The Seybold Report

ISSN 1533-9211

DOI 10.17605/OSF.IO/2PQ9D

THE INFLUENCE OF SITE CHARACTERISTICS AND UTILITARIAN VALUE IN BUILDING E-SATISFACTION AND E-LOYALTY CUSTOMERS

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Abstract

This study aims to determine the influence of site characteristics and utilitarian values in building customer e-satisfaction and e-loyalty. Respondents in this study were 255 samples selected by convenience sampling method. Where the characteristics of the respondents were that they had made purchase transactions through websites or e-commerce applications such as Sayurbox, Happyfresh, Segari, and Brambang and are domiciled in the areas of Jakarta, Bogor, Depok, Tangerang, and Bekasi. Data analysis was done using SEM with AMOS software version 22.0. The study informed that two site characteristic variables (information and communication power) positively affect e-satisfaction. Meanwhile, shopping convenience, site design, and security do not affect e-satisfaction. E-satisfaction positively affects e-loyalty. Utilitarian value does not significantly mediate the relationship between e-satisfaction and e-loyalty. Based on the results of the study, e-commerce managers must improve the quality of information and communication-related product descriptions and reviews in e-commerce to increase customer e-satisfaction and e-loyalty

Keywords: Site Characteristic; Utilitarian Value; E-Satisfaction; E-Loyalty

1. INTRODUCTION

The increase in online shopping is one form of change in people's activities due to the Covid-19 pandemic. This is due to a policy of limiting activities outside the home to suppress transmission of the Covid-19 virus. The survey shows that 9 out of 10 Indonesians shop online to comply with government policies regarding the spread of the Covid-19 virus (Badan Pusat Statistik, 2020). Appeals for limiting activities outside the home increase consumer requests for online shopping services, including groceries (Badan Pusat Statistik, 2020; Chang & Meyerhoefer, 2020). This benefited smallholder farmers, as demand for grains, fresh vegetables and fruits, and frozen food increased the most (Chang & Meyerhoefer, 2020). The percentage of spending on Indonesian household shopping commodities in March – April 2020 was 51% food, 20% health, 14% data packages, 8% prepared food or beverages, and 3% electricity (Badan Pusat Statistik, 2020). Shopping online is more practical because customers can make

ISSN 1533-9211

DOI 10.17605/OSF.IO/2PQ9D

purchases anytime and anywhere without the need to visit the store in person, making it more efficient (Nurlaela et al., 2019). People who don't have much free time to shop in person can still fulfill their needs online. Indonesia has at least six online shopping applications and sites for buying fresh fruit and vegetables: Happyfresh, Sayurbox, Tanihub, Tukangsayur, Segari, and Brambang (Populix, 2021). Most e-commerce operates in Jakarta, Bogor, Depok, Tangerang, and Bekasi. The positive trend with e-commerce that sells fresh agricultural products must continue to be improved because it can help farmers to market their products.

E-commerce management is inseparable from site characteristics consisting of shopping convenience, site design, informativeness, security, and communication, which can positively affect e-satisfaction (Chung & Shin, 2010). A website is key to a company's success because it acts as a channel or communication link between the company and its customers (Chen et al., 2017; Alvarez-Risco et al., 2022; Qalati et al., 2021). Customer e-satisfaction can impact customer e-loyalty (Nurrizky et al., 2023). Therefore, e-commerce managers must strategically deliver the right level of website quality to build customers' social capital to maintain customers' e-loyalty (Chen et al., 2017). Website quality is important for companies selling their products and services online, including the customers' security and privacy (Alvarez-Risco et al., 2022). Attractiveness, use of colors, service hours, and providing all information in detail to avoid ambiguity should be paid more attention by e-commerce managers (Qalati et al., 2021).

