Measuring Ease of Use Aspects of Shopee Usage Behavior during Pandemic using PLS-SEM Approach

Michael Christian[a], Lasmery R. M. Girsang[b] and Henilia Yulita[c]
Faculty of Social and Humanities, Universitas Bunda Mulia, Jl. Lodan Raya No. 2 Ancol, Jakarta, Indonesia

Keywords: Attitude, Ease of Use, e-Commerce.

Abstract: The emergence of various types and brands of e-commerce which is also followed by intense competition has made Indonesia one of the countries with the most attractive e-commerce market globally. To become a market leader like Shopee needs skills to analyse the complexity and unpredictability of young users' behavior. Studies have revealed that the ease of e-commerce platforms provides user satisfaction, although some explain the opposite since users are increasingly technology literate. This study aims to explain the behavior of e-commerce users (Attitude towards using and Actual system usage) as measured by the Perceived ease of use. The fussiness of young users especially in big cities like Jakarta underlies the sample of this study. Since the population size is unknown, this study uses 100 samples by multiplying the number of indicators which are then collected randomly. The PLS-SEM approach was used as an analytical tool. This study reveals that the ease-of-use factor significantly still affects usage behavior which then affects further decision-making. The tastes of young consumers that tend to change rapidly, supported by technological developments and the online community determine purchase intentions. Therefore, this factor is worthy enough to be a suggestion for further research.

1 INTRODUCTION

The competitive map of e-commerce in recent years shows an interesting position. Based on research data published by iPrice, e-commerce competition in the first two quarters of this year compared to last year's period as in table 1 shows an interesting change in position from various aspects such as web visitors, ranking on the AppStore, Play Store, and the number of followers in the media. social. In the first and second quarter of last year, Tokopedia was in the top position compared to its competitors Shopee. Over time with the strategies implemented by each e-commerce, Shopee managed to shift Tokopedia's "strength" to the top during the first two quarters of this year.

The data in the table above shows that Shopee has a strong strategy to form communities on several social media while simultaneously increasing and maintaining the number of app downloads, although from the aspect of web visitors it is still not as high as Tokopedia's achievement in the same period. As a new player in the world of e-commerce, Shopee based on these data also shows the importance of rapid awareness of Shopee's presence for the public and an online value proposition with strong differentiation compared to its competitors. In addition, it can also be explained that Shopee emphasizes the strategy of using applications rather than the web. Shopee views the mobility and users of the technology-literate young generation as important. Socialization strategies, for example in the form of advertisements, can create awareness for users (Indriyarti & Christian, 2020).

Several studies have explained that there is a connection between existing system experiences (actual system usage). Actual use can be characterized by an individual's readiness to use a system (Rauniar, Rawski, Yang, & Johnson, 2014). The actual use that is part of the Technology Acceptance Model (TAM) is determined by the factors of benefit and ease of use (Jongchul & Sung-Joon, 2014).

[a] https://orcid.org/0000-0001-8892-5400
[b] https://orcid.org/0000-0003-4149-4409
[c] https://orcid.org/0000-0002-3782-2273

Table 1: e-Commerce Competition in Indonesia.

e-Commerce	Period	Position on the App Store		Number of Followers on social media
		iOS	PS	
Tokopedia	Q1 2019	2	2	TW=192.100 IG=1.148.500 FB=6.049.900
	Q1 2020	2	3	TW=387.800 IG=1.672.100 FB=6.378.200
	Q2 2019	2	2	TW=205.070 IG=1.263.800 FB=6.135.250
	Q2 2020	2	3	TW=445.100 IG=1.780.500 FB=6.377.800
Shopee	Q1 2019	1	1	TW=69.300 IG=2.164.100 FB=14.409.600
	Q1 2020	1	1	TW=210.300 IG=4.215.000 FB=16.793.400
	Q2 2019	1	1	TW=85.440 IG=2.616.800 FB=14.804.290
	Q2 2020	1	1	TW=320.800 IG=4.851.200 FB=17.841.400

TW=Twitter; IG=Instagram; FB=Facebook; Q=Quarter; PS=Play Store

The TAM concept itself has been widely used in various aspects of technology adoption, including one in the culinary business (Christian, 2019a). This is because this concept is useful for organizations to understand the adoption of a technology (Jokonya, 2015).

