

Examining Online Purchase Intention in E-Commerce: The Effects of Knowledge, Attitude, Subjective Norms, and Perceived Behavioral Control

Selvia Putri Anggraini¹, Suswadi¹, Kusriani Prasetyowati¹, Adhistry Puri Damayanti^{1*}

1. Universitas Tunas Pembangunan Surakarta, Surakarta

Corresponding Email: adhistry.puridamayanti@lecture.utp.ac.id

Article Information

Received: 26 Desember 2025

Revised: 10 January 2026

Accepted: 20 February 2026

Abstract

The development of technology has encouraged Indonesian consumers to increasingly use e-commerce platforms to purchase their daily necessities. This study aims to analyze the effect of knowledge, attitudes, subjective norms, and perceived behavioral control on consumers' intention to shop online through e-commerce. This research applied a causal-comparative approach. The study was conducted in Greater Jakarta (Jabodetabek), Semarang, Yogyakarta, and Solo Raya. A total of 100 respondents were selected using a non-probability sampling method, specifically purposive sampling. Data were collected through interviews using structured questionnaires. The research instruments were tested, and the data were analyzed using SmartPLS 3 software with the Structural Equation Modeling (SEM) method. The results show that knowledge has a significant effect on consumers' attitudes toward online shopping through e-commerce platforms.

Keywords: Knowledge, Attitude, Subjective Norms, Perceived Behavioral Control, Consumer Purchase Intention

Introduction

Currently, the development of information technology is progressing rapidly. Technological advancement has become increasingly important as it enables individuals to carry out various activities more efficiently, with less effort and cost. One of the technologies that has become a major trend today is the use of the internet. The internet allows people to easily access and share information. According to a survey conducted by the Asosiasi Penyelenggara Jasa Internet Indonesia, the number of internet users in Indonesia continues to increase each year (APJII, 2018). Today, consumers are able to purchase food products such as vegetables, rice, milk, eggs, and other staple goods online. This technological development has also been widely utilized by business actors, who use the internet as a convenient marketplace. Many entrepreneurs start their businesses through e-commerce platforms because they do not need to incur high rental costs for physical stores.

Agricultural products sold online can be delivered directly to consumers without going through traditional or modern markets. By using a smartphone to access websites or applications, consumers can order various food products, which are then delivered through available courier services. The Theory of Planned Behavior (TPB) explains that behavioral intention plays an important role in determining an individual's actual

How to cite : Selvia Putri Anggraini, Suswadi, Kusriani Prasetyowati, Adhistry Puri Damayanti.(2026). Examining Online Purchase Intention in E-Commerce: The Effects of Knowledge, Attitude, Subjective Norms, and Perceived Behavioral Control. JRUCS : Journal of Rural and Urban Community Studies.4(1) <https://doi.org/10.36728/jruc.v4i1.6311>

E-ISSN : 3025-5090

Published by : Universitas Tunas Pembangunan Surakarta

behavior. TPB was developed by Ajzen to address limitations found in the earlier Theory of Reasoned Action (TRA). According to TPB, behavioral intention is influenced by three main factors: attitude, subjective norm, and perceived behavioral control. In this study, knowledge is added as an additional variable to examine whether it influences consumer attitudes toward online purchasing. Previous research (Putri, 2012) indicates that product knowledge affects attitudes in shaping purchase intention.

Rapid technological advancement has made access to information about healthy and organic food products easier than ever. Sellers and buyers can interact directly through online platforms without leaving their homes. Through e-commerce, sellers can offer selected products, and consumers are free to choose according to their preferences. Consumers no longer need to visit supermarkets, shopping centers, or traditional markets, as transactions can be conducted through computers or smartphones. Online agricultural product sales are conducted through various platforms, such as websites, social media, and online marketplace applications. These platforms allow consumers to evaluate products based on quality, quantity, and location. The wide availability of online platforms provides business opportunities for entrepreneurs who do not require significant capital investment in physical stores.