E-satisfaction and e-loyalty can differ depending on consumer shopping orientation or value, consisting of hedonic and utilitarian values (Picot-Coupey et al., 2021; Suh & Yi, 2012). Hedonic values are related to pleasure when shopping, while utilitarian values are related to the benefits suggested when shopping (Suh & Yi, 2012). In connection with the Covid-19 pandemic, specifically in Indonesia, the value of the benefits perceived by customers positively impacts consumer intentions to continue shopping online (Al-Hattami, 2021). Based on the above explanation, this study aims to determine the role of site characteristics and utilitarian value on e-satisfaction and its relation to e-loyalty e-commerce of fresh fruits and vegetables in Indonesia: Happyfresh, Sayurbox, Segari, and Brambang.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Site characteristics and e-satisfaction

Site characteristic variables in this study consist of shopping convenience, site design, informativeness, security, and communication (Chung & Shin, 2010). A website's quality can influence customer perceptions (VO et al., 2019; Gruntkowski & Martinez, 2022). Therefore, professionals should make the website design and characteristics a long-term investment for the company (Alvarez-Risco et al., 2022). Good quality websites, such as being easy to use, safe, and rich in information, are proven to achieve e-satisfaction (VO et al., 2019). E-satisfaction is defined as customer evaluation after buying a product or service through a website (Alvarez-Risco et al., 2022).

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With regard to shopping convenience, e-commerce managers must provide user-friendly services during the transaction process by providing convenience in using features or menus on e-commerce sites (Gruntkowski & Martinez, 2022). Shopping convenience determines e-satisfaction (Veloso et al., 2020; Vila et al., 2021). E-commerce managers must offer convenience in transactions so that, in the end, they get e-loyalty (Vinish et al., 2021). Ease and convenience in online transactions through a simple and non-confusing process will create an efficient shopping process (Veloso et al., 2020).

A good website design can provide an e-commerce display that makes it easier for customers to meet their needs during online transactions, affecting e-satisfaction levels (Vila et al., 2021). Customers are attracted by a site design that is beautiful, simple, and easy to understand so they don't experience difficulties when making online transactions (Giao, 2020). Website design includes colors, text layout, graphics, photos, videos, and other visual things seen when customers open e-commerce websites (Belver-Delgado et al., 2020).

A good website provides information that can be accessed easily via a desktop, tablet, or other device. Complete and reliable information can help customers make more e-commerce transactions (Alvarez-Risco et al., 2022). The level of effectiveness of information content or informativeness can increase satisfaction and e-loyalty towards the site (Nurrizky et al., 2023). Satisfied customers will tend to return to the same site to shop again, so e-commerce managers need to make interesting and easy-to-find informational content (Vijay et al., 2019).

In addition, in e-commerce management, customer data security and privacy need to be improved. When making transactions through e-commerce, customers will share their personal information on the website. Hence, e-commerce managers need to protect customer data regarding personal, contact, and payment information so they are not exposed to cybercrime (D'adamo et al., 2021). Site security positively affects e-satisfaction. Increasing website security can increase customers' trust and value in e-commerce (Valdez-Juárez et al., 2021).

Customers' trust in e-commerce can be built through communication between customers and e-commerce managers through comments, FAQs, application or product ratings, and so on. Star rating can signal the quality and reputation of e-commerce, thereby helping to minimize the difference between consumer expectations and perceived service performance (Belver-Delgado et al., 2020). This can build consumer satisfaction, the desire to visit again, and recommend e-commerce to others (Vijay et al., 2019; Koay et al., 2022). Information regarding various ratings and reviews from many consumers about products and services can be easily accessed by consumers through social media (Torabi & Bélanger, 2021). Then, five hypotheses are proposed below.

H1: Shopping convenience positively affects customers' e-satisfaction.

H2: Site design positively affects customers' e-satisfaction.

H3: Informativeness positively affects customers' e-satisfaction.

H4: Security positively affects customers' e-satisfaction.

H5: Communication positively affects customers' e-satisfaction.