Behavior in use is affected by the ease of using an existing technology (Mustafa, Harun, & Endin, 2014). Likewise with research conducted by Teo & Noyes (2011) explained that in the field of education, the behavior of teachers in using technology if the factor of ease of using the technology is formed. Learning systems that tend to use technology often emphasize that the ease of use factor affects student behavior at the National Taiwan University of Science (NTUST) in using the Blackboard Learning System (Lin, Persada, & Nadlifatin, 2014). The same thing is in the case of the International Education College campus management information system emphasizing that the attitude to use is formed from

the ease of using a system called the Campus Management System (Shaffiei, Mokhsin, Hamidi, & Yusof, 2011).

Various aspects can form a factor of ease of use that allows individuals to continue to use the technology. This explains that one can determine behavior by the ease-of-use factor. This is in line with research on student behavior in Southern Thailand in using Facebook which is affected by the ease of use as social media (Teo & Jarupunphol, 2015). In other matters, such as the use of internet banking, it also explains that the desire to use internet banking for users in Curitiba, South Brazil is affected by the ease of use factor (Pires, Costa Filho, & Cunha, 2011). Other fields such as food, convenience factor also affect the behavior of using QR Codes in a food tracking system (Kim & Woo, 2016). Even in a larger scope, the ease of use factor has a significant effect on the use of e-government services for the public in Abu Dhabi (Dahi & Ezziane, 2015). Things like user-friendly design and use can make up the convenience factor (Huang, Ho, Liu, & Lin, 2015). The same thing is also explained that online purchases using e-commerce are affected by this factor (Hajiha, Shahriari, & Vakilian, 2014).

The factor of ease of use of technology can affect individual satisfaction in using this technology (Xu & Gan, 2010), although these results are still contradictory to other studies. Using an e-learning system with a blackboard system, student satisfaction in the United Arab Emirates (UAE) is not determined by the ease of use factor (Al-hawari & Mouakket, 2010). This allows the must factor using the system in learning. This result is also directly proportional to research in the hospitality aspect where the desire to book hotels online for business travelers is not affected by comments that are easily searched for as reviews (Memarzadeh, Blum, & Adams, 2016). However, there are still several studies that state that the use of a form of technology is not affected by the ease of use (Yadav, Sharma, & Tarhini, 2016); Chong, 2013; Lee, Park, Chung, & Blakeney, 2011). Based on the explanation presented, the hypothesis in this study is as follows:

Hypothesis 1: Ease of Use Factors Affect User Behavior

The usage attitude factor affects the desire to make online purchases using e-commerce (Hajiha et al., 2014)**.** The results of this study are inversely proportional to research conducted by Teo & Jarupunphol, (2015) which explains that in the use of social media such as Facebook, actual use is not affected by student behavior as users. This can

explain that social media factors that are commonly used or that have been widely used do not significantly affect their actual use. This also means that new technologies that have not been wide will provide a certain level of difficulty in their use. The contradictory results are also explained by Tyas & Darma, (2017) where technology adoption is not affected by the attitude of its use. Behavior in use can provide good or not assessment results (Huang et al., 2015; Kanchanatanee, Suwanno, & Jarernvongrayab, 2014). Based on these explanations, the hypothesis in this study is as follows:

Hypothesis 2: Usage Behavior Factors Affect Actual Use

The originality of this research lies in the use of two variables of consumer behavior, namely the behavior in shaping the desire for decision making and the actual behavior that is taken in the decision. This is important in analysing actions of desire and actions of use, especially in using Shopee as one of the e-commerce media in Indonesia. Online purchasing is an interesting thing to study in line with the fast-changing consumer tastes and the dynamic competition in this sector. In addition, conditions such as during the Covid-19 pandemic will allow it to provide a different picture of consumer behavior compared to conditions before the pandemic.

2 METHODS AND MATERIALS

This quantitative research uses Structural Equation Modeling (SEM) - Partial Least Square (PLS) using SMART PLS 3.0. PLS-SEM can explain the analysis of structural models that are causal effects (Al Idrus, Ahmar, & Abdussakir, 2018; Christian et al., 2021) with a relatively small number of samples (Wong, 2013). Based on data from iPrice Insight (iPrice, 2021), the number of Shopee web visitors in Indonesia until 2020 was 129,320,800 visitors. However, there is no valid and specific publication about the number of young Shopee users in Jakarta. Since the population in this study (the number of young Shopee users in Jakarta) is unknown, this study uses the approach popularized by Hair, Black, Babin, & Anderson, (2014) where the number of samples from an unknown population can be determined by multiplying the number of indicators (14 items) by 5 to 10. Based on this, the sample of this study is 100 Shopee users (who purchased in the last 1 year) in Jakarta as research samples were collected randomly. This study used a questionnaire instrument with a range of 5 Likert scales (1=very disagree to 5=very agree) with several tests, namely validity, reliability, determination, and hypothesis testing for data analysis.

