An Analysis of Online Shoppers’ Acceptance and Trust toward Electronic Marketplace using TAM Model

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Abstract. Changes in technology affect business activities. The presence of the internet opens opportunities for sellers to expand their marketing reach. E-marketplaces can be utilized by sellers to broaden the marketing reach of their products. From the consumer side, the presence of the e-marketplace presents many choices in buying goods. The e-marketplace makes it easy for buyers and sellers to deal with products. This study aims to evaluate attitudes toward online shopping. Perceived usefulness, perceived ease of use, and trust as independent variables. Attitude toward online shopping as a dependent variable. Two hundred buyers in one of the biggest e-marketplace in Indonesia as analysis subjects to complete the questionnaire in this study. Multiple regression analysis to test the research model. The results show that perceived usefulness, perceived ease of use, and trust affect online shopping attitudes.

1. Introduction

People imagine that online shopping can help daily life. In the past, people avoided shopping online as it was linked to trust in the e-marketplace. Nowadays, with an improved digital system, more manageable payments, and broader access, online shopping activities are commonplace in society. Online shopping is increasingly popular in Indonesia because of many discounts and benefits from e-marketplace.

The increase of e-marketplaces in Indonesia plays a role in the rise of online shopping activities. People's shopping behavior on e-marketplaces indicates the enthusiasm for online shopping. They are no longer afraid to buy something through the e-marketplace. There was an increase in online shopping during the pandemic because consumers switched to digital platforms. In the near
future, the integration of business to business e-marketplace will have the opportunity to become the main choice of consumers [1].

Today's people can use e-commerce applications for promotional media [2]. The role of citizens in new economic activities is increasing. On the track, e-marketplaces will continue to increase in Indonesia. The success of e-marketplaces in Indonesia is due to ongoing promotions in the mass media. Many offer free shipping and flash sale programs at low price positions for consumers. The e-marketplace is a virtual meeting medium between buyers and sellers so that a more accessible payment system must support the website/application facilities.

Someone who is often exposed to exposure from advertising messages on television makes the higher the loyalty to have an interest in transacting on the e-marketplace [3]. Strong marketing in mass media and social media encourages public trust and participation in using e-marketplace services. The e-marketplace website and application design to make visitors hold back. One of Indonesia's largest e-marketplaces creates entertaining games and uses game service strategies with bonus points to encourage visitors to play them. They continue to maximize the personalization needs of their loyal customers. Including brand ambassadors such as famous football athlete Cristiano Ronaldo and traditional Javanese singer Didi Kempot in their advertising strategy also helps to attract more users. The e-marketplace has also created a new selling strategy by presenting the Live feature, where sellers can offer their merchandise in the real market using the live streaming feature.

This study examines one of the e-marketplaces in Indonesia with a complete inventory of goods. The large selection of goods is due to the large number of sellers who sell goods on this e-marketplace. A wide variety of products and prices will satisfy potential buyers. Prospective buyers will have many options. Even so, the quality of the goods also varies. On the e-marketplace, we can find some high-quality goods, mediocre goods, and replicas of the famous brand. The value of perceived information, perceived entertainment value, and perceived credibility have an effect on the perceived value of online reviews [4].

This research objective tries to examine the TAM model related to the phenomena that occur in e-marketplaces in Indonesia. The TAM model recognizes the variable ease and usefulness of the technology. This research will examine aspects of the ease and usefulness of the website and public trust in the e-marketplace, with the research object one of Indonesia's biggest e-marketplaces.

2. Research Model and Hypotheses

Looking at previous studies, the model used to assess a person's attitude towards technology is the TAM model. We develop a research model based on a modified Technology Acceptance Model theory with trust variables. This study will evaluate consumer attitudes towards marketplaces in Indonesia.

