



The Influence of Online Trust and Risk Perception on Online Purchase Intention among E-Commerce Users in Surabaya

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ABSTRACT

This study examines the influence of Online Trust on Risk Perception, Attitude, and Online Purchase Intention among e-commerce users in Surabaya. Using Structural Equation Modeling (SEM) with 160 respondents, the results show that Perceived Size and Perceived Reputation significantly enhance Online Trust. However, Online Trust does not affect Risk Perception, and Risk Perception has no impact on either Attitude or Purchase Intention. Conversely, Online Trust significantly influences Attitude and Purchase Intention, while Attitude positively affects Purchase Intention. These findings highlight the central role of trust and attitude in shaping online buying behavior, despite minimal influence from perceived risk.

ABSTRAK

Penelitian ini menganalisis pengaruh Online Trust terhadap Risk Perception, Attitude, dan Online Purchase Intention pada pengguna e-commerce di Kota Surabaya. Dengan menggunakan metode Structural Equation Modeling (SEM) dan melibatkan 160 responden, hasil menunjukkan bahwa Perceived Size dan Perceived Reputation berpengaruh positif dan signifikan terhadap Online Trust. Namun, Online Trust tidak berpengaruh terhadap Risk Perception, dan Risk Perception tidak berpengaruh terhadap Attitude maupun Purchase Intention. Sebaliknya, Online Trust berpengaruh signifikan terhadap Attitude dan Purchase Intention, sementara Attitude berpengaruh positif terhadap Purchase Intention. Temuan ini menekankan peran penting kepercayaan dan sikap dalam membentuk perilaku pembelian online.

Introduction

Digital transformation has driven changes in various aspects of life, ranging from consumption patterns, payment systems, to the way producers and consumers interact. The COVID-19 pandemic that struck the world in 2020 further accelerated the shift in consumer behavior from conventional activities to digital-based activities, ultimately strengthening the global digital ecosystem (Elviera, 2022). Based on data released by Google, Temasek, and Bain & Company, the Gross Merchandise Value (GMV) of Indonesia's digital economy in 2019 was recorded at USD 40 billion.

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This figure continued to increase to USD 47 billion in 2020, USD 70 billion in 2021, and is projected to surge to USD 146 billion by 2025 (GoodStats, 2024). This growth indicates the vast potential of Indonesia's digital market while also reflecting the increasing adoption of digital services by the public, ranging from e-commerce and online transportation to digital financial services. Among these sectors, e-commerce is the main contributor to the growth of Indonesia's digital economy, in line with the shift in consumer shopping preferences from conventional to online platforms.