The indicators in this study adapt the measurements made by Kim & Woo (2016), Teo & Jarupunphol (2015), Yadav et al., (2016), and Chong, (2013). Indicators on the Actual System Usage variable make purchases in this marketplace, buy in the marketplace even though it is not a priority, open this marketplace website/application every day and at leisure, give satisfaction in making purchases. Furthermore, the indicators on Attitude Towards Using consist of being happy with this marketplace, providing comfort when buying in this marketplace, providing value for the products provided. The Perceived Ease of Use variable consists of indicators of easy access, ease of purchase, a layout that is easy to understand, ease of features available, can solve user problems in searching for products, ease of customer service.

3 RESULTS AND DISCUSSION

Respondents in this study consisted of 57 men (57%) and 43 women (43%). These results explain that the respondents in this study were dominated by male respondents. The initial testing process generates numbers to determine whether the existing construct is valid or not. In the Perceived Ease of Use variable, of the four items, there are two items (PU5=0,197 and PU6 = 0,110) that have a number below 0,7 which means they do not meet the requirements (>0,70) so these two items must be eliminated. Furthermore, in the Actual System Usage variable of five items, there is one item (ACT2=0,676) which is below 0,7, so this item must also be eliminated because it does not meet the specified conditions. After the elimination process on items that do not meet the requirements, a retest process is carried out to determine validity and reliability. Based on the results in Figure 1 which shows the discriminant validity test, where the numbers on all items are above 0,70, which means that all items are valid (valid). In the Perceived Ease of Use variable, there are four items with all numbers above 0,70, namely PU1=0,811; PU2=0,792; PU3=0,799 and PU4=0,804. The next variable, namely Attitude Towards Using, consists of three items whose scores are also above 0,70 (ATT1=0,907; ATT2=0,908; ATT3=0,885). The last variable, namely Actual System Usage, consists of four items (ACT1=0,808; ACT3=0,829; ACT4=0,870; ACT5=0,879), all of which are above 0,70.
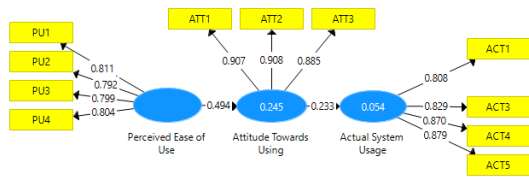
Figure 1: Outer Loading.

Average Extracted Variance (AVE) in table 2 explains the convergent validity where the numbers on all items are above 0,5 so that from these results it can be explained that the average value of the extracted variance on the indicators can represent the variables used. In the Perceived Ease of Use, the number on the AVE is 0,642 or above 0,5 so it can be said that the Perceived Ease of Use variable is valid. The next variable is Attitude Towards Using, where the number on the AVE shows 0,810 which means that this variable is valid. The next variable, namely Actual System Usage, shows 0,718 or is above 0,5 and explains that this variable is valid.

Table 2: Validity Test.

Variable/Item		Outer loading	AVE	Results
Perceived Ease of Use	PU1	0,811	0,642	valid
	PU2	0,792		valid
	PU3	0,799		valid
	PU4	0,804		valid
Attitude Towards Using	ATT1	0,907	0,810	valid
	ATT2	0,908		valid
	ATT3	0,885		valid
Actual System Usage	ACT1	0,808	0,718	valid
	ACT3	0,829		valid
	ACT4	0,870		valid
	ACT5	0,879		valid

The reliability test can be seen in table 3 which consists of the results of Composite Reliability (CR) and Cronbach's alpha (CA). The variable Perceived Ease of Use shows 0,878 which is above 0,7 which is the number of reliability requirements on CR. Based on these results it can be explained that this variable is reliable. The next variable, namely Attitude Towards Using, also shows a number above 0,7 which is 0,928. These results explain that this variable is reliable. The last variable, namely Actual System Usage, has a result of 0,910 which is above 0,7 which explains that this variable is reliable. In the results section of Cronbach's Alpha, the Perceived Ease of Use variable shows 0,836 or above 0,7 so it can be explained that this variable is also variable. In the Attitude Towards Using variable, the results show 0,883 (>0,7) which explains that this variable is reliable. The third variable, namely Actual System

Usage, shows the number on CA of 0,872 (> 0,7) also explains that this variable is reliable. Based on all the results that have been presented, it can be explained that all variables in this study are reliable.

