

## Analysis of Behavioral Intentions of E-Commerce Shopee Users in Indonesia Using UTAUT2



Lila Setiyani<sup>1</sup>, Inpresta Natalia<sup>2</sup>, Giofanny Theresia Liswadi<sup>3</sup>

Information system, STMIK ROSMA  
Karawang, 02678419513  
Indonesia

e-mail: [lila.setiyani@dosen.rosma.ac.id](mailto:lila.setiyani@dosen.rosma.ac.id)

Author

Notification

20 December  
2022

Final Revised

28 December  
2022

Published

01 January  
2023

To cite this document:

Setiyani, L., Natalia, I., & Liswadi, G. T. (2023). Analysis of Behavioral Intentions of E-Commerce Shopee Users in Indonesia Using UTAUT2. ADI Journal on Recent Innovation, 4(2), 160–171.

DOI : <https://doi.org/10.34306/ajri.v4i2.861>



### Abstract

*Shopee e-commerce is trending among the general public as it offers many benefits to its users. This trend is an opportunity for business runners to expand their marketing. To take advantage of this opportunity, business people need to understand the factors that influence shoppers' behavioral intentions when using her e-commerce. The purpose of this study is to identify the factors that influence the behavioral intentions of Shopee e-commerce users. These factors are variables in the UTAUT2 model (Unified Theory of Acceptance and the Use of Technology 2), namely performance expectations, business expectations, social impacts, supportive conditions, hedonic motivations, price value, and You can look it up using Habits. Data sources are obtained from Shopee application users in Indonesia through a survey method using a sample of 152 respondents. Based on the results of data processing, social factors and habits have a positive and significant impact on the behavioral intentions of shopper e-commerce users. On the other hand, job expectations, business expectations, framework conditions, hedonic motives, and price do not have positive and insignificant effects on behavioral intentions. These results give business people the opportunity to develop engaging promotions that connect to social factors and habits. Ideas that arise from social and ordinary factors, such as Shopee's live ads. This result can also be input to the Shopee eCommerce feature developer.*

**Keywords:** e-commerce, shopee, UTAUT2, Behavioral intentions



## 1. Introduction

Online shopping has become a trend in Indonesia, this is influenced by the growth of e-commerce in Indonesia[1]. Shopee is one of the most popular e-commerce sites in Indonesia, this can be seen based on a survey conducted by APJII (Association of Indonesian Internet Providers) which found that 27.4% of internet users in Indonesia in June 2020 visited Shopee[2]. The growing interest in using shopee e-commerce opens up great opportunities for business actors to expand market share and increase their turnover[3]. To develop interest in use, knowledge of the factors that influence the intention to use shopee e-commerce applications is needed[4].

UTAUT2 (Unified Theory of Acceptance and Use of Technology 2) has been widely used by researchers as a model for identifying factors that influence technology users[5]. Gansser and Reich used the UTAUT2 model to study factors of acceptance of artificial intelligence (AI) and found that, with the exception of security, the UTAUT2 model was related to behavioral intentions and usage behavior of AI-equipped products[6]. It explains that there is Yura. We also used UTAUT2 to predict factors that influence patient and behavioral intentions to use mobile health education websites[7]. His UTAUT2 model by Marpaung et al. Used to determine key factors that influence user intent for the Bank Mestika Mobile application.[8] Gharrah and Aljaafreh in a study where he used UTAUT2 to identify factors that influence students' use of social networks[9]. Zacharis and Nikolopoulou also use his UTAUT2 to predict the intentions of students using e-learning platforms. Alfanzi and Daulay's UTAUT2 is also used to identify factors that influence millennials' use of e-money[10]. This proves that the UTAUT2 model can be used to analyze and predict the factors that influence the intent of technology his users[11].

Through the UTAUT2 model, this study influences e-commerce shopping user intentions using independent variables consisting of performance expectations, business expectations, social influences, supportive conditions, hedonic motivations, price values, and habits[12]. It aims to identify the factors that give The dependent variable (dependent) is the behavioral intention[13]. The results of this research can not only be used by a business player as a strategy to improve productivity through his Shopee e-commerce, but can also be input into her Shopee when developing Shopee e-commerce application features[14].