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E-satisfaction and e-loyalty

E-satisfaction is the pleasant fulfillment consumers feel when consuming a product or service (Koay et al., 2022). Meanwhile, in terms of loyalty, it is a tendency for customers to make repeat purchases from e-commerce or the same brand. It results from the belief that the value received from e-commerce or the chosen brand is higher than that offered by other alternative e-commerce. So that customers remain loyal to their choice of one particular e-commerce (Abror et al., 2020). E-satisfaction significantly positively affects e-loyalty (Abror et al., 2020; Nguyen et al., 2020; X. J. Lim et al., 2020). Suppose customers are satisfied with the products or services offered through e-commerce. In that case, customers will want to make transactions through e-commerce again and also recommend e-commerce to others with pleasure (Nguyen et al., 2020). Therefore, the hypothesis is proposed as follows.

H6: Customers' e-satisfaction positively affects customers' e--loyalty.

The role of utilitarian value as a mediator between customer e-satisfaction dan e-loyalty

Utilitarian value describes actions oriented towards a predetermined mission, so customers who are oriented towards utilitarian value usually focus on fulfilling needs during purchasing (X. J. Lim et al., 2020). In social media, utilitarian value is the value of the benefits obtained by users in transacting on social media (Mohammed & Ferraris, 2021). The utilitarian value dimension reflects spending activities that are rational and instrumental and focus on tasks as a means to an end. A successful online shopping journey reflects customers' effort to shop smartly and efficiently (Picot-Coupey et al., 2021). E-satisfaction can directly or indirectly affect e-loyalty. Utilitarian values can mediate indirect influence (Suh & Yi, 2012). Utilitarian values can also build a brand or company. If a company can understand the perspective of value benefits according to customers, customer satisfaction will automatically increase e-loyalty (Shahzad et al., 2019). Therefore, the hypothesis is proposed as follows.

H7a: Customers' e-satisfaction positively affects utilitarian value.

H7b: Utilitarian value positively affects customers' e-loyalty.

3. METHODS

In this study, site characteristics as exogenous variables or independent variables consist of five variables, namely shopping convenience (SC), site design (SD), informativeness (I), security (S), and communication (C) (Chung & Shin, 2010). E-satisfaction (ES) acts as the dependent variable as well as the independent variable. Utilitarian value (UV) is a mediating variable, and E-loyalty (EL) is an endogenous or dependent variable. This study has seven hypotheses (see Figure 1).