2.1 TAM Model

Integrated TRA and TAM models to investigate intentions to use internet applications [5]. The main variables in the TAM model have perceived usefulness and perceived ease of use. In this study, researchers tried to add to the trust variable. E-commerce needs to maintain trust and satisfaction to get repurchase intentions from customers [6]. Researchers choose the largest and most popular e-marketplace in Indonesia as their research object. This research expects to provide a solution to this problem phenomenon. The model tries to prove that the TAM model joined with the trust variable, will affect a person's attitude in accepting e-marketplaces to continue shopping online.
2.2 Perceived Usefulness

Perceived usefulness is the benefit to someone from using technology. The intention to use technology affects the competence of its users, and the intention is influenced by perceived usefulness and perceived ease of use [7]. Subjective norms and perceived usefulness have a positive and significant effect on online purchase intentions [8]. Perceived risk, perceived usefulness, social influence, and perceived ease of use affect consumer intention to use [9], then confirmation and usefulness will affect satisfaction [10]. Jahangir & Begum (2008) said that to expand the range of financial technology use is not sufficient to introduce it. However, potential users need to build confidence in the technology. Make sure that the system is running safely, privately, and easy to use. One of the most critical aspects of technology for e-marketplace is a website or media application. The website or application can be related to the usability aspect. On the e-marketplace, the apps are slow to access via smartphones with low system requirements. In Indonesia, there is including a problem with the internet network that is not excessively fast. The user interface of the e-marketplace is also quite cluttered with various menu options that make it difficult for some people.

[H1]: Perceived usefulness has a positive effect on attitude toward online shopping

2.3 Perceived Ease of Use

Perceived ease of use is when someone finds it easy to use a technology. Brand image and purchase intention in e-marketplaces are influenced by perceived ease of use [12][13]. Perceived ease of use has a significant impact on intentions so complicated electronic procedures need to be avoided in order for users to feel comfortable and willing to adopt the service [14]. Furthermore, convenience affects purchase intentions on the e-marketplace [15]. Accessibility and speed will be beneficial for active internet users so that the ease of online shopping will affect purchase intention [16].

There is an exciting phenomenon on the aspect of ease of use, i.e., the need for shoppers to get free shipping on the e-marketplace. To get it, the consumer must reach a specific target purchase amount. This condition for some people will be indeed tricky if their total purchases do not reach it. Also, buyers must use e-marketplace's payment system as a condition to get more discount benefits. Not everyone is comfortable using this payment feature because it requires opening an account and making a deposit in an e-marketplace account.

[H2]: Perceived ease of use has positive effect on attitude toward online shopping

2.4 Trust

Trust in the e-marketplace is important, trust has a positive effect on purchasing decisions [17]. Trust related to transaction risk. Perceived ease of use, perceived usefulness, perceived risk, and trust have a
significant effect on consumer interest in transacting via the internet [18]. Customer trust in the platform is very important because it directs customers to use it [19]. Ardiyanto & Kusumadewi (2019) say that the TAM model can integrate with consumer trust, and this variable is a necessary factor for the marketplace.

There is a phenomenon that issues related to trust in the e-marketplace. Some sellers take photos of products from other sellers and then offer them to customers. There are the same products but submit different prices. Make dilemmas for the customer. Is this seller selling the item because it will make found that there are many duplicate photos of the same product at different prices? It is difficult for potential buyers to identify which sellers are the most trusted and competitive. Besides, the items were delivered did not match the pictures on the website. The trust factor's perception dramatically determines the success of an online application, with indicators being benevolent, communication, and security-confidentiality [21].

[H3]: Trust has positive effect on attitude toward online shopping

[H4]: Perceived usefulness, perceived ease of use, and trust collectively affect the attitude toward online shopping

3. Research Methods

The data used in this study are primary data collected directly through a survey method with a questionnaire from Google form. The data concerned with the characteristics of the respondents and the variables studied. Respondents used in this study are those who make purchases through the largest e-marketplace in Indonesia. The number of samples used was 200 respondents in Yogyakarta. The sampling technique used was purposive sampling with the criteria that respondents had shopping online.