Consumer knowledge plays an important role in shaping attitudes toward online purchasing (Putri, 2012). The greater the knowledge about e-commerce, the more positive the consumer's attitude toward online purchase intention. Attitude itself significantly influences purchase intention (Asif et al., 2017). In addition, subjective norms, such as the influence of family members and peers, can affect a person's intention to purchase food products online. The stronger the social influence, the higher the purchase intention. Perceived behavioral control, which refers to an individual's perceived ability or capability to perform a behavior, also influences online purchase intention. Higher perceived control increases the likelihood that consumers will purchase food products online.

E-commerce provides convenience in purchasing food products without the need to visit physical markets. Consumer decisions to purchase agricultural products online are influenced by purchase intention, which can be analyzed using the Theory of Planned Behavior. Studying online purchase intention for agricultural products provides valuable insights for improving marketing strategies on e-commerce platforms and can serve as a reference for online business actors in expanding their market reach.

Based on the background described above, the research questions in this study are:

1. How does consumer knowledge influence consumer attitudes toward purchasing through e-commerce?
2. How do consumer attitudes influence purchase intention in e-commerce?
3. How do subjective norms influence consumer purchase intention in e-commerce?

Method

This study employed a causal-comparative research design. Causal-comparative research aims to examine differences between two or more groups of a particular variable in order to identify important factors underlying similarities or differences (Arifin, 2012). This study is classified as causal-comparative because it seeks to analyze cause-and-effect relationships between independent variables and the dependent variable. The research method used was a survey approach. Survey research involves selecting a sample from a

population and using questionnaires as the primary data collection instrument. This method allows researchers to examine distributions and relationships among sociological and psychological variables within a selected sample (Sugiyono, 2013).

The research locations were determined purposively. The purposive method involves selecting research sites intentionally based on specific characteristics relevant to the research objectives (Herdiansyah, 2010). The selected locations were Greater Jakarta (Jabodetabek), Yogyakarta, and Surakarta. These areas were chosen because they are accessible to e-commerce food delivery services, particularly for fresh products such as vegetables and fruits, which have limited shelf life and delivery range constraints. Since the population size was unknown, the sample size was calculated using the Lemeshow formula (Rendy dan Devie, 2013):

$$N = (Z)^2 \frac{p \cdot q}{(d)^2}$$

Where:

n = sample size

Z = standard normal deviation (1.96 for 95% confidence level)

p and q = estimated population proportion (0.5 and 0.5 when unknown)

d = margin of error (0.10)

Based on this formula, the minimum required sample size was 96 respondents. To minimize sampling error, the number was rounded up to 100 respondents. The sampling technique used was judgment sampling, a non-probability sampling method in which respondents are selected based on specific characteristics that align with the research objectives (Simamora, 2005). The study required 100 respondents residing in Jabodetabek, Yogyakarta, and Surakarta. Additionally, 30 respondents were involved in the instrument testing phase, as a minimum of 30 participants is generally considered adequate for preliminary instrument validation (Alwi, 2011).

Data were collected using an online questionnaire distributed through Google Forms. The questionnaire link was shared via social media platforms such as Facebook, Instagram, Twitter, and other social media channels targeting individuals residing in the selected research locations. The research instrument was tested for validity and reliability. Data analysis was conducted using Structural Equation Modeling (SEM) with SmartPLS 3.0 software.

RESULT AND DISCUSSION

E-commerce refers to the use of the internet to buy, transfer, or trade data, goods, or services (Turban, 2015). This platform, which operates on various hardware devices such as computers and smartphones, aims to facilitate sales transactions, information dissemination, and serve as a reference medium in today's digital era. It is commonly referred to as e-commerce or online shopping applications. Within e-commerce, there is a concept known as social commerce. Social commerce refers to the practice of selling products directly through social media networks, as cited by BigCommerce. This concept differs from social selling or social media marketing. Forms of social commerce include conversational commerce and live stream commerce.