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DOI 10.17605/OSF.IO/2PQ9D

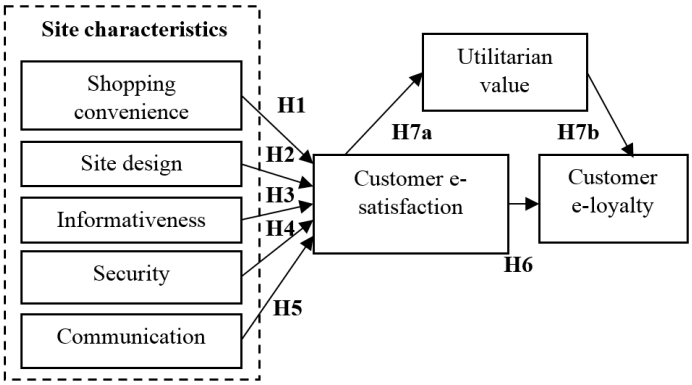

Figure 1: Research model

The research location was consciously selected by the researchers with certain considerations. The research location is in the Jabodetabek area (Jakarta, Bogor, Depok, Tangerang, Bekasi) because most Sayurbox, Happyfresh, Segari, and Brambang delivery areas are in those areas. Respondents would be ideal if they lived in Jabodetabek. The non-probability sampling method used in this study is convenience sampling, where respondents have easy access, time availability, and willingness to participate in this study according to the research purposes (Wang et al., 2021). The respondent required that they had purchased fresh fruits and vegetables through Sayurbox/ Happyfresh/Segari/Brambang at least twice in the past month. The sample size in this study was 255 respondents. A data type consists of primary and secondary data. The primary data collection techniques were conducted by distributing research questionnaires using Google Forms, while secondary data was recorded. Research questionnaires contain questions about respondent characteristics and research variables. For research variables, the statement refers to a 5-point Likert scale with alternative responses, starting from 1 = strongly disagree to 5 = strongly agree. For the number of statements for each variable in the research questionnaire, shopping convenience consists of 3 items (Ha, 2011), site design three items (Ha, 2011), informativeness four things (Chung & Shin, 2010), security three items (Mahadin et al., 2020), communication four items (Chung & Shin, 2010), e-satisfaction three items (Paul & Jacob, 2018), e-loyalty three items (Haque & Mazumder, 2020), and utilitarian value four items (S. H. Lim & Kim, 2020). Before analysis, the collected data was transformed first to convert ordinal to interval data using MSI with the help of the add-ins feature stat 97.xla Statistic Successive Interval, which is in Microsoft Excel. Testing the instrument on the pilot test was done using the SPSS software version 26.0, which consisted of validity and reliability tests. Data analysis was done using SEM with the help of AMOS software version 22.0. SEM is a statistical analysis technique that can analyze patterns of relationships between latent variables and question items, latent variables with one another, and measurement errors directly together (Hair Jr et al., 2018). This research is a Covariance Based SEM aimed at confirming the theory. Five stages must be passed in the CB-SEM analysis (Latan, 2012), namely:

This phase aims to conceptually define the variables studied and determine their dimensions and the direction of the relationships between them, indicating the research hypothesis.

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DOI 10.17605/OSF.IO/2PQ9D

Research models that can be estimated in research must be identified as over-identified, namely value p (p+1)/2 > t where p is the number of manifest variables; p (p+1)/2 is the number of elements in the covariance matrix; and t is the number of free parameters estimated.

The estimation uses Generalized Least Square (GLS). Several assumptions must be fulfilled in this stage. First is the assumption of sample adequacy as the basis for estimating the sampling error, where using more than 200 samples is recommended. Second, the assumption of univariate and multivariate normality by looking at the critical ratio values of normal skewness and kurtosis that is between -2.58 to +2.58 (for an error rate of 0.01) and between -1.96 to +1.96 (for an error rate of 0.05). Third, the assumption of outliers is met if the value of Mahalanobis D^2 <nilai Chi-square (Hair Jr et al., 2018).

The model evaluation consists of a measurement model and structural model evaluation. Measurement model evaluation was carried out using Confirmatory Factor Analysis (CFA) to assess the validity and reliability of the research instrument. The validity test results are based on the loading factor and the Average Variance Extracted (AVE) value, where the instrument is valid if the loading factor value is > 0.70 and the AVE value is ≥ 0.50. The reliability test results are seen from the value of construct reliability, where a value of ≥ 0.70 indicates good reliability, and a value of 0.60 – 0.70 is still acceptable (Ghozali, 2017). The structural model evaluation is seen through the achievement of goodness of fit index criteria (Latan, 2012; Ghozali, 2017), which consists of Chi-square values (X^2), RMSEA, GFI, AGFI, CMIN/DF, CFI, and TLI with a significant probability ≥ 0.05.

If the results of the model evaluation are not fit, it is necessary to re-specify the model to improve the goodness of fit index. The model specification was based on the results of the modification indices in the AMOS output (Ghozali, 2017). After fulfilling the five stages, one should look at the hypothesis and mediation testing results. The results of the hypothesis test can be seen from the AMOS output on "Regression weight", where the hypothesis is accepted if the critical ratio value > t-table value for a significance level of 5% is 1,960 and the probability value < significance level (α) is 0.05 (Bahri & Zamzam, 2014). The testing of the mediating effect was carried out through the Sobel test with the criteria if the Sobel test result value > t table (1.96 at a significance level of 0.05), then the mediating effect is significant (Hair Jr et al., 2018).