Table 3: Reliability Test.

Variable	CR	CA	Results
Perceived Ease of Use	0,878	0,836	reliable
Attitude Towards Using	0,928	0,883	reliable
Actual System Usage	0,910	0,872	reliable

The R-Square results in table 4 explain the evaluation of the structural model in this study. Based on the results on the R-Square, it can be explained that the number in the Attitude Towards Using variable which is 0,054 means that this variable is affected by the independent variable, namely Perceived Ease of Use of 5,4% so that other independent variables can affect by 94,6%. The next variable, namely Actual System Usage, shows an R-Square number of 0,245 which means that this variable is affected by the Attitude Towards Using variable of 24,5% where there are 75,5% of other independent variables that are not used in this study.

Table 4: R-square.

Variable	R-square
Attitude Towards Using	0,054
Actual System Usage	0,245

The Total Effect results in table 5 show the t-statistic number of Perceived Ease of Use to Attitude Towards Using of 7,685 or greater than 1,96 with the original sample result of 0,494. In the results of the p-value, the number on Perceived Ease of Use to Attitude Towards Using is 0,000 or less than 0,05.

Table 5: Total Effect.

Path	Total effect	Results
Perceived ease of use - Attitude Towards Using	Original sample= 0,494	(+)
Attitude Towards Using - Actual System Usage	Original sample= 0,233	(+)
Perceived ease of use - Attitude Towards Using	t-statistic = 7,685	>1,96 (accept hypothesis 1)
Attitude Towards Using - Actual System Usage	t-statistic = 2,538	>1,96 (accept hypothesis 2)
Perceived ease of use - Attitude Towards Using	p-value = 0,000	<0,005 (accept hypothesis 1)
Attitude Towards Using - Actual System Usage	p-value = 0,001	<0,005 (accept hypothesis 2)

Based on these results, it can be explained that Attitude Towards Using is affected by Perceived Ease of Use so that it is also explained that Hypothesis 1 is accepted. The many features and product variants available at Shopee should be followed by ease of use. This also means that the functional factors in the embedded technology must also support the aspects of effectiveness and efficiency (Christian, 2018). The variety and complexity of the arrangement of features/products on Shopee's display must be considered so as not to cause confusion or dislike of their use. New users or users who are not accustomed to using Shopee must also be considered from the complexity and complexity of using existing features so as not to cause stress when using it as a form of technology (Christian, Purwanto, & Wibowo, 2020). The results on Hypothesis 1 also support research conducted by Kim & Woo, (2016), Teo & Jarupunphol (2015), and Huang et al. (2015). However, these results are not in line with research conducted by Yadav, Sharma, & Tarhini (2016), Chong (2013), and Lee, Park, Chung, & Blakeney (2011).

The t-statistic Attitude Towards Using to Actual System Usage is 2,538 or greater than 1,96 with the Original Sample result of 0,233. In the results of the p-value, the number on Attitude Towards Using to Actual System Usage is 0,011 or less than 0,05. Based on these results, it can be explained that Actual System Usage is affected by Attitude Towards Using so that it is also explained that Hypothesis 2 is accepted. Aspects such as comfort, the feeling of pleasure when buying, and the value that Shopee users get are very decisive in purchasing decisions even those that are impulsive, or purchases made with planning. The advertisements on Shopee also need to be regulated and designed in such a way that they are not disturbing and are still informative so that they can form the intention to take the next action (Christian, 2017). The inconvenience of making a purchase will make users leave Shopee and reluctant to make a purchase. The design and display arrangement that is not cluttered can be one of the factors that determine the pleasure and comfort of looking to make a purchase (Christian, 2019b). The results on Hypothesis 2 are in line with the results of research conducted (Huang et al., 2015; Kanchanatanee, Suwanno, & Jarernvongrayab, 2014). However, these results are inversely proportional to the results of research conducted by Tyas & Darma, (2017).