Research instruments and measurement scales become from previous studies. Perceived usefulness is composed of four statement items adapted and adjusted based on research by Ashraf, Thongpapanl, & Auh (2014) and Blagoeva & Mijoska (2017). Perceived ease of use consists of seven items sourced from research Blagoeva & Mijoska (2017), Koufaris (2002) and Ashraf et al., (2014). Consumer trust consists of 6 items obtained and modified from the research of Harris & Goode (2010), Ashraf et al., (2014), and Ardiyanto & Kusumadewi, (2018). Meanwhile, for online shopping intention items consisting of six items sourced from the study Blagoeva & Mijoska (2017), Ashraf et al., (2014), and Ardiyanto & Kusumadewi, (2018). The instrument analysis used the Pearson correlation validity test and the Cronbach's alpha reliability test. The research data were processed and tested using multiple linear regression methods.

4. Result

Researchers found 200 valid questionnaires from a total of 210 questionnaires. Most of the respondents were female, with a percentage of 89% of the total respondents. Meanwhile, based on age, the average respondent is dominated by the younger generation with an age range of 21-25. Most respondents have an income of fewer than one million rupiahs. To test the instrument using validity and reliability tests. All question items for each variable x and y are declared valid - the calculated r-value for each question item is positive and is more significant than 0.361. Cronbach's alpha value above 0.6 indicates that the research instrument is reliable. These results indicate that the research instrument is valid and reliable.

Table 1. Result of Hypothesis 1, 2 and 3
Coefficients | t stat | Sig |
---|---|---
Intercept | -0.313 | -1.557 | 0.121 |
**Perceived Ease of Use (X1)** | 0.329 | 3.932 | 0.000 |
**Perceived of Usefulness (X2)** | 0.302 | 3.936 | 0.000 |
**Trust in Website (X3)** | 0.413 | 7.116 | 0.000 |

Perceived ease of use has a positive and significant effect on shopping attitude with evidence of a positive regression coefficient of 0.329 and a significance of less than 0.05. Perceived usefulness has a positive and significant effect on shopping attitude with evidence of a positive regression coefficient value of 0.302 and a significance of less than 0.05. Trust has a positive and significant effect on shopping attitude with evidence of a positive regression coefficient of 0.413 and a significance of less than 0.05.

The three independent variables simultaneously influence attitude toward shopping. They are proven by the value of the F Test coefficient less than 0.05. The results of this test indicate that all the proposed hypotheses are accepted. These results are in line with previous studies [20]. In conclusion, the TAM and trust models can be used to assess consumer attitudes towards e-marketplaces. These results provide information that it is important for e-marketplace to pay more attention to aspects of trust because it has the strongest influence on consumer attitudes.

5. Conclusion

E-marketplaces are where buyers and sellers meet virtually. Online trust and usefulness are factors that influence people to buy products through e-marketplaces [27], but there are different results that perceived usefulness, perceived usefulness to behavioral intention to use and perceived ease of use to attitude toward using are not related [28]. The results of this study indicate that perceived ease of use, perceived usefulness, and trust affect attitudes of online shopping in e-marketplaces. This study shows that online shoppers pay attention to the TAM model's variables and the trust variable. Perceived ease of use and perceived usefulness simultaneously affect a person's approval [29]. This study's findings that trust has the most significant effect on a person's attitude towards online shopping behavior in the e-marketplace. In addition, e-marketplace managers need to pay attention to other factors because customers not only need ease of use and benefits but also want a pleasant experience when shopping [30].

6. References

[1] S. Wang and N. P. Archer, “Electronic Marketplace Definition and Classification: Literature Review and Clarifications,” *Enterp. Inf. Syst.*, vol. 1, no. 1, pp. 89–112, 2007.
[2] S. Rahayu, L. Fitriani, R. Kurniawati, and Y. Bustomi, “E-Commerce Based On The
Marketplace In Efforts To Sell Agricultural Products Using Xtreme Programming Approach,” J. Phys. Conf. Ser. Pap., 2019.