4. RESULTS

Sample characteristics

From a total of 284 filled-out questionnaires, 255 questionnaires were selected according to the criteria of the respondents in this research and the feasibility of analysis. Questionnaires not included in the data analysis were incomplete answers or respondents who did not meet the criteria set out in this study. Table 1 shows the characteristics of the respondents.

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Table 1: Sample characteristics

Characteristics	F	%
Gender		
Males	36	14
Females	219	86
Domicile		
Jakarta	94	37
Bogor	28	11
Depok	39	15
Tangerang	59	23
Bekasi	35	14
Age (y.o)		
< 20	0	0
20 – 29	164	64
30 – 39	81	32
40 – 49	7	3
> 49	3	1
Last education		
Elementary school	0	0
Junior high school	0	0
Senior high school	46	18
Bachelor	171	67
Others	38	15
Livelihood		
Student	11	4
Doctor	3	1
Private employee	127	50
Entrepreneurship	38	15
Teacher/Lecturer	7	3
Others	69	27
Income/month (IDR)		
≤ Rp1,800,000	23	9
Rp1,800,001 – Rp3,000,000	32	13
Rp3,000,001 – Rp4,800,000	39	15
Rp4,800,001 – Rp7,200,000	68	27
> Rp7,200,000	93	36
Total	255	100

Instrument testing

The validity test results on all question items showed that two were invalid because the R-value < R table (0.361 at a 95% confidence level) and the Sig value > 0.05 alpha value, namely S1, and C4. The results of validity testing are shown in Table 2 below.

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Table 2: The validity test results

Latent variable	Item	R-value	Sig
SC	SC1	0.458	0.011
	SC2	0.668	0.000
	SC3	0.720	0.000
SD	SD1	0.593	0.001
	SD2	0.748	0.000
	SD3	0.643	0.000
I	I1	0.591	0.001
	I2	0.522	0.003
	I3	0.553	0.002
	I4	0.788	0.000
S	S1	0.189	0.318
	S2	0.598	0.000
	S3	0.617	0.000
C	C1	0.562	0.001
	C2	0.732	0.000
	C3	0.645	0.000
	C4	0.284	0.129
ES	ES1	0.662	0.000
	ES2	0.801	0.000
	ES3	0.799	0.000
EL	EL1	0.616	0.000
	EL2	0.653	0.000
	EL3	0.623	0.000
UV	UV1	0.482	0.007
	UV2	0.699	0.000
	UV3	0.726	0.000
	UV4	0.748	0.000

The reliability test results of the eight research variables showed that all were reliable because they had a Cronbach's Alpha value > 0.6. Reliability test results are shown in Table 3 as follows.

Table 3: The reliability test results

Latent variable	Cronbach's alpha
SC	0.733
SD	0.856
I	0.852
S	0.640
C	0.778
ES	0.862
EL	0.757
UV	0.819

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DOI 10.17605/OSF.IO/2PQ9D

Statistical analysis

Model specification

Based on the results of instrument testing in the pilot test, the research model has eight latent variables and 25 manifest variables (statement items) with seven research hypotheses. The shopping convenience variable consists of 3; site design 3; informativeness 4; security 2; communication 3; e-satisfaction 3; e-loyalty 3; and utilitarian value four items.

Model identification

Analysis revealed that the model was over-identified because the number of elements in the covariance matrix [p (p+1)/2], is greater than the estimated number of independent parameters (t), namely 1128 > 147, so that the research model can be used for further analysis.