4 CONCLUSIONS

Based on the results and discussion described above, it can be explained that the Attitude Towards Using factor in the use of Shopee is affected by the Perceived Ease of Use factor that is felt by users in this study. Furthermore, the Actual System Usage factor in Shopee according to the user experience is affected by the Attitude Towards Using factor that is felt by the user himself. Based on the conclusions and discussion above, this study suggests that efforts or strategies are still needed to increase awareness of Shopee's presence for the public, both as users and for those who have not used it. Socialization strategies such as advertisements in various forms and both on-page and off-page media can be a supporting factor in increasing the number of followers, especially on Twitter and increasing the number of visits on the Shopee web.

REFERENCES

Al-hawari, M. A., & Mouakket, S. (2010). The influence of Technology Acceptance Model (TAM) factors on students' e-satisfaction and e-retention within the context of UAE e-learning. *Education, Business and Society: Contemporary Middle Eastern Issues*, *3*(4), 299–314. https://doi.org/10.1108/17537981011089596

Al Idrus, S., Ahmar, A. S., & Abdussakir, A. (2018). The effect of organizational learning on market orientation moderated by job satisfaction. *Cogent Business & Management*, *5*(1475048), 1–12. https://doi.org/10.1080/23311975.2018.1475048

Chong, A. Y., (2013). Predicting m-commerce adoption determinants: a neural network approach. *Expert Systems with Applications*, *40*(2), 523–530.

Christian, M. (2017). Pengaruh Unsur-Unsur Iklan Pajak: Hiburan, Informatif Dan Nilai Iklan. *Bricolage: Jurnal Magister Ilmu Komunikasi*, *3*(02), 156–164. https://doi.org/10.30813/bricolage.v3i02.936

Christian, M. (2018). Determinan Niatan Beralih Gunakan Antar Transportasi Daring. *Journal Of Business & Applied Management*, *11*(2).

Christian, M. (2019a). Dampak Penggunaan Teknologi Berbasis Aplikasi Pada Usaha Restoran Berskala Mikro & Kecil. *Journal of Business and Applied Management*, *12*(2), 131–140. Retrieved from https://journal.ubm.ac.id/index.php/business-applied-management/article/view/1822/1516

Christian, M. (2019b). Telaah Keniscayaan Iklan Di Kanal Youtube Sebagai Perilaku Khalayak Di Kalangan Milenial (Study The Inevatibility of Advertisements on Youtube Channels as Audience Behavior among Millennials). *Bricolage : Jurnal Magister Ilmu Komunikasi*, *5*(2), 141–158.

Christian, M., Dewi, D., Rembulan, G. D., Indriyarti, E. R., Wibowo, S., & Yuniarto, Y. (2021). Business

Performance Determinants of Salted Fish Distribution in Kapuk During the COVID-19. *Journal of Distribution Science*, *19*(6), 29–39. https://doi.org/10.15722/jds.19.6.202106.29

Christian, M., Purwanto, E., & Wibowo, S. (2020). Technostress Creators on Teaching Performance of Private Universities in Jakarta During Covid-19 Pandemic. *Technology Reports of Kansai University*, *62*(6), 2799–2809.

Dahi, M., & Ezziane, Z. (2015). Measuring e-government adoption in Abu Dhabi with technology acceptance model (TAM). *International Journal of Electronic Governance*, *7*(3), 206–231.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate Data Analysis* (7th ed.). Essex: Pearson Education Limited.

Hajiha, A., Shahriari, M., & Vakilian, N. (2014). The Role of Perceived Value on Customer E-Shopping Intention Using Technology Acceptance Model (TAM). *International Conference on Industrial Engineering and Engineering Management (IEEM)*, 1136–1140. Selangor: IEEE.

Huang, J.-M., Ho, T.-K., Liu, Y.-C., & Lin, Y.-H. (2015). A discussion on the user intention of golfers toward golf GPS navigation. *Journal of Hospitality and Tourism Technology*, *6*(1), 26–39.

Indriyarti, E. R., & Christian, M. (2020). The Impact Of Internal And External Factors On Taxpayer Compliance. *Journal of Business & Applied Management*, *13*(1), 33–48.

iPrice. (2021). The Map of E-commerce in Indonesia. Retrieved June 6, 2021, from iPriceInsights website: https://iprice.co.id/insights/mapofecommerce/en/

Jokonya, O. (2015). Validating Technology Acceptance Model (TAM) during IT Adoption in Organizations. *7th International Conference on Cloud Computing Technology and Science (CloudCom)*, 509–516. https://doi.org/10.1109/cloudcom.2015.56

Jongchul, O., & Sung-Joon, Y. (2014). Validation of Haptic Enabling Technology Acceptance Model (HE-TAM): Integration of IDT and TAM. *Telematics and Informatics*, (31), 585–596. https://doi.org/10.1016/.tele.2014.01.002

Kanchanatanee, K., Suwanno, N., & Jarernvongrayab, A. (2014). Effects Of Attitude Toward Using, Perceived Usefulness, Perceived Ease Of Use And Perceived Compatibility On Intention To Use E-Marketing. *Journal of Management Research*.