## 2. Research Method

The procedure in this study begins with the preparation of a questionnaire using the dimensions and indicators of UTAUT2. The following is a table of research instruments:

Table 1. Research Instruments

No.	Dimensions	Indicators	Questions	Sources
			<b>1</b>	
	Performance Expectations	System advantages	a. The shopee application is very useful in my daily life to carry out various kinds of transactions.	(Faiza, 2021a)
			b. The shopee application is useful in helping me meet the needs of goods and services transactions	
		The shopee application is useful in helping me meet the needs of goods and services transactions	c. Using shopee offers me competitive advantages (such as competitive prices, quality, service, etc.).	(Refika Nurliani Fauzia, 2018a)

			d. Using shopee to make online purchases can save time.	
2	Effort Expectancy	Perception of Ease of Use	a. I find it easy to master the use of the shopee app	(Refika Nurliani Fauzia, 2018b)
			b. The use of the shopee application is easy to learn and understand	(Faiza, 2021b)
	Easy to Understand the Features	c. Feature shopee is clear.	(Refika Nurliani Fauzia, 2018b)	
		d. It's easy for me to have knowledge at using the shopee app	(Refika Nurliani Fauzia, 2018b)	
3	Sosial influence	Subjective norm	a. People around me think that I should use shopee app in online shopping	(Faiza, 2021b)
			b. I feel that using the shopee application is a recommendation from the people around me.	
	Social factor	c. People around me use the shopee application for online shopping more than other e-commerce applications.	(Refika Nurliani Fauzia, 2018b)	
		d. People in my neighborhood who use Shopee have a higher social status.		
4	Supporting condition	Facilitating Condition	a. I have the necessary supporting media to use the shopee application (such as: mobile phone, internet data, m-banking, shoppepay, etc.).	(Refika Nurliani Fauzia, 2018b)
			b. I have sufficient knowledge to use shopee application in online shopping process.	(Faiza, 2021b)
	Compatibility	c. I feel comfortable using the shopee application for online shopping	(Refika Nurliani Fauzia, 2018b)	
		d. It is easy for me to get help from other people when I have difficulty using the Shopee application.	(Faiza, 2021b)	
5	Hedonic Motivation	Enjoyment	a. I find using the shopee application for online shopping is very fun	(Faiza, 2021b)
			b. Using the shopee application can increase satisfaction in online shopping.	(Refika Nurliani Fauzia, 2018b)
	Entertainment	c. Using the shopee application is very entertaining because there are many choices of games in the shopee application	(Refika Nurliani Fauzia, 2018b)	

6	Price Value	Quality	d.	Using the shopee application is very interesting	(Faiza, 2021b)
			a.	I feel that the goods and prices offered on the shopee application are of the appropriate quality.	
			b.	I feel that the fees offered on the Shopee application are in accordance with the quality of the services provided.	
	Value	e.	I can find cheap products if I shop online using the shopee application	(Refika Nurliani Fauzia, 2018b)	
		f.	Using the shopee application can offer more value for me for online purchases.		
7	Habit	Addiction	a.	. Using shopee app for online shopping has become a habit for me	(Faiza, 2021b)
			b.	I feel like I have to continue using the shopee app if I want to shop online.	
	Automatic Behavior	c.	If I want to transact online, what I think of is shopee.	(Faiza, 2021b)	
		d.	Using the shopee application to make online transactions has become normal for me		(Refika Nurliani Fauzia, 2018b)
8	Behavioral intention	Intention to use	a.	I intend to continue to use Shopee in online shopping in the future	
			b.	I plan to keep using Shopee as much as possible	(Refika Nurliani Fauzia, 2018b)
	Service Quality	c.	I feel satisfied in using the shopee application to make online transactions.	(Faiza, 2021b)	
		d.	I feel the quality of the shopee application has run well.		
		e.	I will advise people around me to use shopee in online shopping.		(Faiza, 2021b)

In the questionnaire, researchers used a Likert scale from 1 to 5, ranging from "strongly disagree" to "strongly agree."

