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

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### ABSTRACT

*This study analyzes the influence of Online Trust on Risk Perception, Attitude, and Online Purchase Intention among e-commerce users in Surabaya City, using Structural Equation Modeling (SEM) with 160 respondents. Results show that Perceived Size and Perceived Reputation positively and significantly affect Online Trust. Online Trust significantly influences Attitude and Purchase Intention but has no effect on Risk Perception. Risk Perception does not influence Attitude or Purchase Intention. Attitude significantly affects Purchase Intention. These findings highlight Online Trust as a key driver of consumer attitudes and purchasing behavior in e-commerce, while Risk Perception plays a limited role.*

### ABSTRAK

*Penelitian ini menganalisis pengaruh Online Trust terhadap Persepsi Risiko, Sikap, dan Niat Beli Online pada pengguna e-commerce di Kota Surabaya, menggunakan metode Structural Equation Modeling (SEM) dengan 160 responden. Hasil menunjukkan bahwa Perceived Size dan Perceived Reputation berpengaruh positif dan signifikan terhadap Online Trust. Online Trust berpengaruh signifikan terhadap Sikap dan Niat Beli, namun tidak berpengaruh terhadap Persepsi Risiko. Persepsi Risiko tidak berpengaruh terhadap Sikap maupun Niat Beli. Sikap berpengaruh signifikan terhadap Niat Beli. Temuan ini menegaskan bahwa Online Trust menjadi faktor utama dalam membentuk sikap dan perilaku pembelian konsumen, sementara Persepsi Risiko berperan terbatas.*

### Introduction

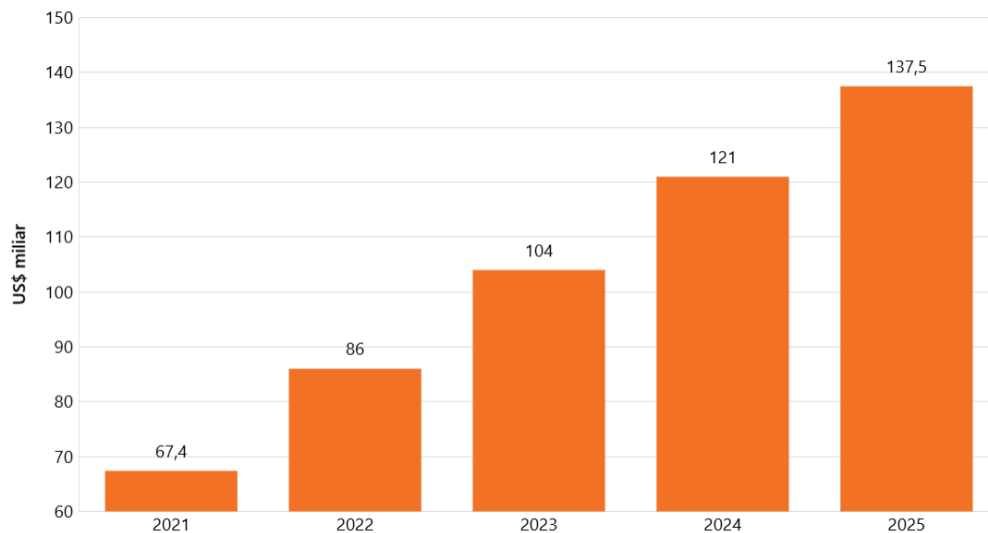
Digital transformation has driven changes across various aspects of life, from consumption patterns and payment systems to the way producers and consumers interact. The COVID-19 pandemic that struck globally in 2020 further accelerated the shift in consumer behavior from conventional to digital-based activities, ultimately strengthening the global digital ecosystem.

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According to data released by Google, Temasek, and Bain & Company, Indonesia's digital economy Gross Merchandise Value (GMV) was recorded at USD 40 billion in 2019. This figure continued to grow to USD 47 billion in 2020, USD 70 billion in 2021, and is projected to soar to USD 146 billion by 2025 (GoodStats, 2024).