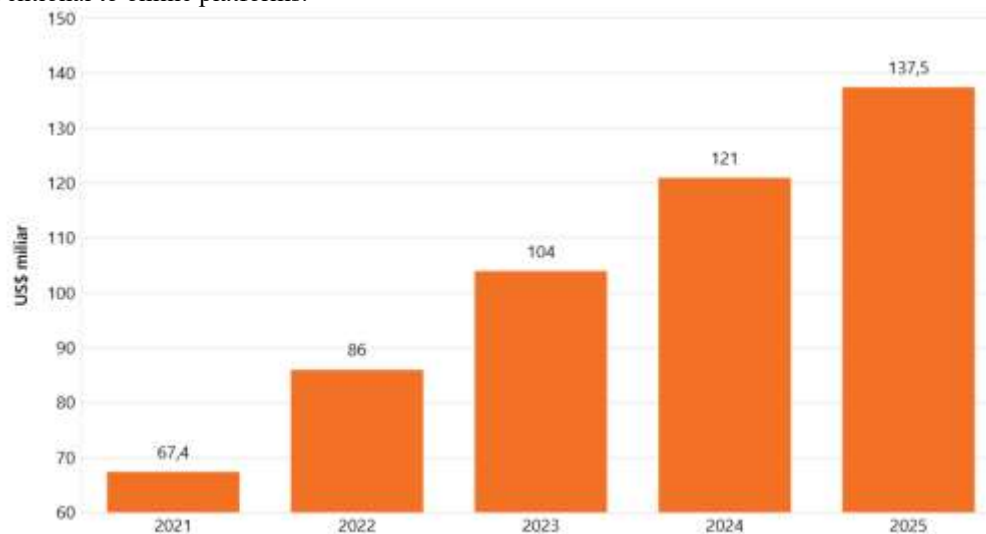


Figure 1. Projected Number of Digital Transactions in Indonesia for 2021–2025

Source: Databoks, 2024

According to Laudon (2010), e-commerce involves digitally enabled commercial transactions between and among organizations and individuals. The growth of e-commerce businesses in Indonesia has changed several consumer behaviors, one of which is the shift from in-person shopping to online purchases. Based on projections of e-commerce transaction value in Indonesia, there has been a significant increase over the past five years. In 2021, the total value of e-commerce transactions was recorded at USD 67.4 billion. This figure is projected to continue rising to USD 86 billion in 2022, USD 104 billion in 2023, USD 121 billion in 2024, and is expected to reach USD 137.5 billion in 2025. This rapid growth is driven by the increasingly widespread internet access across Indonesia, including areas that were previously considered difficult to reach. According to data from APJII (Indonesian Internet Service Providers Association), Surabaya ranks first among Indonesian cities in terms of e-commerce penetration, reaching 71% in 2017 (tempo.co, 2025).

One of the main factors influencing consumers' purchase intention in online transactions is trust (Online Trust). In this context, consumer trust in a platform is significantly influenced by their perceived size and perceived reputation of the platform. Besides trust, purchase intention is also strongly affected by risk perception toward online shopping activities. Risk perception, according to Haekal & Widjajanta (2016), is an individual's subjective assessment of the likelihood of an accident and the potential impact of such an event. This study aligns with research conducted by Jadir et al. (2022) and Ikhlas & Linda (2024), which aim to examine the influence of perceived size, perceived reputation, online trust, risk perception, and attitude on online purchase intention.

Literature Review

Perceived Size

According to Jadir et al. (2022), Perceived Size is defined as the belief that a selling company has the competence to fulfill its promises or commitments to buyers. Higashiyama & Adachi (2006) stated that perception of the size of an object (Perceived Size) is influenced not only by visual information received through sight but also by proprioceptive information, which relates to the position, movement, and posture of the individual. A company that can effectively resolve consumer issues such as product or service failures and provide compensation is considered to have significant Perceived Size. Based on this, Perceived Size can be measured using the following indicators (Teo and Liu, 2007):

1. The e-commerce platform has wide reach to companies
2. E-commerce is the largest industry on the internet
3. E-commerce companies are found everywhere

Perceived Reputation

Casaló et al. (2007) stated that Perceived Reputation stems from the assessment of a company's credibility based on how well it fulfills its promises and responsibilities to customers. Perceived Reputation refers to the extent to which consumers evaluate the image or goodwill of a company or e-commerce platform based on received information, whether through personal experience, other user reviews, or external sources such as media or third parties. Based on research by Teo and Liu (2007), the indicators used to measure Perceived Reputation include:

1. The e-commerce platform has a good reputation
2. The e-commerce platform has an honest reputation
3. The e-commerce platform has a fair reputation
4. The e-commerce platform's reputation encourages customer purchase intention

Online Trust

According to Ikhlah & Linda (2024), Online Trust is a key element influencing one's decision to choose a product or service. Trust is also a condition in which sellers place expectations on consumers to deliver anticipated rewards, despite the risks posed by dependency and uncertainty regarding consumer actions (Harrigan et al., 2021). Fundamentally, trust is a critical factor in sustaining company–consumer relationships, as such relationships cannot endure without trust (Ilhamalimy & Ali, 2021). The indicators used to measure trust (Teo and Liu, 2007) include:

1. Trust in the e-commerce platform
2. All information from the e-commerce platform is reliable
3. The e-commerce platform can uphold its promises and commitments
4. The e-commerce platform meets customer expectations