The population is determined based on the characteristics of Indonesian Shopee app users[15]. Samples were obtained using a non-probability sampling technique[16]. Targeted sampling using the Lameshow formula since the population is unknown. The Lameshow formula is::

$$n = \frac{z^2 p q}{d^2} = \frac{z^2 p(1-p)}{d^2}$$

note : Lameshow formulation

Based on the above formula, the minimum number of respondents is 96 respondents.

Data analysis was carried out by testing the hypotheses set with the SMART PLS analysis tool.

## 2.2 Literature Review

### E-Commerce

The shift in consumer habits in shopping at traditional stores to online shopping makes e-commerce grow, because e-commerce has features that support user satisfaction (Tsagkias et al., 2020). These features include search (Tsagkias et al., 2020), live streaming, paylater (Puri et al., 2022), and others. The development of e-commerce has extended to the use of Artificial Intelligence (AI) to increase business engagement (Panigrahi & Karuna, 2021). The trust of e-commerce users is very important, because in e-commerce, transactions occur on the internet, so it is important to maintain the integrity of e-commerce in increasing user trust (Soegoto & Putera, 2019). E-commerce carries out business transactions through distribution, purchasing, sales and services digitally with indicators that include internet access, ease of information, human resource capabilities, information managerial responsibilities, processes, marketing and payments (Teresya et al., 2022).

### E-Commerce Shopee

Shopee is a consumer-to-consumer and business-to-customer e-commerce based in Indonesia. The e-commerce Shopee is owned by his PT. Shopee International Indonesia was first discovered in Singapore by Forrest li in 2015 (Gunawan & Susilo, 2021). According to a survey released by iprice in the second quarter of 2019, Shopee saw his 16 million visitors increase rapidly, and in the third quarter of 2019 he increased again to 55.9647 million visitors ( Amsari & Sari, 2022).

### UTAUT 2 ( Unified Theory of Acceptance and Use of Technology 2)

Acceptance of technology use can be assessed using several models including TAM (Technology Acceptance Model), TPB (Planned Behavior Theory), UTAUT (Unified Theory of Technology Acceptance and Use) and evolves into UATUT2 (Tseng et al., 2022) developed). There are four independent variables, namely expectations, effort expectations, social impact, and supportive conditions, which are minor determinants of behavioral intentions in UTAUT (Beh et al., 2021). UTAUT has evolved into UTAUT2. This is good for exploring customer perspectives on their use of technology (Agarwal & Sahu, 2021). UTAUT2 consists of eight models: TRA (Theory of Reasoned Action), TAM, Motivation Model (MM), TPB, TAM-TPB combination, IDT, and SCT (Social Cognitive Theory) to predict usage and acceptability. can be used to of technologies or systems that depend on performance expectations, effort expectations, social influences, habits, hedonic motivations, cheapness, organizational and supportive conditions (Goto, 2022).

#### 1) Performance Expectation

Performance expectation shows how much someone believes that using technology will help users to gain benefits in the form of performance [26], so that performance expectation can be said as a measure of the level at which a person can believe in the value added or benefits provided by technology in helping work (Ramadhani & Azizah, 2022).

#### 2) Effort Expectancy

Effort expectancy is a level of relief from the use of a technology, the relief is in the form of lightening energy and time that affect the intention to use the technology (S et al., 2022). Effort expectancy can also be interpreted as a measure of the level of fluency or ease of use of the system (Ramadhani & Azizah, 2022).

#### 3) Social Influence

Social influence influences individual behavior through three mechanisms: adherence, internalization, and identification, and the greater the influence of the environment on potential users to use new technology, the stronger the environment. Impact makes potential users more interested in using technology (Andini & Hariyaanti, 2021)

#### 4) Hedonic Motivation

Hedonic motivation is a user's perception of the pleasure motivation in using a technology that can affect the desire to use the technology (S et al., 2022). Hedonic Motivation can be referred to as the drive for satisfaction obtained by technology users (Ramadhani & Azizah, 2022).

**5) Price Value**

Price value is said to be positive if the value or benefit provided by a technology is greater than the costs incurred (Ramadhani & Azizah, 2022). It is possible, the structure of costs and prices may have a significant effect on technology users (Andini & Hariyanti, 2021).

**6) Habit**

Habit explains how a person has become accustomed to using a technology in his daily life (Ramadhani & Azizah, 2022).