This growth signifies the vast potential of Indonesia's digital market and reflects 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, 2021–2025**

*Source: Databooks, 2024*

According to Laudon (2010), e-commerce involves digitally enabled commercial transactions between and among organizations and individuals. The growth of e-commerce in Indonesia has changed various consumer behaviors, one of which is the shift from in-person shopping to online purchasing. Based on projected data for Indonesia's e-commerce transaction value, there has been a significant increase over the past five years. In 2021, the total transaction value was recorded at USD 67.4 billion. This figure is projected to increase 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 expanding internet access across all regions of Indonesia, including previously hard-to-reach areas. According to APJII (Indonesian Internet Service Providers Association), Surabaya ranked first among cities in Indonesia with the highest e-commerce penetration rate, reaching 71% in 2017 (tempo.co, 2025).

One of the main factors influencing consumers' purchase intention in online transactions is Online Trust. In this context, consumers' trust in a platform is significantly influenced by their Perceived Size and Perceived Reputation of the platform. Besides trust, consumers' purchase intention is also affected by their Risk Perception regarding online shopping activities. According to Haekal & Widjajanta (2016), risk perception is an individual's subjective assessment of the likelihood of an adverse event and the impact it may cause. This study aligns with previous research by Jadir et al. (2022) and Ikhlah & Linda (2024), which aimed 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 the company selling the product has the competence to fulfill its promises or commitments to the seller. According to Higashiyama & Adachi (2006), perception of an object's size (Perceived Size) is not only influenced by visual information received by the eyes but also by proprioceptive information related to the individual's body position, movement, and posture. A company that can handle customer complaints such as product or service failures and provide compensation when issues arise is considered to have a significant Perceived Size. Based on the above, Perceived Size can be measured using the following indicators (Teo and Liu, 2007):

1. E-commerce has a broad reach to companies
2. E-commerce is the largest industry on the internet
3. E-commerce companies are found everywhere

### **Perceived Reputation**

Casalo et al. (2007) state that perceived reputation originates from evaluations of a company's credibility based on how well it fulfills its promises and responsibilities to customers. Perceived reputation is the extent to which consumers assess the image or goodwill of an e-commerce company or platform based on received information, either through personal experience, user reviews, or external sources such as media or third parties. According to research by Teo and Liu (2007), the indicators used to measure perceived reputation include:

1. E-commerce has a good reputation
2. E-commerce has an honest reputation
3. E-commerce has a fair reputation
4. E-commerce has a reputation that drives purchase intention

### **Online Trust**

According to Ikhlah & Linda (2024), Online Trust is an important element influencing a person's decision to choose a product or service. Trust is also a state in which the seller places expectations on the consumer to fulfill anticipated returns, despite the risks due to dependence and uncertainty about consumer actions (Harrigan et al., 2021). Fundamentally, as stated by Ilhamalimy & Ali (2021), trust is an element for the success of the relationship between a company and its consumers; without trust, the relationship will not last. The following are indicators to measure the trust variable (Teo and Liu, 2007):

1. Trust in e-commerce
2. All information from e-commerce is trustworthy
3. E-commerce can maintain its promises and commitments
4. E-commerce meets customer expectations

### **Risk Perception**

According to Siegrist (2021), Risk Perception is an individual's subjective assessment of the potential danger or loss that may arise from a particular action, technology, or situation especially when technical information is limited or difficult to understand. Risk Perception can also be defined as a consumer's evaluation of the uncertainty and negative effects that might be experienced in acquiring goods or services (Kotler & Keller, 2016). The following are indicators to measure the Risk Perception variable (Teo and Liu, 2007):

1. Warranty available
2. No risk of loss
3. Provides security

### **Attitude**

Sallam & Algamash (2016) stated that research on Attitude in marketing has been conducted since the 1960s. Attitude is an individual's internal evaluation of an object, such as a branded product. Attitude refers to an individual's tendency to respond positively or negatively to an object, idea, or activity based on affective, cognitive, and conative evaluations formed from experience and beliefs (Casalo et al., 2007). Makanyeza et al. (2021) divide consumer Attitude into three elements with hedonic and utilitarian implications: belief (cognitive component), feeling (affective component), and behavioral intention (conative component). Based on Teo and Liu (2007), Attitude in this study is measured using the following indicators:

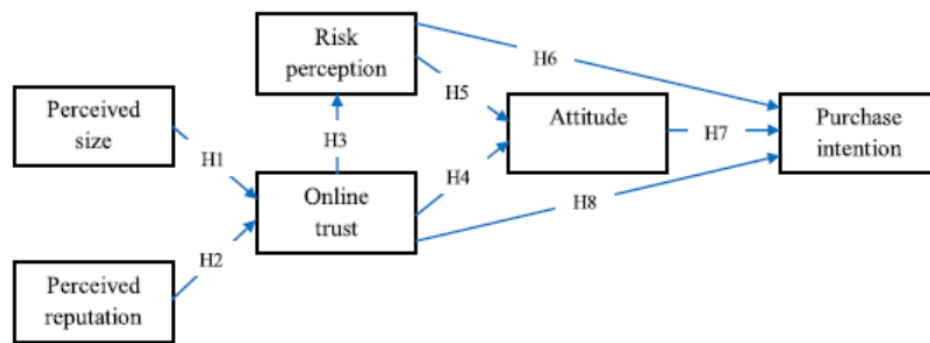
1. Can provide satisfaction
2. Can attract customers
3. Is the right decision

### **Purchase Intention**

Purchase Intention is the desire that arises within customers to consider purchasing a product (Ikhlah & Linda, 2024). Every consumer's actions such as attitude, response, feeling, instinct, and desire toward a product or service are interpreted as purchase intention. According to Wu et al. (2011), Purchase Intention indicates the likelihood that consumers will plan or be willing to buy a particular product or service in the future. Based on research by Hsu et al. (2014), Purchase Intention in this study is measured using the following indicators:

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

## Hypotheses



**Figure 2. Research Model**

Based on the diagram above, the hypotheses 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 uses a quantitative method with both primary and secondary data. Primary data refers to data obtained directly by the researcher in the field. In this research, a questionnaire was used to collect primary data that would later be tested. In addition, secondary data were also used, gathered from online sources such as journal articles, research papers, e-books, and others.

According to Sugiyono (2015), the population is the entire group of elements consisting of objects or subjects that have specific characteristics defined by the researcher for study and conclusion. The population in this study includes individuals who have used e-commerce and reside in Surabaya City.

For sampling, this study employs both probability and non-probability sampling techniques. According to Hair et al. (2010), the minimum number of samples can be determined using the rule of multiplying the number of indicators by 5 to 10. Therefore, based on this theory, with 20 research indicators, the calculation is  $20 \times 8$ , which means the minimum required sample size is 160 respondents.

## Result and Discussion

The initial step of this research is the validity and reliability testing. The results are presented as follows:

### Validity Test

**Table 1.** Validity Test Results

Indicator	Pearson Correlation	Significance	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 validity test results for all research variables. Based on the data shown, all indicators have a Pearson correlation value greater than 0.3 and a significance value 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	Minimum Threshold	Description
PS	.725**	$\geq 0.60$	Reliable
PR	.931**	$\geq 0.60$	Reliable
OT	.870**	$\geq 0.60$	Reliable
RP	.870**	$\geq 0.60$	Reliable
AT	.767**	$\geq 0.60$	Reliable
PI	.834**	$\geq 0.60$	Reliable

Based on the reliability test results presented in the table above, all variables meet the established reliability criteria, where each variable's Cronbach's Alpha value is above 0.60. Thus, it can be concluded that the pre-test data obtained from 30 respondents are reliable.

#### R-Square Test

**Table 3.** R-Square 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 ( $R^2$ ) values. Risk Perception and Online Trust together explain 57.9% of the variance in the Attitude variable. Perceived Size and Perceived Reputation together explain 23.1% of the variance in the Online Trust variable. Risk Perception, Attitude, and Online Trust together explain 70.6% of the variance in the Purchase Intention variable. Online Trust explains 2.3% of the Purchase Intention.

#### Hypothesis Testing

**Table 4.** 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

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
RP -> PI	0.018	0.010	0.040	0.453	0.650

Based on the data in the hypothesis testing table above, it can be concluded that:

1. Perceived Size has a positive and significant effect on Online Trust, as the P-value is 0.000 (less than  $\alpha = 0.05$ ), the path coefficient is 0.361, and the T-statistic is  $6.199 > 1.96$ . Thus, Hypothesis 1 is accepted. This result is consistent with the study by Jadil et al. (2022), which found that Perceived Size positively and significantly affects Online Trust. According to Rock and Ebenholtz (1959), size perception is not absolute but results from relative comparisons influenced by context and surrounding visual elements. Consumers often associate a large company or website with credibility, stability, and professionalism.
2. Perceived Reputation has a positive and significant effect on Online Trust, with a P-value of  $0.000 < 0.05$ , a path coefficient of 0.222, and a T-statistic of  $3.524 > 1.96$ . Therefore, Hypothesis 2 is accepted. This aligns with Jadil et al. (2022), who found that perceived reputation significantly influences Online Trust. Reputation reflects consumers' belief that a seller will act honestly and with care. A good reputation signifies credibility and integrity, giving consumers confidence and reducing perceived risk in online transactions.
3. Online Trust does not affect Risk Perception, as the P-value is  $0.173 > 0.05$ , with a path coefficient of -0.152 and a T-statistic of  $1.364 < 1.96$ . Hence, Hypothesis 3 is rejected. This is consistent with findings by Ikhlah & Linda (2024), who demonstrated that Online Trust does not significantly influence Risk Perception. Trust in an online seller does not necessarily eliminate user concerns about external risks such as data breaches, payment security, or product mismatch.
4. Online Trust has a positive and significant effect on Attitude, with a P-value of  $0.000 < 0.05$ , a path coefficient of 0.763, and a T-statistic of  $17.423 > 1.96$ . Thus, Hypothesis 4 is accepted. This confirms the results of Ikhlah & Linda (2024), who emphasized Online Trust as a key factor shaping consumer attitude. Trust fosters a sense of security and confidence in the platform, leading to favorable attitudes like comfort, satisfaction, and willingness to purchase.
5. Risk Perception does not affect Attitude, with a P-value of  $0.819 > 0.05$ , a path coefficient of -0.013, and a T-statistic of  $0.229 < 1.96$ . Therefore, Hypothesis 5 is rejected. This supports Ikhlah & Linda (2024), who concluded that Risk Perception does not influence consumer Attitude. Even if consumers are aware of risks, they may still maintain a positive attitude due to stronger factors like trust, perceived benefits, or urgency.
6. Risk Perception does not affect Purchase Intention, as shown by a P-value of  $0.650 > 0.05$ , a path coefficient of 0.018, and a T-statistic of  $0.453 < 1.96$ . Hypothesis 6 is rejected. This finding agrees with Ikhlah & Linda (2024), who found that Risk Perception does not influence Purchase Intention. Perceived risks can undermine trust, but consumers often balance risks with positive factors like trust, benefits, affordability, or urgency.
7. Attitude has a positive and significant effect on Purchase Intention, with a P-value of  $0.000 < 0.05$ , a path coefficient of 0.573, and a T-statistic of  $6.544 > 1.96$ . Therefore, Hypothesis 7 is accepted. This aligns with Jadil et al. (2022), who found that Attitude significantly impacts Purchase Intention in e-commerce. Positive attitudes shaped by service quality, trust, and satisfaction encourage stronger buying intentions (Quoquab et al., 2020).
8. Online Trust has a positive and significant effect on Purchase Intention, as the P-value is  $0.000 < 0.05$ , with a path coefficient of 0.320 and a T-statistic of  $3.516 > 1.96$ . Hence, Hypothesis 8 is accepted. This result aligns with Jadil et al. (2022), who found that Online Trust significantly influences Purchase Intention. Trust increases consumer confidence in smooth, risk-free transactions, leading to greater willingness to buy (Wahyuni et al., 2024).

## Conclusion and Suggestion

Based on the data analysis results, this study concludes that out of eight proposed hypotheses, five show a positive and significant effect, while the remaining three do not demonstrate a significant influence. Specifically, perceived size and perceived reputation are proven to enhance online trust, which in turn significantly influences both attitude and purchase intention. Online trust plays a crucial role in driving purchase intention, while attitude is shown to strengthen the purchase intention of e-commerce consumers in Surabaya City. Conversely, risk perception does not significantly affect either attitude or purchase intention and is not influenced by online trust.

These findings suggest that trust and attitude are more dominant factors in influencing online shopping behavior compared to risk perception. The practical implication of this study highlights the importance for e-commerce companies to strengthen their reputation, enhance the perceived size of the platform, and create a positive shopping experience to build consumer trust and supportive attitudes. Meanwhile, future research is recommended to add more variables related to purchase intention and expand the number of respondents for more comprehensive and relevant findings.

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