Conversational commerce occurs when a brand utilizes technologies such as live chat or chatbots to sell products and services, enabling sellers and buyers to interact in real time, similar to face-to-face communication. Examples include purchases made through WhatsApp chat, Instagram direct messages, or TikTok chat features. Live stream commerce refers to promoting products directly through live media platforms, such as YouTube, Instagram, Facebook, and TikTok. In e-commerce transactions, consumers are free to select the products they desire, and at the end of the purchasing process, the system automatically determines the total payment amount and assigns a delivery driver. In the digital era, e-commerce greatly assists consumers in fulfilling their daily needs efficiently.

This study categorizes age groups based on the Indonesian Ministry of Health (Depkes RI, 2009), dividing respondents into late adolescence (17–25 years) and early adulthood (26–35 years). The results show that the majority of respondents were aged 26–35 years (56%), predominantly female, and primarily employed as private-sector employees with an income above IDR 4,500,000. This may be explained by the tendency of women to show greater interest in online purchasing, particularly for essential goods, whether raw or ready-to-cook products. Private employees, who constituted the largest respondent group, preferred online shopping due to time efficiency and convenience, resulting in higher purchase intention compared to other occupational groups.

All respondents were aware of the existence of e-commerce, although at varying levels. The highest percentage (96%) indicated strong awareness of e-commerce platforms. Greater awareness of e-commerce significantly influences the emergence of purchase intention. The more knowledgeable consumers are about e-commerce, the stronger their intention to purchase online. Most respondents reported receiving products of good quality rather than low quality. This perception influences purchase intention, as consumers are more likely to buy products that are perceived as good and hygienic. High-quality and hygienic products encourage consumers, particularly those concerned about health, to make purchases through e-commerce platforms.

A total of 65 respondents agreed that the services provided by e-commerce platforms were satisfactory, while 33 respondents chose a neutral response and 2 respondents disagreed. Satisfaction referred to punctual and accurate delivery, friendly and informative administrative responses, and reliable service provided by delivery drivers.

Furthermore, 78 respondents agreed that product prices on e-commerce platforms were relevant to the quality offered, while 20 respondents were neutral and 2 disagreed. The two respondents who disagreed were students. This may be explained by differences in financial capacity between students and employed individuals, leading some students to perceive prices as less aligned with product quality. The formation of purchase intention through e-commerce is closely related to consumer attitudes toward the existence of online applications. Based on the findings, respondents felt capable of conducting transactions both in terms of internet access and financial resources. Additionally, respondents reported satisfaction and perceived advantages after purchasing through e-commerce, leading some to recommend its use to others. Regarding subjective norms, 78 respondents reported making online purchases through e-commerce due to influencer recommendations. Among various external influences, influencers were the most dominant factor, indicating that influencers significantly affect consumer purchase intention (Sari Utami, 2021).

Based on perceived behavioral control, respondents generally felt confident in their ability to use e-commerce platforms, whether they were frequent or occasional users. Respondents perceived that e-commerce made it easier to meet daily needs and save time, as they did not need to leave their homes. The highest percentage of consumers indicated that they were likely to make repeat purchases through e-commerce in the future.

Convergent validity refers to the assessment of indicators used to measure a variable in order to ensure that each indicator is clearly understood by respondents and accurately represents the intended construct. The evaluation of convergent validity is based on the correlation between item scores and construct scores, calculated using SmartPLS software. A measurement model is considered to have good convergent validity when the loading factor value exceeds 0.70 (Ghozali, 2014). The results indicate that the indicators within each construct are highly correlated. The highest loading factor was found in indicator NP2, with a value of 0.837. These loading factor results demonstrate strong convergent validity among the indicators of each construct, indicating that the measurement model is adequate and the analysis can proceed to the next stage.