**7) Supporting condition**

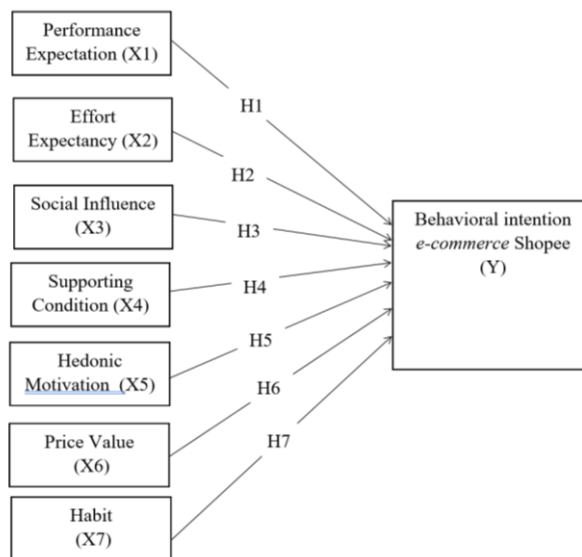
Supporting conditions can be used to conclude conditions that support the use of technology (Viswanath Venkatesh et al., 2012)

**8) Behavior Intention**

Behavior Intention shows how much interest a user has in using a technology continuously, continuously in the future (S et al., 2022). Someone's interest in using technology can occur if the user believes that the technology can improve their performance (Onibala et al., 2021)

**2.3 Hypotheses**

Based on the variables from UTAUT2, here are the research models and research hypotheses:



**Fig 2.** Research Model

H1. Performance expectations are suspected to have a positive and significant impact on shoppers' behavioral intentions when using e-commerce[17].

H2. Effort expectations are said to have a large positive impact on behavioral intentions when using Shopee e-commerce[18].

H3. Social impact is suspected to have a positive and significant impact on shoppers' behavioral intentions when using e-commerce.

H4. Supporting Conditions are suspected to have a positive and significant effect on behavioral intentions in using shopee e-commerce.

H5. Hedonic motivation is suspected to have a positive and significant effect on behavioral intentions in using shopee e-commerce.

H6. Price value is suspected to have a positive and significant effect on behavioral intentions in using shopee e-commerce[19].

H7. Habits are thought to have a positive and significant effect on behavioral intentions in using shopee e-commerce.

### 3. Findings

#### 3.1 Problem

This research aimed to describe, factors that influence the intention of shopee e-commerce users based on the UTAUT 2 framework.

#### 3.2 Research Implementation

As a result of data collection, we found that the characteristics of the respondents were as follows.

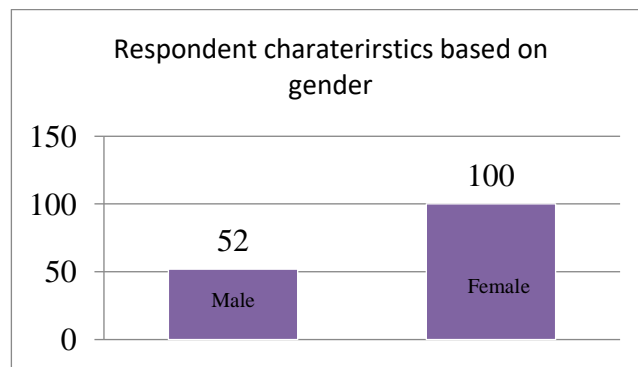


Fig 3. Graph of respondent characteristics by gender

Most of the respondents are female. Meanwhile, based on age, it was found that the characteristics of the respondents were as follows:

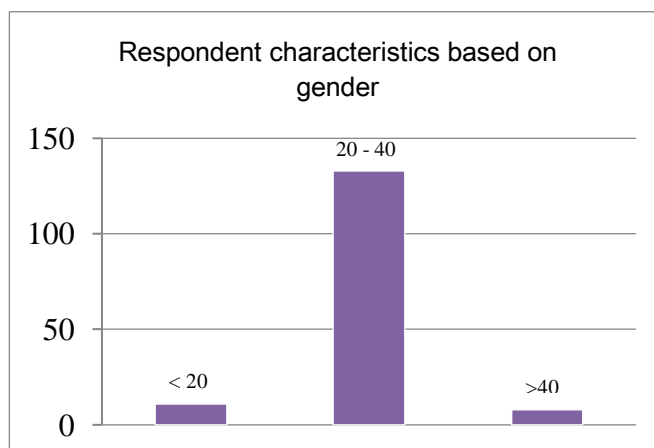
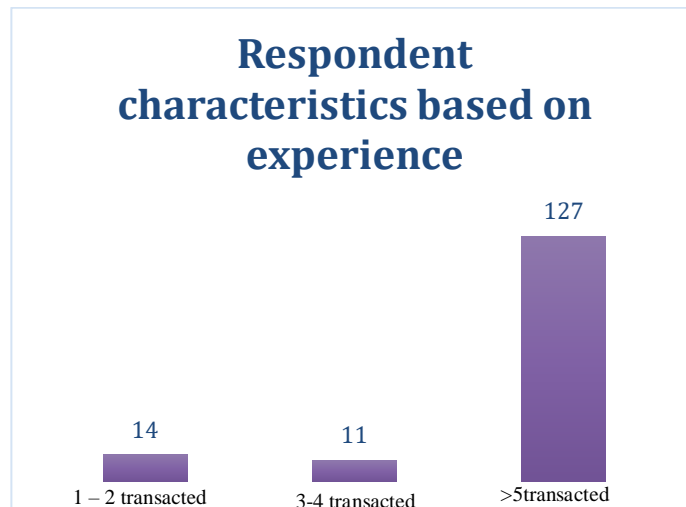


Fig 4. Graph of respondent characteristics based on age

Most of the respondents are aged 20 to 40 years[20]. To ensure that the respondents are really shopee users, the characteristics of shopee users are found based on the number of transactions[21].



**Fig 5.** Graph of respondent characteristics based on experience using the shopee application

According to the image, the majority of respondents have made 5 or more transactions. According to (Hamid & Anwar, 2019b), data processing using SMART-PLS resulted in values of AVE (Average Variance Extracted) > 0.5 and loading factor > 0.7. is now enabled. Based on the data processing results, crossloading values were found between indicators with more than 0.7 variables. According to (Prof.Dr.Sugiyono, 2013), a variable used in a study can be said to be valid if the crossloading value between the indicator and the variable is > 0.7. (Prof. Dr. Sugiyono, 2013) found that Cronbach's alpha and combined confidence values are > 0.7, while Cronbach's alpha and combined confidence values are > 0,7. , then the variables used are said to be good reliability.

Table 2. R-Square

Description	R Square value
Behavioral intention	0,709

The R-Square value of 0.709 can be interpreted that the variables of performance expectations, business expectations, social influences, supporting conditions, hedonic motivation, price values and habits affect 71% of behavioral intentions[22].

To test the research hypothesis, T-Statics analysis was performed using SMART-PLS. Here are the results of data processing:

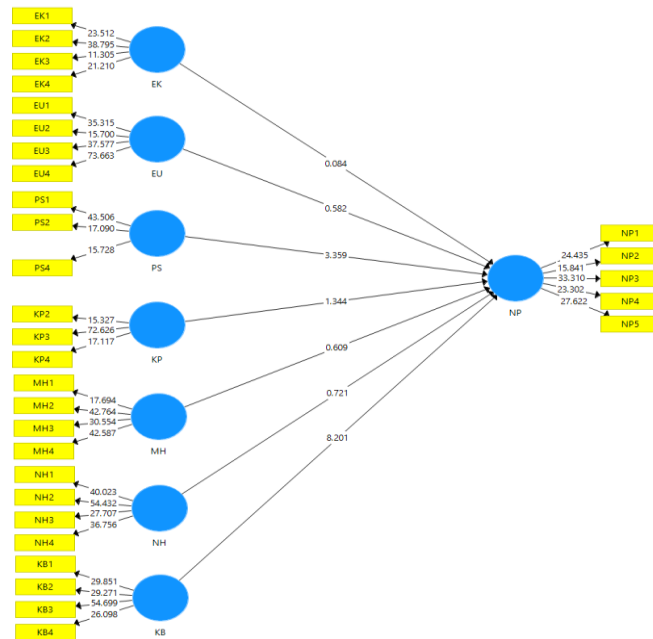


Fig 6. Visualization of test results using SMART-PLS

Table 3. T-Statistics

Variable	Original Sample	Sample Mean	Standard Deviation	T Statistics ( O/STDEV )	P Values
EK -> NP	0,006	0,007	0,070	0,084	0,933
EU -> NP	-0,048	-0,046	0,082	0,582	0,561
PS -> NP	<b>0,195</b>	<b>0,195</b>	<b>0,058</b>	<b>3,359</b>	<b>0,001</b>
KP -> NP	0,103	0,096	0,077	1,344	0,180
MH -> NP	0,055	0,052	0,091	0,609	0,543
NH -> NP	0,061	0,069	0,084	0,721	0,471
KB -> NP	<b>0,611</b>	<b>0,611</b>	<b>0,075</b>	<b>8,201</b>	<b>0,000</b>

Based on the T-Statistic table, it can be interpreted as follows:

**H1: Performance Expectations (EK) have a positive and significant influence on Behavioral Intentions to use Shopee e-commerce in Indonesia**

Results from testing the first hypothesis show that the original sample value of workers' expectations for behavioral intentions to use Shopee e-commerce is 0.006 and the resulting t-statistic value is 0.084[23]. From these results, H1 is rejected because the t-statistic is  $<1 > 0.05$ . This indicates that job expectations have not been shown to have a positive and significant impact on behavioral intentions to use Shopee e-commerce in Indonesia[24].

**H2: Business Expectation (EU) has a positive and significant influence on Behavioral Intentions to use Shopee e-commerce in Indonesia**

Results from testing the second hypothesis show that the original sample value of store expectations for behavioral intent to use Shopee e-commerce is -0.048 and the obtained t-statistic value is 0.582. increase. These results show that H2 is rejected because the t-statistic

is  $<1>0.05$ . This indicates that business expectations have not had a significant positive impact on behavioral intentions to use Shopee e-commerce in Indonesia[25].

***H3: Social Influence (PS) has a positive and significant influence on Behavioral Intentions to use Shopee e-commerce in Indonesia***

Results from testing the third hypothesis show that the original sample value of social impact on behavioral intentions for using Shopee e-commerce is 0.195 and the obtained T-statistic value is 3.359. These results indicate that H3 is accepted.  $0.05 > 0.001$ . This indicates that social impact has been shown to have a positive and significant impact on behavioral intentions to use Shopee e-commerce in Indonesia.

***H4: Supporting Conditions (KP) have a positive and significant influence on Behavioral Intentions to use Shopee e-commerce in Indonesia***

Testing the fourth hypothesis shows that the original sample value for the supportive condition for behavioral intent to use Shopee e-commerce is 0.103 and the resulting t-statistic value is 1.344. These results show that H4 is rejected because the t-statistic is  $<1>0.05$ . This clarifies that the terms of support have not been shown to have a positive and material impact on behavioral intentions to use Shopee e-commerce in Indonesia.

***H5: Hedonic Motivation (MH) has a positive and significant influence on Behavioral Intentions to use Shopee e-commerce in Indonesia***

Results from testing the fifth hypothesis show that the original sample value of hedonic motivation for behavioral intent to use Shopee e-commerce is 0.055 and the resulting t-statistic value is 0.609. These results show that H5 is rejected because the t-statistic is  $<1>0.05$ . This indicates that hedonic motives have not been shown to positively and significantly influence behavioral intentions to use Shopee e-commerce in Indonesia.

***H6: Inexpensive (NH) has a positive and significant impact on behavioral intent to use Shopee e-commerce in Indonesia***

Testing six hypotheses showed that the original sample value of the price value for behavioral intent to use Shopee e-commerce was 0.061 and the resulting t-statistic value was 0.721. The results show that H6 is rejected because the T statistic is  $<1>0.05$ . Price was shown to have no significant positive impact on behavioral intentions to use Shopee e-commerce in Indonesia.