[3] Susilawati and L. S. S. Utami, “Pengaruh Terpaan Tayangan Iklan Shopee Versi BlackPink terhadap Brand Loyalty Mahasiswa Jakarta,” Prologia, vol. 4, no. 1, pp. 173–178, 2020.

[4] A. L. Bevan-Dye, “Antecedents Of Generation Y Consumers’ Usage Frequency Of Online Consumer Reviews,” 2020.

[5] C. Buabeng-Andoh, “Predicting Students’ Intention To Adopt Mobile Learning: A Combination Of Theory Of Reasoned Action And Technology Acceptance Model,” J. Res. Innov. Teach., vol. 11, no. 2, pp. 178–191, 2018.

[6] R. R. Anisah and A. A. Suhendra, “Role of Trust, Customer Satisfaction, and Perceived Effectiveness of E-Commerce Institutional Mechanism to Repurchase Intention : Systematic Literature Review,” J. Phys. Conf. Ser., 2018.

[7] D. S. Budiarto, R. Puramasari, Yennisa, Submayanti, I. Sirajuddin, A. Hermanaw, and T. Herawan, “Implementation of Indonesia National Qualification Framework to Improve Higher Education Students: Technology Acceptance Model Approach,” in Computational Science and Its Applications – ICCSA 2018, 2018, vol. 1, pp. 293–304.

[8] Y. J. Lim, A. Osman, S. N. Salahuddin, A. R. Romle, and S. Abdullah, “Factors Influencing Online Shopping Behavior: The Mediating Role of Purchase Intention,” in 7th International Economics & Business Management Conference, 5th & 6th October 2015 Factors, 2016, vol. 35, no. December, pp. 401–410.

[9] H. N. Trinh, H. H. Tran, and D. H. Q. Vuong, “Determinants of Consumers’ Intention to Use Credit Card : A Perspective of Multifaceted Perceived Risk,” Asian J. Econ. Bank., 2020.

[10] M. N. Hossain, M. S. Talukder, A. Khayer, and Y. Bao, “Investigating The Factors Driving Adult Learners’ Continuous Intention To Use M-Learning Application: A Fuzzy-Set Analysis,” J. Res. Innov. Teach. Learn., 2020.

[11] N. Jahangir and N. Begum, “The Role Of Perceived Usefulness, Perceived Ease Of Use, Security And Privacy, And Customer Attitude To Engender Customer Adaptation In The Context Of Electronic Banking,” African J. Bus. Manag. Vol.2, vol. 2, no. 1, pp. 32–40, 2008.

[12] V. Damayanti, “Pengaruh Perceived Usefulness dan Perceived Ease of Use terhadap Purchase Intention Melalui Brand Image Sebagai Variabel Intervening Pada Mahasiswa UST Yogyakarta Pengguna Shopee,” J. Ilm. Ekon. dan Bisnis, vol. 16, no. 2, pp. 99–109, 2019.

[13] D. Yuliana, H. Wijayanto, and E. Santoso, “Pengaruh Efisiensi, Persepsi Resiko dan Tingkat Kemudahan terhadap Keputusan Pembelian (KOnsumen Toko ONline Sopee di Ponorogo),” J. Ilm. Bid. Manaj. dan Bisnis Vol., vol. 3, no. 1, pp. 33–41, 2020.

[14] A. L. M. Anouze and A. S. Alamro, “Factors Affecting Intention to Use E-Banking in Jordan,” Int. J. Bank Mark., vol. 38, no. 1, pp. 86–112, 2020.

[15] M. Liu, F. Gong, Z. Chen, L. Yang, and H. Lu, “Antecedents of Mobile Shopping Adoption in the Information Age,” IOP Conf. Ser. Mater. Sci. Eng. Pap., 2020.

[16] Y. C. Cho and E. Sagynov, “Exploring Factors That Affect Usefulness, Ease of Use, Trust, And Purchase Intention In The Online Environment,” Int. J. Manag. Inf. Syst., vol. 19, no. 1, 2015.

