounds, consisting of 33 men (52.4%) and 30 women (47.6%), reflecting a nearly balanced gender balance. The majority of respondents were between the ages of 17 and 25 (52.4%), with those over 35 comprising only 18.6% of the total sample. The respondents' age composition was predominantly young, thus it can be assumed that they have a higher level of engagement in using digital platforms like Shopee.

In terms of education, the majority of respondents had a high school education (38.1%), followed by those with a diploma (20.6%) and a bachelor's degree (28.6%). Meanwhile, along with education, respondents' occupational backgrounds were diverse, with the majority being students (39.7%) and employees (31.7%), indicating their involvement in digitalization-related activities, both as users and professionals.

Most respondents had a monthly income below Rp 2,000,000 (49.2%), reflecting more limited economic conditions. Only a small proportion of respondents (28.6%) had an income exceeding IDR 6,000,000, indicating significant differences in purchasing power and likelihood of using digital platforms for specific consumption purposes.

Overall, the demographic data illustrates how demographic characteristics such as age, education, occupation, and income can influence the use and acceptance of technology in the context of e-commerce.

4.1 Data Normality Test

The normality test used in this study was the Kolgomorov-Smirnov (K-S) test. The test results can be seen in Table 1.

Table 1. Data Normality Test Result

Variabel	Kolmogorov-Smirnov	Asymp. Sig (2-tailed)	Information
Unstandardized Residual	0,089	0,200	Normally Distributed Data

Table 1 shows that the Asymp.Sig (2-tailed) value obtained is 0.200, so that the value is greater than 0.05, so it can be concluded that the data is normally distributed.

4.2 Data Linearity Test

The variable linearity test is used to determine whether there is a linear relationship between the independent variables (Perceived Benefit, Perceived Risk, Trust, Transparency, and Context) and the dependent variable (User Willingness).

Table 2. Variables Linearity Test Result

Variabel	Deviation from Linearity	Asymp. Sig (2-tailed)
Perceived Benefit	0,653	0,768
Perceived Risk	1,533	0,203
Trust	1,136	0,395
Transparency	2,197	0,079
Context	0,871	0,565

Based on Table 2, it can be seen that the Asymp.Sig (2-tailed) value for all variables is > 0.05, so it can be concluded that all independent variables have linearity with the dependent variable.

4.3 Multicollinearity Test

Multicollinearity test is conducted to test the relationship between independent variables.

Table 3. Multicollinearity Test Result

Variabel	Tolerance	VIF	Remarks
Perceived Benefit	0.710	1.409	Free from Multicollinearity
Perceived Risk	0.759	1.317	Free from Multicollinearity
Trust	0.404	2.476	Free from Multicollinearity
Transparency	0.485	2.061	Free from Multicollinearity
Context	0.742	1.348	Free from Multicollinearity

Table 3 shows that all independent variables have a Tolerance value > 0.1 and a VIF value < 10, so it can be concluded that the model does not experience multicollinearity.

4.4 Heteroscedasticity Test

The heteroscedasticity test is conducted to test for differences in variance between residual values from one observer to another. The heteroscedasticity test used is the Glejser test.

Table 4. Heteroscedasticity Test Result

Variabel	t	Sig.
Perceived Benefit	0.879	0.388
Perceived Risk	0.192	0.849
Trust	-0.345	0.733
Transparency	-0.883	0.385
Context	1.742	0.093

Based on Table 4, the Sig. value for each variable is > 0.05, so it can be concluded that there are no symptoms of heteroscedasticity.

4.5 Multiple Linear Regression

Based on the results of the classical assumption test, it can be seen that the data used in this study is normally distributed, there is no multicollinearity, and there is no heteroscedasticity. Therefore, the data used in this study

has met the requirements to be able to use a multiple linear regression model as an analytical tool. The multiple linear regression test was conducted to determine the influence of the variables Perceived Benefit, Perceived Risk, Trust, Transparency, and Context on user willingness. The results of the multiple linear regression can be seen in Table 5.

Table 5. Multiple Linear Regression Test Result

	B	Std. Error	Beta	t	Sig.
(Constant)	.742	.752		.986	.333
Perceived Benefit	.057	.139	.071	.409	.686
Perceived Risk	.216	.173	.209	1.244	.225
Trust	.059	.189	.072	.313	.757
Transparency	.040	.182	.046	.219	.828
Context	.491	.180	.463	2.726	.011

Variabel dependen: *Willingness to Receive Personalized Information*

From this table, the following regression equation is obtained:

$$Y = \alpha + \beta 1 X1 + \beta 2 X2 + \beta 3 X3 + \beta 4 X4 + \beta 5 X5$$

$$Y = 0{,}742 + 0{,}057X1 + 0{,}216X2 + 0{,}059X3 + 0{,}040X4 + 0{,}491X5$$

Based on the table and regression equation, the constant value indicates that Shopee users' willingness to receive personalized communications based on personal information when purchasing multivitamins on Shopee will be 0.742 if Perceived Benefit, Perceived Risk, Trust, Transparency, and Context are zero or unchanged.

The Perceived Benefit variable (X1) has a positive effect on user willingness, with a regression coefficient of 0.057 indicating that a 1 percent increase in Perceived Benefit will increase Shopee users' willingness to receive personalized communications based on personal information when purchasing multivitamins on Shopee, assuming the other independent variables remain constant.

The Perceived Risk variable (X2) has a positive effect on user willingness, with a regression coefficient of 0.216 indicating that a 1 percent increase in Perceived Risk will increase Shopee users' willingness to receive personalized communications based on personal information when purchasing multivitamins on Shopee, assuming other independent variables remain constant.