Risk Perception

According to Siegrist (2021), Risk Perception is an individual's subjective assessment of the potential danger or loss that might arise from a particular action, technology, or situation—especially when technical information is limited or difficult to understand. Risk Perception can be understood as the consumer's evaluation of uncertainty and potential negative effects related to acquiring a product or service (Kotler & Keller, 2016). Based on Teo and Liu (2007), the indicators for measuring Risk Perception are:

1. Guaranteed service or product
2. No risk of loss
3. Provides security

Attitude

Sallam & Algamash (2016) noted that studies on Attitude in marketing have existed since the 1960s. Attitude refers to an individual's internal evaluation of an object, such as a branded product. It reflects a person's tendency to respond positively or negatively to an object, idea, or activity, based on affective, cognitive, and conative evaluations formed through experience and belief (Casaló et al., 2007). Makanyeza et al. (2021) classify consumer Attitude into three components with hedonic and utilitarian implications: beliefs (cognitive component), feelings (affective component), and behavioral intentions (conative component). According to Teo and Liu (2007), Attitude is measured using the following indicators:

1. Satisfaction potential
2. Ability to attract customers
3. Considered a correct decision

Purchase Intention

Purchase Intention is the desire within a customer to consider buying a product (Ikhlah & Linda, 2024). It encompasses consumer actions such as attitudes, responses, feelings, instincts, and willingness toward a product or service. According to Wu et al. (2011), Purchase Intention indicates the likelihood that a consumer plans or is willing to purchase a specific product or service in the future. Based on research by Hsu et al. (2014), Purchase Intention in this study is measured through the following indicators:

1. Transactional intention
2. Referential intention
3. Preferential intention

Hypotheses

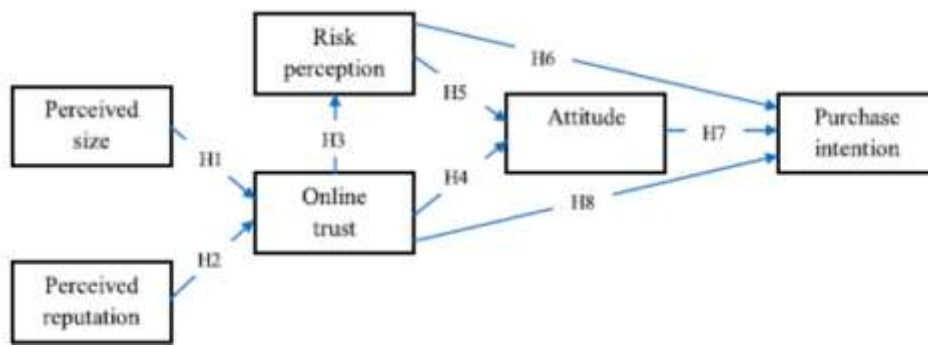


Figure 2. Research Model

Based on the model illustrated above, the hypotheses proposed in this study are as follows:

- H1:** Perceived Size has a positive and significant effect on Online Trust.
- H2:** Perceived Reputation has a positive and significant effect on Online Trust.
- H3:** Online Trust has a negative and significant effect on Risk Perception.
- H4:** Online Trust has a positive and significant effect on Attitude.
- H5:** Risk Perception has a negative and significant effect on Attitude.
- H6:** Risk Perception has a negative and significant effect on Purchase Intention.
- H7:** Attitude has a positive and significant effect on Purchase Intention.
- H8:** Online Trust has a positive and significant effect on Purchase Intention.

Research Methods

This study employs a quantitative method using both primary and secondary data. Primary data refers to data obtained directly by the researcher in the field. A questionnaire was used in this research to collect primary data, which was then subjected to statistical analysis. In addition, secondary data were obtained from various internet sources such as journal articles, previous research, e-books, and other relevant materials.

According to Sugiyono (2015), a population is the entire group of elements consisting of objects or subjects with specific characteristics defined by the researcher for study and from which conclusions are drawn. The population in this study comprises individuals who have used e-commerce platforms and reside in Surabaya.

To determine the sample, this research applied both probability and non-probability sampling techniques. According to Hair et al. (2010), the minimum number of samples can be calculated by multiplying the number of indicators by 5 to 10. Therefore, based on this method, the minimum sample size required for this study is 160, calculated from 20 indicators multiplied by 8.