***H7: Habits (KB) have a positive and significant impact on behavioral intentions of using Shopee e-commerce in Indonesia***

The results of testing the third hypothesis show that the original sample value of Habit regarding behavioral intent to use Shopee e-commerce is 0.611 and the obtained T statistic value is 8.201. From these results, H7 is accepted because t-statistic  $> 1.96$  and p-value  $< .0.05$  which is 0.000. This indicates that habits have been shown to have a significant positive impact on behavioral intentions to use Shopee e-commerce in Indonesia.

#### **4. Conclusion**

Social impact has a positive and significant impact on behavioral intentions to use Shopee e-commerce in Indonesia. This statement is supported by the T- results. Stat  $> 1.96$  and p-value  $<0> 1.96$  and p-value  $<0> 0.05$ . From this we can conclude that using Shopee e-commerce has become a habit for them. For example, if you want to trade online, Shopee comes to mind. The findings of this study are also supported by research conducted, which found that habits have a positive and significant impact on online shopping intentions. Other factors are: Performance expectations, business expectations, supportive conditions, pleasure motives, and price value do not have a positive and material impact on behavioral intentions to use Shopee e-commerce in Indonesia.

## References

- [1] V. Agarwal and R. Sahu, "Predicting repeat usage intention towards O2O food delivery: extending UTAUT2 with user gratifications and bandwagoning," *J. Foodserv. Bus. Res.*, vol. 25, no. 4, pp. 434–474, 2022.
- [2] L. Alfansi and M. Y. I. Daulay, "Factor affecting the use of e-money in millennial generation: Research model UTAUT 2," *J. Manaj. Dan Pemasar. Jasa*, vol. 14, no. 1, pp. 109–122, 2021.
- [3] S. Amsari and D. P. Sari, "Consumer Factors In Deciding To Purchase Online At Shopee E-Commerce During The Covid-19 Pandemic," in *Proceeding International Seminar Of Islamic Studies*, 2022, vol. 3, no. 1, pp. 174–182.
- [4] F. Andini and I. Hariyanti, "PENERAPAN MODEL UTAUT 2 UNTUK MEMAHAMI PERILAKU PENGGUNAAN OASIS DI SEKOLAH TINGGI TEKNOLOGI BANDUNG," *Naratif J. Nas. Riset, Apl. dan Tek. Inform.*, vol. 3, no. 2, pp. 1–10, 2021.
- [5] V. Agarwal, M. C. Lohani, A. S. Bist, E. P. Harahap, and A. Khoirunisa, "Analysis Of Deep Learning Techniques For Chest X-Ray Classification In Context Of Covid-19," *ADI J. Recent Innov.*, vol. 3, no. 2, pp. 208–216, 2022.
- [6] S. Ahmad, "Perencanaan Enterprise Architecture Sales Marketing Application System," *Perenc. Enterp. Archit. Sales Mark. Apl. Syst.*
- [7] P. K. Beh, Y. Ganesan, M. Iranmanesh, and B. Foroughi, "Using smartwatches for fitness and health monitoring: the UTAUT2 combined with threat appraisal as moderators," *Behav. Inf. Technol.*, vol. 40, no. 3, pp. 282–299, 2021.
- [8] E. Brilianaza and A. Sudrajat, "Gaya Hidup Remaja Shopaholic dalam Trend Belanja Online di Shopee," *JSSH (Jurnal Sains Sos. dan Humaniora)*, vol. 6, no. 1, pp. 45–54, 2022.
- [9] O. A. Gansser and C. S. Reich, "A new acceptance model for artificial intelligence with extensions to UTAUT2: An empirical study in three segments of application," *Technol. Soc.*, vol. 65, p. 101535, 2021.
- [10] I. Restiaty, Z. Maharani, R. Rojali, W. Darmawan, and B. Y. D. Yanti, "Relationship of water temperature and air humidity with aedes sp. manggarai tebet village south jakarta in 2022," *ADI J. Recent Innov.*, vol. 4, no. 1, pp. 102–109, 2022.
- [11] A. Aljaafreh, "Why Students Use Social Networks for Education: Extension of Utaut2.," *J. Technol. Sci. Educ.*, vol. 11, no. 1, pp. 53–66, 2021.
- [12] J. Goto and A. Munyai, "The acceptance and use of online learning by law students in a South African University: An Application of the UTAUT2 Model," *African J. Inf. Syst.*, vol. 14, no. 1, p. 3, 2022.
- [13] C. C. Gunawan and D. Susilo, "Impact of Cristiano Ronaldo's Attractiveness as Brand Ambassador Towards Brand Awareness Shopee," *Ekspektra J. Bisnis dan Manaj.*, vol. 5, no. 2, 2021.
- [14] M. N. Santi, R. Nurmandhani, V. A. V. Setyawati, E. Rimawati, A. Wardoyo, and M. Iqbal, "PENERAPAN MODEL UTAUT 2 UNTUK MENGETAHUI MINAT PENGGUNAAN APLIKASI SI-GEMBUL PADA KADER POSYANDU DI PUSKESMAS HALMAHERA SEMARANG," *VISI KES. J. Kesehat. Masy.*, vol. 21, no. 2, 2022.
- [15] N. A. Santoso and E. A. Nabila, "Social Media Factors and Teen Gadget Addiction Factors in Indonesia," *ADI J. Recent Innov.*, vol. 3, no. 1, pp. 67–77, 2021.
- [16] A. O. Siagian, "Strategi Pemasaran E-Commerce bagi UMKM Indonesia Untuk meningkatkan Perekonomian Indonesia," *J. Akrab Juara*, vol. 6, no. 1, pp. 1–15, 2021.
- [17] R. Y. B. Silalahi, "Tren E-Commerce Selama Pandemi Covid 19 Di Indonesia," *Rekam. Ris. Ekon. Bid. Akunt. dan Manaj.*, vol. 4, no. 3, pp. 527–531, 2020.
- [18] R. Teresya, R. R. Nabiilah, and S. Tunnajah, "LITERATURE REVIEW E-COMMERCE: PROFITABILITAS, TEKANAN EKSTERNAL DAN KEMUDAHAN PENGGUNA," *J. Ekon. Manaj. Sist. Inf.*, vol. 3, no. 4, pp. 474–484, 2022.
- [19] A. Parmaxi and P. Zaphiris, "Web 2.0 in Computer-Assisted Language Learning: a research synthesis and implications for instructional design and educational practice," *Interact. Learn. Environ.*, vol. 25, no. 6, pp. 704–716, 2017.
- [20] V. Agarwal, M. C. Lohani, A. S. Bist, U. Rahardja, A. Khoirunisa, and R. D. Octavyra, "Analysis of Emerging Preprocessing Techniques Combined with Deep CNN for Lung