Model estimation

The estimation used in this study is GLS. The assumption of sample adequacy is met with a sample of 255 respondents because the recommended sample size when using GLS estimates is more than 200 samples (Ghozali, 2017). The normality assumption has not been fulfilled, especially for multivariate normality, because the critical ratio skewness and kurtosis values are outside the criteria and after the bootstrapping procedure. The assumption of multivariate normality for data with a Likert scale is difficult to achieve because it is an ordinal data type, while the structural equation model requires continuous data (Ghozali, 2017). While assuming outliers, 207 samples are free from multivariate outliers and can be used for further analysis.

Model evaluation

The measurement model evaluation using the CFA method is to test the validity based on the loading factor value at the SEM output Estimates: Standardized Regression Weights states that all manifest variables are valid because the loading factor is > 0.70, as shown in Table 4. Also, all latent variables are declared valid because it has an AVE value > 0.50, as seen in Table 5. All latent variables are declared reliable in the reliability test because the construct reliability (CR) value is ≥ 0.70, as shown in Table 6. The variables used in the study have met the criteria of good validity and reliability so that they can be used for further data analysis.

Table 4: The validity test results of manifest variables

Manifest variable			Loading factor
SC3	<---	SC	0.916
SC2	<---	SC	0.839
SC1	<---	SC	0.730
SD3	<---	SD	0.840
SD2	<---	SD	0.879
SD1	<---	SD	0.877
I4	<---	I	0.889
I3	<---	I	0.793
I2	<---	I	0.962
I1	<---	I	0.964

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Manifest variable			Loading factor
S3	<---	S	0.907
S2	<---	S	0.825
C3	<---	C	0.925
C2	<---	C	0.791
C1	<---	C	0.862
ES3	<---	ES	0.895
ES2	<---	ES	0.895
ES1	<---	ES	0.884
EL3	<---	EL	0.903
EL2	<---	EL	0.911
EL1	<---	EL	0.936
UV4	<---	UV	0.753
UV3	<---	UV	0.739
UV2	<---	UV	0.752
UV1	<---	UV	0.720

Table 5: The validity test results of latent variables

Latent variable	AVE = $\frac{\sum(SLF^2)}{\sum(SLF^2)+e}$
SC	0.870
SD	0.906
I	0.930
S	0.913
C	0.872
ES	0.926
EL	0.950
UV	0.820

Table 6: The reliability test results of latent variables

Latent variable	CR = $\frac{(\sum SLF)^2}{(\sum SLF)^2+e}$
SC	0.952
SD	0.966
I	0.981
S	0.954
C	0.953
ES	0.974
EL	0.983
UV	0.948

The structural model evaluation results based on the achievement of the goodness of fit index criteria show that most GOF indices still have poor fit criteria. The GOF index's good fit criteria are RMSEA = 0.044 and CMIN/DF = 1.391. The other GOF indices still have poor fit criteria: probability value = 0.000, chi-square = 1375.837, GFI = 0.716, AGFI = 0.676, CFI = 0.510, and TLI = 0.465. This result can be due to the assumption of normality that is not met, so many GOF index criteria are not achieved (Ghozali, 2017).

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Model re-specification

Model re-specification was carried out because the structural model evaluation results showed that most of the GOF index had poor fit criteria. Model re-specification was carried out according to the recommendations stated in the modification indices output in the AMOS program. The results of evaluating the GOF value after re-specification of the model can be seen in Table 7. The GOF indexes with good fit criteria are probability value, RMSEA, CMIN/DF, CFI, and TLI. The marginal fit criteria are GFI and AGFI. Whereas the chi-square still has poor fit criteria.

Table 7: The GOF index evaluation results

GOF index	Cut-off value	Results
Probability	≥ 0.05	0.114
Chi-square	Close to 0	496.797
RMSEA	0.05 – 0.08	0.020
GFI	> 0.90	0.858
AGFI	≥ 0.90	0.817
CMIN/DF	< 2.00	1.080
CFI	≥ 0.90	0.925
TLI	≥ 0.90	0.908

Hypothesis and mediating effects testing

The AMOS output on the Estimates → Regression Weights menu for H1 to H7 shows the hypothesis test results. H1, H2, H4, and H7b are rejected because they have a CR value < 1.960 (t-table value of 5% significance level) and a probability value > significance level (α) 0.05. Whereas H3, H5, H6, and H7a are accepted because they have CR values > 1,960 (t-table value of 5% significance level) and probability values < significance level (α) 0.05. The hypothesis test results are presented in Table 8 below.