Table 1

Average Variance Extracted (AVE) Values of Variables in the Instrument Testing Phase

Variable	Average Variance Extract (AVE)	Description
Knowledge	0.520	Valid
Attitude	0.534	Valid
Subjective Norm	0.607	Valid
Perceived Behavioral Control	0.618	Valid
Purchase Intention	0.635	Valid

Source: Primary Data Analysis, 2022

According to Ghozali (2014), discriminant validity is established when the AVE value of each construct is greater than the correlation between that construct and other constructs in the model. A construct is considered adequate if it has an AVE value greater than 0.50. Based on the data presented in the table above, all constructs have AVE values exceeding 0.50, indicating that the measurement model demonstrates good discriminant validity. Composite Reliability is an index that measures the extent to which a construct is reliable or internally consistent. A variable is considered reliable if it has a Composite Reliability value greater than 0.60. The output results for Composite Reliability and Cronbach's Alpha obtained from SmartPLS are presented in Table 2.

Table 2

Composite Reliability and Cronbach's Alpha Values

Variabel	Composite Reliability	Cronbach's Alpa	Description
Knowledge	0,843	0,795	Valid
Attitude	0,821	0,709	Valid
Subjective Norm	0,860	0,784	Valid
Perceived Behavioral Control	0,866	0,795	Valid

Purchase Intention	0,874	0,807	Valid
--------------------	-------	-------	-------

Source: Primary Data Analysis, 2022

All variables reported above have values exceeding 0.60. Therefore, it can be concluded that all variables meet the required threshold and can be considered valid and reliable. In other words, all latent variables demonstrate high reliability, indicating that the measurement results are dependable. The inner model analysis, also referred to as structural model analysis, was conducted to ensure that the proposed structural model is robust and accurate. The evaluation of the inner model was carried out by examining the coefficient of determination (R^2) and predictive relevance (Q^2).

Table 3

Coefficient of Determination (R^2) Values

Endogenous Variable	R^2 Value	Adjusted R^2	Category
Attitude	0.509	0.504	Moderate
Purchase Intention	0.494	0.478	Moderate

Source: Primary Data Analysis, 2022

This result indicates that the exogenous variable knowledge explains 50.9% of the variance in the endogenous variable attitude. Furthermore, the exogenous variables knowledge, attitude, subjective norm, and perceived behavioral control collectively explain 49.4% of the variance in the endogenous variable purchase intention.

Table 4

Predictive Relevance (Q^2) Values

Endogenous Variable	Predictive Relevance (Q^2)
Attitude	0.259
Purchase Intention	0.244

Source: Primary Data Analysis, 2022

The calculation results show that the Predictive Relevance (Q^2) value for the attitude variable is 0.259, while for the purchase intention variable it is 0.244. Since both Q^2 values are greater than 0, this indicates that the model has predictive relevance. A Q^2 value greater than 0 suggests that the model has adequate predictive capability and can be considered appropriate for further analysis.

Hypothesis testing in this study was conducted using Smart Partial Least Squares (SmartPLS) software with the bootstrapping method. The significance criteria were evaluated based on the t-statistic and p-value. Using a significance level (alpha) of 5%, the critical t-statistic value applied was 1.96. The criteria for hypothesis acceptance or rejection are as follows: the alternative hypothesis (H_a) is accepted and the null

hypothesis (H₀) is rejected when the t-statistic is greater than 1.96 and the p-value is less than 0.05 (Hussein, 2015).

Table 5

Bootstrapping Test Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Subjective Norm → Purchase Intention	0.249	0.257	0.119	2.081	0.038
Knowledge → Attitude	0.713	0.714	0.067	10.723	0.000
Perceived Behavioral Control → Purchase Intention	0.114	0.107	0.128	2.889	0.044
Attitude → Purchase Intention	0.402	0.402	0.128	3.146	0.002
Knowledge → Attitude → Purchase Intention	0.287	0.288	0.098	2936	0.003

Source: Primary Data Analysis, 2022

The results indicate that the relationships between variables are statistically significant. This is supported by the t-statistic values for each path, which are greater than 1.96. Additionally, the p-values for each relationship are below 0.05, confirming statistical significance. Therefore, all hypothesized relationships among the variables are considered significant.