[17] M. Ridwan, T. Militina, and G. N. Achmad, “How Trust and Quality of Information Affect Buying Interest and Purcasing Decision? Study on Shopee Customers in Samarinda,” Int. J. Econ. Bus. Account. Res., vol. 4, no. 1, pp. 95–102, 2020.

[18] Y. A. Nugroho, “The Effect of Perceived Ease of Use, Perceive of Usefulness, Perceive Risk and Trust Towards Behavior Intention in Transaction by Internet,” Bus. Entrep. Rev., vol. 9, no. 1, pp. 79–90, 2009.

[19] W. Chaouali and K. El Hedhli, “Toward a Contagion-Based Model of Mobile Banking Adoption,” Int. J. Bank Mark., vol. 37, no. 1, pp. 69–96, 2019.

[20] F. Ardiyanto and H. Kusumadewi, “Pengintegrasian Technology Acceptance Model (TAM) dan Kepercayaan Konsumen pada Marketplace Online Indonesia,” J. Inspirasi Bisnis dan Manaj., vol. 3, no. 2, pp. 177–192, 2019.

[21] T. Indarsin and H. Ali, “Attitude toward Using m-Commerce: The Analysis of Perceived Usefulness, Perceived Ease of Use, and Perceived Trust : Case Study in Ikens Wholesale Trade , Jakarta – Indonesia,” Saudi J. Bus. Manag. Stud., vol. 2, pp. 995–1007, 2017.
[22] A. R. Ashraf, N. (Tek) Thongpapanl, and S. Auh, “The Application of the Technology Acceptance Model Under Different Cultural Contexts: The Case of Online Shopping Adoption,” J. Int. Mark., vol. 22, no. 3, pp. 68–93, 2014.

[23] K. T. Blagoeva and M. Mijoska, “Applying TAM to Study Online Shopping Adoption Among Youth in the Republic of Macedonia,” in Management International Conference, 2017, pp. 543–554.

[24] M. Koufaris, “Applying the Technology Acceptance Model and Flow Theory to Online Consumer Behavior,” Inf. Syst. Res., vol. 13, no. June, 2002.

[25] L. C. Harris and M. M. H. Goode, “Online Servicescapes, Trust, and Purchase Intentions,” J. Serv. Mark., vol. 24, no. 3, pp. 230–243, 2010.

[26] F. Ardiyanto and H. Kusumadewi, “Anteseden Intensi Belanja Pengguna Aplikasi/Website Toko Online di Yogyakarta,” Wahana, vol. 21, no. 2, pp. 110–124, 2018.

[27] Sfenrianto, W. Gunawan, H. Abdul, and F. A. Nurul, “Comparative Analysis of e-Commerce and Social Media based Trading in Indonesia,” IOP Conf. Ser. Mater. Sci. Eng., 2017.

[28] N. Ranugalih, V. Riyadie, and S. Heriprayoco, “Analysis and Evaluation of EB Connect Portal in PT Asuransi Jiwa Sequis Financial by Using Technology Acceptance Model ( TAM ) Analysis and Evaluation of EB Connect Portal in PT Asuransi Jiwa Sequis Financial by Using Technology Acceptance Model,” IOP Conf. Ser. Earth Environ. Sci. Pap., 2020.

[29] A. Sukainah, Reski.PP, R. Fadilah, and A. Mustarin, “Application of Technology Acceptance Model to E-learning Assessment ( Kelase ) in Agricultural Technology Education , UniversitasNegeri Application of Technology Acceptance Model to E-learning Assessment ( Kelase ) in Agricultural Technology Education , U,” J. Phys. Conf. Ser., 2019.

[30] A. Faroqi, A. Pribadi S., and T. Lathif M.S., “Exploring Online Shoppers’ Acceptance of Electronic Marketplace Using UTAUT and The Flow Theory,” in International Conference on Science and Technology 2019, 2020, pp. 1–6.