Table 8: Hypothesis testing results

Hypothesis	Path			Estimate	C.R.	P
H1	ES	<---	SC	0.363	1.870	0.062
H2	ES	<---	SD	-0.101	-0.520	0.603
H3	ES	<---	I	0.332	2.117	0.034
H4	ES	<---	S	0.005	0.047	0.963
H5	ES	<---	C	0.235	2.644	0.008
H6	EL	<---	ES	0.675	2.060	0.039
H7a	UV	<---	ES	0.808	6.909	***
H7b	EL	<---	UV	0.376	1.106	0.269

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5. DISCUSSION

Based on Table 3, the female gender is the majority. Women tend to do more online transactions than men because women make more frequent shopping decisions for various needs, including groceries and fresh fruits and vegetables (Populix, 2021; (Tarka et al., 2022). Women are generally happier to shop than men, both offline and online shopping (Tarka et al., 2022). The distribution of respondents' domiciles was fairly even. Most respondents are aged 20-29 years and are productive, so they shop online to save time (Nurlaela et al., 2019). The last education of the majority of respondents was a bachelor's degree. As many as 50% of respondents work in the private sector, with an even income distribution for each income range per month.

The results show that shopping convenience does not significantly affect e-satisfaction (CR = 1.870 and P value = 0.062). These results are consistent with previous studies (Azhar & Bashir, 2018; Jahan et al., 2020). The quality of the products customers receive is more important than the comfort felt when shopping online. New customers feel satisfied if the products received meet expectations when transacting online (Azhar & Bashir, 2018). Customers often experience problems when shopping online when the product they are looking for is unavailable, if the products are difficult to find, and so on (Populix, 2021).

Site design does not significantly affect e-satisfaction (CR = -0.520 and P value = 0.603), in line with previous studies (Vila et al., 2021; Jahan et al., 2020; Mofokeng, 2021). Customers tend not to pay much attention to website design when shopping online. It could be because the site design is less attractive, or customers are more focused on finding the product they want to buy (Veloso et al., 2020). This means that whatever form of site design is displayed in e-commerce will not affect e-satisfaction (Azhar & Bashir, 2018). Customers may pay more attention to other attributes than focusing on e-commerce website design (Jahan et al., 2020).

Informativeness positively affects e-satisfaction (CR = 2.117, P value = 0.034, estimate = 0.332) in line with previous studies (VO et al., 2019; D'adamo et al., 2021; Mofokeng, 2021; Nugroho et al., 2015). The informative power of a well-designed site, in the form of informative and easy-to-find content, will increase customer satisfaction (Vijay et al., 2019) (Pati and Sahoo, 2023). Reliable information helps customers transact online (Alvarez-Risco et al., 2022). This is because presenting quality, accurate, and relevant information on e-commerce sites can provide an overview of the products that customers will buy (Mofokeng, 2021).

Security has no significant effect on e-satisfaction (CR = 0.047 and P value = 0.963), in line with previous studies (Nugroho et al., 2015). This could happen because security has become something that must be implemented by all e-commerce so that customers do not feel the superiority of security features as a determinant of satisfaction in online transactions because all e-commerce have the same performance in terms of security (Nugroho et al., 2015). This result does not align with previous studies (Torabi & Bélanger, 2021; Abror et al., 2020; Mofokeng, 2021; Tandon et al., 2020). A quality security factor will satisfy customers when transacting online (Jahan et al., 2020). Security guarantees and privacy protection can reduce concerns about the illegal dissemination of personal information and the spread of transaction data and increase customer trust in e-commerce (Ghali, 2021). Even though it's not significant,