Kim, Y. ., & Woo, E. (2016). Consumer acceptance of a quick response (QR) code for the food traceability system: Application of an extended technology acceptance model (TAM). *Food Research Internation*, *1–32*. https://doi.org/10.1016/j.foodres.2016.05.002

Lee, Y. ., Park, J. ., Chung, N., & Blakeney, A. (2011). A unified perspective on the factors influencing usage intention towards mobile financial services. *Journal of Business Research*, *65*(11), 1590–1599.

Lin, S.-C., Persada, S. F., & Nadlifatin, R. (2014). A Study of Student Behavior in Accepting the Blackboard Learning System: a Technology Acceptance Model

(TAM) Approach. *Proceedings of the 2014 IEEE 18th International Conference on Computer Supported Cooperative Work in Design*, 457–462. Hsinchu: IEEE.

Memarzadeh, F., Blum, S. C., & Adams, C. (2016). Business Travelers' Intention to Purchase: The Application of Technology Acceptance Model (TAM). *Journal of Quality Assurance in Hospitality & Tourism*, 1–13. https://doi.org/10.1080/1528008x.2015.1096755

Mustafa, A. B., Harun, N. H., & Endin, M. Z. (2014). Understanding e-book acceptance through Technology Acceptance Model (TAM Model). *2nd International Conference on Information and Communication Technology (ICoICT)*, 122–126. Bandung: IEEE.

Pires, P., Costa Filho, B., & Cunha, J. (2011). Technology Readiness Index (TRI) Factors as Differentiating Elements between Users and Non Users of Internet Banking, and as Antecedents of the Technology Acceptance Model (TAM). *Communications in Computer and Information Science*, *220*, 215–229. https://doi.org/10.1007/978-3-642-24355-4_23

Rauniar, R., Rawski, G., Yang, J., & Johnson, B. (2014). Technology acceptance model (TAM) and social media usage: an empirical study on Facebook. *Journal of Enterprise Information Management*, *27*(1), 6–30.

Shaffiei, Z. A., Mokhsin, M., Hamidi, S. R., & Yusof, N. M. (2011). A Study of User's Acceptance and Perception Towards Campus Management System (CMS) using Technology Acceptance Model (TAM). *3rd International Congress on Engineering Education (ICEED)*, 128–131. Kuala Lumpur: IEEE.

Teo, T., & Jarupunphol, P. (2015). Dhammic Technology Acceptance Model (DTAM): Extending the TAM Using a Condition of Attachment in Buddhism. *Journal of Educational Computing*, *52*(1), 131–151. https://doi.org/10.1177/0735633114568859

Teo, T., & Noyes, J. (2011). An assessment of the influence of perceived enjoyment and attitude on the intention to use technology among pre-service teachers: A structural equation modeling approach. *Computers & Education*, (57), 1645–1653. https://doi.org/10.1016/j.compedu.2011.03.002

Tyas, E. I., & Darma, E. S. (2017). Pengaruh Perceived Usefulness, Perceived Ease of Use, Perceived Enjoyment, dan Actual Usage Terhadap Penerimaan Teknologi Informasi: Studi Empiris Pada Karyawan Bagian Akuntansi dan Keuangan Baitul Maal Wa Tamwil Wilayah Daerah Istimewa Yogyakarta dan Sek. *Reviu Akuntansi Dan Bisnis Indonesia*, *1*(1), 25–35.

Wong, K. K.-K. (2013). Partial Least Squares Structural Equation Modeling (PLS-SEM) Techniques Using SmartPLS. *Marketing Bulletin*, *24*(1), 1–32.

Xu, Y., & Gan, L. (2010). Study on Influence Factors Model of Technology Acceptance in Digital Library Based on User Cognition and TAM. *International Conference on Management and Service Science (MASS)*. Wuhan: IEEE.

Yadav, R., Sharma, S., & Tarhini, A. (2016). A multi-analytical approach to understand and predict the mobile commerce adoption. *Journal of Enterprise Information Management*, *29*(2), 222–237.