- Disease Detection,” in *2022 1st International Conference on Technology Innovation and Its Applications (ICTIIA)*, 2022, pp. 1–6.
- [21] V. Venkatesh, J. Y. L. Thong, and X. Xu, “Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology,” *MIS Q.*, pp. 157–178, 2012.
- [22] B. Rawat, A. S. Bist, U. Rahardja, Q. Aini, and Y. P. A. Sanjaya, “Recent Deep Learning Based NLP Techniques for Chatbot Development: An Exhaustive Survey,” in *2022 10th International Conference on Cyber and IT Service Management (CITSM)*, 2022, pp. 1–4.
- [23] H. Tussa’diah and N. Y. Kartika, “Critical Discourse Analysis on Linguistic Ideology of The Netizens CommenTussa’diah, Halimah, and Nursyah Yuni Kartika. ‘Critical Discourse Analysis on Linguistic Ideology of The Netizens Comments.’ *ADI Journal on Recent Innovation*, vol. 4, no. 2, 2023, p,” *ADI J. Recent Innov.*, vol. 4, no. 2, pp. 110–121, 2023.
- [24] S. Prastyanti, T. N. Adi, A. I. Sulaiman, and R. Windiasih, “Education Services for Students during the COVID-19 Pandemic.,” *Educ. Q. Rev.*, vol. 5, no. 3, pp. 325–333, 2022.
- [25] R. A. Poldrack, G. Huckins, and G. Varoquaux, “Establishment of best practices for evidence for prediction: a review,” *JAMA psychiatry*, vol. 77, no. 5, pp. 534–540, 2020.