The Trust variable (X3) has a positive effect on user willingness, with a regression coefficient of 0.059 indicating that a 1 percent increase in Trust will increase Shopee users' willingness to receive personalized communications based on personal information when purchasing multivitamins on Shopee, assuming other independent variables remain constant.

The Transparency variable (X4) has a positive effect on user willingness, with a regression coefficient of 0.040 indicating that a 1 percent increase in Transparency will increase Shopee users' willingness to receive personalized communications based on personal information when purchasing multivitamins on Shopee, assuming other independent variables remain constant.

The Context variable (X5) has a positive influence on user willingness, with a regression coefficient of 0.491 indicating that if Context increases by 1 percent, the willingness of Shopee users to receive personalized communications based on personal information when purchasing multivitamins on Shopee will increase by 0.491 percent, assuming the other independent variables are constant.

Table 6. t Test Result

Variabel	t	Sig.
(Constant)	.986	.333
Perceived Benefit	.409	.686
Perceived Risk	1.244	.225
Trust	.313	.757
Transparency	.219	.828
Context	2.726	.011

Perceived Benefit: A significance value (Sig.) of $0.686 > 0.05$ indicates no significant partial effect of Perceived Benefit on Shopee users' willingness to receive personalized communications based on personal information when purchasing multivitamins on Shopee.

Perceived Risk: A significance value (Sig.) of $0.225 > 0.05$ indicates no significant partial effect of Perceived Risk on Shopee users' willingness to receive personalized communications based on personal information when purchasing multivitamins on Shopee.

Trust: A significance value (Sig.) of $0.757 > 0.05$ indicates no significant partial effect of Trust on Shopee users' willingness to receive personalized communications based on personal information when purchasing multivitamins on Shopee.

Transparency: A significance value (Sig.) of $0.828 > 0.05$ indicates no partial significant effect of transparency on Shopee users' willingness to receive personalized communications based on personal information when purchasing multivitamins on Shopee.

Context: A significance value (Sig.) of $0.011 < 0.05$ indicates a partial significant effect of context on

Shopee users' willingness to receive personalized communications based on personal information when purchasing multivitamins on Shopee.

Table 7. F Test Result

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	5.120	5	1.024	4.130	.007[b]
Residual	6.447	26	.248		
Total	11.567	31			

Variabel dependen: *Willingness to Receive Personalized Information*
Predictors: (Constant), *CONTEXT, Perceived Benefit, Transparency, Perceived Risk, Trust.*

Based on the ANOVA table, the F value = 4.130 was obtained with a Sig. value = 0.007 < 0.05, which means that the variables Perceived Benefit, Perceived Risk, Trust, Transparency, and Context together have a significant effect on the willingness of Shopee users to receive personalized communications based on personal information when purchasing multivitamins on Shopee.

Table 8. Determination Coefficient Test Result

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
I	.665[a]	.443	.335	.49796

Predictors: (*Constant*), *CONTEXT, Perceived Benefit, Transparency, Perceived Risk, Trust.*

The coefficient of determination R^2 is 0.443, meaning 44.3% of the variation in the dependent variable of Shopee users' willingness to receive personalized communications based on personal information when purchasing multivitamins on Shopee can be explained by variations in the independent variables Perceived Benefit, Perceived Risk, Trust, Transparency, and Context. The remaining 55.7% is influenced by variables not explained in the model.

5. CONCLUSION

Based on the data analysis, this study shows that among the five variables tested, only context significantly influences Shopee users' willingness to receive personalized communications when purchasing multivitamins. This indicates that the reason or purpose for using personal data, such as for promotions or service improvements, influences user decisions more than other factors. Although variables such as perceived benefit, perceived risk, trust, and transparency of privacy policies did not show a significant effect, simultaneously, these five variables had a positive and significant effect on user

willingness. This indicates that while these variables do not have a strong influence individually, they still play a significant role in creating conditions that support the acceptance of personalized communications when considered together.

Therefore, it can be concluded that user acceptance of personalized communications is strongly influenced by how data is used in specific contexts, such as for promotions or service improvements. Meanwhile, transparency, trust, and perceived benefit, while important, do not significantly impact individual users' decisions to share their personal data.

6. SUGGESTIONS

To improve the effectiveness of personalization strategies, e-commerce platforms like Shopee need to place greater emphasis on the context of data use when communicating information to consumers. Users are more likely to accept personalized communications if they clearly understand the purpose for which their data is used, such as to improve services or provide more relevant product offers. Therefore, it is crucial for platforms to provide transparent information about how user data is used and for what purposes, as well as to guarantee strong personal data protection.

Although variables such as perceived usefulness, trust, and transparency of privacy policies did not show significant impacts in this study, these factors still play a crucial role in building stronger relationships between e-commerce platforms and consumers. Therefore, it is highly recommended that e-commerce platforms increase their efforts to be transparent in their privacy policies and strengthen user trust in their platforms through more communicative and informative communication. This will contribute to increased user loyalty and create a more satisfying shopping experience.

Furthermore, for further research, it is recommended that the scope of analyzed variables be expanded to include external factors that can influence consumer decisions, such as the influence of social media or external advertising promotions. Further research should also consider demographic and geographic differences, which could provide deeper insights into consumer behavior in the context of privacy and personalization. This more holistic approach could help understand the more complex dynamics influencing consumer acceptance of personalized communications, particularly for healthcare products.

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