Result and Discussion

Result

The initial step of this study is the validity and reliability testing. The following are the results of the validity and reliability tests:

Validity Test

Table 1. Validity Test Results

Indicator	Pearson Correlation	Significant	Description
PS1	.881***	.000	VALID
PS2	.782***	.000	VALID
PS3	.754***	.000	VALID
PR1	.921***	.000	VALID
PR2	.763***	.000	VALID
PR3	.992***	.000	VALID
PR4	.992***	.000	VALID
OT1	.751***	.000	VALID
OT2	.860***	.000	VALID
OT3	.815***	.000	VALID

OT4	.969***	.000	VALID
AT1	.808***	.000	VALID
AT2	.773***	.000	VALID
AT3	.895***	.000	VALID
PI1	.764***	.000	VALID
PI2	.902***	.000	VALID
PI3	.951***	.000	VALID

The table above presents the results of the validity test for all research variables. Based on the data shown in the table, all indicators show correlation values greater than 0.3 and significance values below 0.05. Therefore, it can be concluded that all items in the research variables meet the validity criteria and are declared valid.

Reliability Test

Table 2. Reliability Test Results

Indicator	Cronbach's Alpha	Cronbach's Alpha Threshold	Description
PS	.725**	≥ 0.60	Reliable
PR	.931**	≥ 0.60	Reliable
OT	.870**	≥ 0.60	Reliable
RP	.870**	≥ 0.60	Reliable
AT	.767**	≥ 0.60	Reliable
PI	.834**	≥ 0.60	Reliable

Based on the reliability test results presented in the table above, it is evident that all variables meet the required reliability criteria, as the Cronbach's Alpha values for each variable are above the threshold of ≥ 0.6. Thus, it can be concluded that the pre-test data obtained from 30 respondents meet the reliability standard.

Average Variance Extracted (AVE)

Table 3. Average Variance Extracted (AVE) Values

Variable	AVE Value	AVE Threshold	Description
PS	.720	≥ 0.50	Valid
PR	.793	≥ 0.50	Valid
OT	.825	≥ 0.50	Valid
RP	.702	≥ 0.50	Valid
AT	.870	≥ 0.50	Valid
PI	.920	≥ 0.50	Valid

Based on Table 3 results from the outer model test, all variables have AVE values greater than 0.5. Therefore, it can be stated that the AVE test results are valid.

R-Square Test

Table 4. R-Square Test Results

Variable	R-Square
AT	0.579
OT	0.231
PI	0.706
RP	0.023

To complement the structural model evaluation, the researcher tested how well the path model predicts the underlying latent factors by examining the explained variance values (R²). Risk Perception and Online Trust together explain 57.9% of the variance in Attitude. Perceived Size and Perceived Reputation together explain 23.1% of the variance in Online Trust. Risk Perception, Attitude, and Online Trust together explain 70.6% of the variance in Purchase Intention. Online Trust alone explains 2.3% of Risk Perception.

Hypothesis Testing

Table 5. Hypothesis Testing Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
AT -> PI	0.573	0.575	0.088	6.544	0.000
OT -> AT	0.763	0.762	0.044	17.423	0.000
OT -> PI	0.320	0.317	0.091	3.516	0.000
OT -> RP	-0.152	-0.159	0.111	1.364	0.173
PR -> OT	0.222	0.226	0.063	3.524	0.000
PS -> OT	0.361	0.373	0.058	6.199	0.000
RP -> AT	-0.013	0.009	0.057	0.229	0.819
RP -> PI	0.018	0.010	0.040	0.453	0.650

Based on the data in the hypothesis testing table above, the following conclusions can be drawn:

1. Perceived Size has a positive and significant effect on Online Trust, as indicated by a P Value of 0.000 (less than $\alpha = 0.05$), a path coefficient of 0.361, and a T Statistic of 6.199 > 1.96. Thus, Hypothesis 1 is accepted. This finding is in line with Jadil et al. (2022), who stated that Perceived Size positively and significantly affects Online Trust. According to Rock and Ebenholtz (1959), size perception is not absolute, but a relative judgment influenced by visual or contextual elements. Consumers associate large size with credibility, stability, and professionalism, affecting trust.
2. Perceived Reputation has a positive and significant effect on Online Trust, with a P Value of 0.000 ($\alpha = 0.05$), a path coefficient of 0.222, and a T Statistic of 3.524 > 1.96. Thus, Hypothesis 2 is accepted. This supports Jadil et al. (2022), who found that perceived reputation significantly influences Online Trust. A good reputation reflects credibility and reliability, helping consumers feel secure and reducing perceived risk in online transactions.
3. Online Trust does not affect Risk Perception, with a P Value of 0.173 ($\alpha = 0.05$), a path coefficient of -0.152, and a T Statistic of 1.364 < 1.96. Thus, Hypothesis 3 is rejected. This result is consistent with Ikhlah & Linda (2024), who found that Online Trust does not influence Risk Perception. Trust in a seller does not eliminate concerns about external risks such as data breaches or delivery issues.
4. Online Trust has a positive and significant effect on Attitude, shown by a P Value of 0.000 ($\alpha = 0.05$), a path coefficient of 0.763, and a T Statistic of 17.423 > 1.96. Thus, Hypothesis 4 is accepted. This supports Ikhlah & Linda (2024), who emphasized Online Trust as a key factor shaping consumer attitudes, fostering confidence and satisfaction in digital transactions.
5. Risk Perception does not affect Attitude, with a P Value of 0.819 ($\alpha = 0.05$), a path coefficient of -0.013, and a T Statistic of 0.229 < 1.96. Hence, Hypothesis 5 is rejected. This aligns with Ikhlah & Linda (2024), who found that despite awareness of risks, consumers' attitudes are more influenced by trust, perceived benefits, or urgency, rather than risk alone.
6. Risk Perception does not affect Purchase Intention, as indicated by a P Value of 0.650 ($\alpha = 0.05$), a path coefficient of 0.018, and a T Statistic of 0.453 < 1.96. Thus, Hypothesis 6 is rejected. Similar to findings by Ikhlah & Linda (2024), consumers often balance perceived risks with positive factors like trust or benefits. High perceived risk can undermine trust but doesn't always reduce purchase intention directly (Nitta & Wardhani, 2022).
7. Attitude has a positive and significant effect on Purchase Intention, with a P Value of 0.000 ($\alpha = 0.05$), a path coefficient of 0.573, and a T Statistic of 6.544 > 1.96. Thus, Hypothesis 7 is accepted. This is consistent with Jadil et al. (2022), who demonstrated that positive attitudes shaped by trust, quality, and satisfaction directly enhance intention to buy (Quoquab et al., 2020).
8. Online Trust has a positive and significant effect on Purchase Intention, as reflected by a P Value of 0.000 ($\alpha = 0.05$), a path coefficient of 0.320, and a T Statistic of 3.516 > 1.96. Therefore, Hypothesis 8 is accepted. This finding supports Jadil et al. (2022), showing that trust reduces perceived risk and increases consumer comfort in proceeding with online purchases (Wahyuni et al., 2024).

Conclusion and Suggestion

Conclusion

Based on the results of data analysis, this study concludes that out of the eight proposed hypotheses, five show a positive and significant influence, while the other three do not indicate a significant effect. Specifically, Perceived Size and Perceived Reputation are proven to enhance Online Trust, which in turn significantly influences both Attitude and Purchase Intention. Online Trust also plays a crucial role in encouraging purchase intention, while Attitude strengthens e-commerce consumers' purchase intention in Surabaya. Conversely, Risk Perception does not have a significant effect on either Attitude or Purchase Intention, nor is it influenced by Online Trust. These findings indicate that trust and attitude are more dominant factors in influencing online shopping behavior compared to risk perception.

The practical implication of this study emphasizes the importance for e-commerce companies to strengthen their reputation, enhance the perceived size of their platforms, and create a positive shopping experience in order to build consumer trust and supportive attitudes

Suggestion

Future research is recommended to include additional variables that support Purchase Intention and to expand the number of respondents to produce more comprehensive and relevant findings.

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