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ISSN 1533-9211
DOI 10.17605/OSF.IO/2PQ9D

e-commerce must consider site security factors. Communication positively affects e-satisfaction (CR = 2.644, P value = 0.008, estimate = 0.235) in line with previous studies (Veloso et al., 2020; Vijay et al., 2019; Koay et al., 2022). A rating for products in e-commerce helps customers build their perceptions of products to increase customer satisfaction when transacting online (Belver-Delgado et al., 2020). Online customers can choose various products and services based on other customers' opinions, ratings, or comments (Torabi & Bélanger, 2021) (Pati and Sahoo, 2023). Therefore, e-commerce is expected to provide better communication to satisfy customers when shopping and receiving products (Tandon et al., 2020).

E-satisfaction positively affects e-loyalty (CR = 2.060, P value = 0.039, estimate = 0.675) in line with previous studies (Nguyen et al., 2020; X. J. Lim et al., 2020; Mohammed & Ferraris, 2021; Restuputri et al., 2021; Vinerean & Opreana, 2014). The higher the customer's perceived satisfaction, the more likely the customer will continue to make online transactions using e-commerce in the future. E-commerce managers must constantly improve services that satisfy customers, making e-commerce gain customer loyalty (Restuputri et al., 2021) (Pati and Sahoo, 2023). E-satisfaction positively affects utilitarian value (CR = 6.909, P value = ***, estimate = 0.808), and utilitarian value has no significant effect on e-loyalty (CR = 1.106 and P value = 0.269). These two hypotheses determine the mediating impact of utilitarian value on e-satisfaction and e-loyalty. A variable acts as a mediator if it fulfills three conditions: the independent variable significantly affects the suspected mediator variable, the suspected mediator variable significantly affects the dependent variable, and when both of these two conditions are met, the previously significant relationship between the independent and dependent variables is no longer significant (Baron & Kenny, 1986). The results of testing hypotheses 6 and 7 show that the mediating effect of utilitarian value as a mediator variable between e-satisfaction and e-loyalty is insignificant, in line with previous research (Vinerean & Opreana, 2014). Utilitarian values such as price levels, service factors, product ratings, and other value benefits offered by e-commerce are not a consideration for customers (Vinerean & Opreana, 2014). This might happen because customers quickly switch shopping orientations depending on their preferences (Lee & Kim, 2018). Testing the mediating effect can also be done through the Sobel test with the criteria if the Sobel test result value > t table (1.96 at a significance level of 0.05), then the mediating effect is significant (Hair Jr et al., 2018). The Sobel test result is 1.092 <1.96 (t table value), meaning the utilitarian value mediating effect is insignificant.

6. CONCLUSION

Based on the study results, informativeness and communication variables are site characteristics that positively influence e-satisfaction. Meanwhile, the variables of shopping convenience, site design, and security have no significant effect on e-satisfaction. E-satisfaction directly has a positive impact on e-loyalty. Meanwhile, the indirect relationship between e-satisfaction and e-loyalty mediated by utilitarian values has no significant effect, meaning that utilitarian values have no mediating effect.

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DOI 10.17605/OSF.IO/2PQ9D

This research provides novelty to the object of study, which focuses on the e-commerce of fresh fruits and vegetables. In addition, it provides insight into the role of site characteristics and utilitarian values on e-satisfaction and e-loyalty. The recommendation for e-commerce managers is to improve the quality of information about e-commerce products, features, and services. In addition, in e-commerce, rating and product review features can be added so that customers can find out the evaluation of each product according to the shopping experience of other customers. If e-commerce can increase this, customer satisfaction can improve, and customers will be more loyal to e-commerce. This study has several limitations, such as the assumption of normality that has not been fulfilled and the scope of e-commerce for fresh fruits and vegetables that was less extensive because it only uses four e-commerce sites.

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