Based on the hypothesis testing results, it can be concluded that all variables demonstrate significant effects on consumers' online purchase intention through e-commerce platforms. The variables found to have significant influence are attitude, knowledge, subjective norm, and perceived behavioral control. These variables significantly affect respondents' decisions and intentions to make online purchases via e-commerce applications.

Conclusion

Knowledge, attitude, subjective norm, and perceived behavioral control significantly influence consumers' online purchase intention through e-commerce platforms. This is supported by the statistical results: the t-statistic value for the effect of knowledge on attitude is 10.723 with a p-value of 0.000; the t-statistic value for the effect of attitude on purchase intention is 3.146 with a p-value of 0.002; the t-statistic value for the effect of subjective norm on purchase intention is 2.081 with a p-value of 0.038; and the t-statistic value for the effect of perceived behavioral control on purchase intention is 2.889 with a p-value of 0.004.

Since all t-statistic values exceed 1.96 and all p-values are below 0.05, each relationship is statistically significant. These findings confirm that knowledge, attitude, subjective norm, and perceived behavioral control have significant effects on consumers' online purchase intention through e-commerce.

References

- Achmat, Zakarija. 2010. *Theory of Planned Behavior, Masihkah Relevan?*. Jurnal Universitas Sumatera Utara.
- Arifin, Zainal. *Penelitian Pendidikan Metode dan Paradigma Baru*. Bandung: Remaja Rosda Karya, 2012.
- Alwi, Idrus. 2011. *Kriteria Empirik Dalam Menentukan Ukuran Sampel Pada Pengujian Hipotesis Statistika Dan Analisis Butir*. Jurnal Formatif 2(2): 140-148. Jakarta.
- Asif et al. 2018. Determinant Factors Influencing Organic Food Purchase Intention and The Moderating Role of Awareness: A Comparative Analysis. *Food and Quality Preference* 63: 144-150.
- Bilson Simamora. 2005. *Analisis Multivariat Pemasaran*. Jakarta : Gramedia Pustaka Utama
- Departemen Kesehatan RI. 2009. *Kategori Usia*. Diakses Pada Tanggal 20 Juni 2016
- Ghozali, 2014. *Aplikasi analisis Multivariate dengan Program SPSS*. Badan Penerbit: Undip , Semarang.
- Halim, Cipta. 2010. *Berbelanja Smart dan Membuka Gerai Gaul Di Kaskus*. Jakarta: PT Elex Media Computindo
- Herdiansyah, Haris. 2010. *Metodologi Penelitian Kualitatif untuk Ilmu-Ilmu Sosial*. Jakarta: Salemba Humanika.
- Laksono, Jati Purbo. 2011. *Analisis Faktor-Faktor Yang Mempengaruhi Kepatuhan Wajib Pajak Badan Pada Perusahaan Industri Manufaktur Di Semarang*. Semarang: Universitas Diponegoro.
- Ollie. 2008. *Membuat toko online dengan multiply*. Jakarta: Media kita.
- Putri, Puri Kusuma Dwi. 2012. *Pengaruh Tingkat Pendidikan, Pengetahuan, Sikap, dan Terpaan Iklan Layanan Masyarakat KB Versi Shireen Sungkar dan Teuku Wisnu di TV terhadap Perilaku KB pada Wanita atau Pria dalam Usia Subur*. Jurnal Interaksi 1(1): 46-56.
- Rendy dan Devie. 2013. Analisa pengaruh activity-based costing terhadap keunggulan bersaing dan kinerja organisasi. *Jurnal Business Accounting Review*. 1(2): 61-71.
- Sugiyono (2014) *Metode Penelitian Kuantitatif, Kualitatif, dan R & D*. Bandung, Alfabeta.
- Utami, Sari. 2021. Pengaruh Social Media Influencer Terhadap Niat Beli Konsumen Yang Dimediasi Oleh Sikap Konsumen Terhadap Produk Bodycare Scarlet. *Skripsi*. Universitas Muhammadiyah Surakarta.