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Gender Difference Between Payment Point Online Banking Users in East Java

Tias Andarini Indarwati and R.A. Sista paramita

Management Faculty of Economics, Universitas Negeri Surabaya

Abstract

The emergence of internet and smartphone technology encourages people to change the way they pay for any transaction. This study extends the TAM model (Davis 1989) with Perceived Perceptions of ease of use, Perception of Use, by adding gender to users of Payment Banking Online (PPOB) developed by a national company called 'Bebas Bayar' a solid company for technology acceptance model. Test gender differences that might be related to the intention to use 'Bebas Bayar' Online Banking Payment Points. This study sampled 100 responses of women and men through survey instruments. Samples were taken from groups that were comparable to Pay-Free Online Banking Payment Points in East Java. The results show that women pay more attention to Perceived Ease of Use and Trust. Whereas men in using the PPOB 'Bebas Bayar' online application are more concerned with Perceived Usefulness. The results of this study can be a reference to the fact that the needs of female users requires increased trust by having an official permit from Bank Indonesia (BI), while the Perceived ease of use indicated that there are updated version to change display and operation of the application. For male users, the addition of features is something that companies do to improve perceived usefulness. This shows that 'Bebas Bayar' needs to include gender in marketing strategies intention to use.

Keywords: gender, Payment Point Online Banking, perceived ease of use, perceived usefulness, trust, intention to use

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1. Introduction

The usage of internet may functions as a means for online payment integrated to particular banks. *Online Payment* currently becomes a growing industry supported by the use of mobile devices increasingly popular. Current mobile devices are equipped with sophisticated and qualified hardware and software to support any tasks which previously could only be done through desktop devices. Any kinds of desktop-based tasks are now able to be done anytime and anywhere, not restricted by space and time. The dynamic culture those mobile devices have proposed may take over the development of ICT industry.

The presence of '*application store*' industries such as Google Play by Google and Appstore by Apple provides chances for Indonesian application developers as well. According to the annual report in 2013, 40 billion applications have already been down-loaded from Appstore with the potential market in 155 countries, as well as 50 billion applications from Google Play with the potential market in 129 countries (paid-application). Those results are besides the number of applications in other 'application stores' from Windows and Blackberry. ABI Research noted that in 2011, globally, 29 billion mobile applications had already been downloaded by smartphone devices. We may imagine what if Indonesian developers gained 0.5% of that huge number (i.e., approximately 145 million downloads) with IDR 1,000 for each download. They may obtain IDR 145 billion (www.inaicta.web.id).

Mobile applications are now becoming a worldwide trend. The presence of those apps has influenced our everyday life activity, such as shopping, travelling, and other social habits. The development of the apps promises a very broad market expansion, and our increasing penetration level on internet and smartphone devices along with the development of supporting infrastructures in which the government has concerned on may ensure that Indonesia has been ready and capable to build a creative economy in this industry. Applications with local content and tourism-cultural support (e.g., tourist map) are not yet optimally taken into account. This is a challenge as well as opportunity that we need to capture.

Nevertheless, some negative effects may reach a high level as well. The security in online-shopping transactions is one of the primary factors that customers should concern on. According to *marketic.co.id*, 51% respondents in Indonesia claimed that the security in online-transaction should be improved. Some risks to happen are (1) financial loss due to fraudulence, (2) the stealing of valuably secret information, (3) the misuse of access on particular sources by unauthorized parties, (4) consumers' loss of trust, and (5) other unexpected losses.

Although a lot of modifications and extensions have been suggested in the literature, the basis for most of these studies can been found within the theory of reasoned action (TRA) (Fishbein and Ajzen, 1975), the theory of planned behavior (TPB) (Ajzen, 1985), and the technology acceptance model (TAM) proposed by Davis (1989). Conducting studies of technology adoption is just as important today as it was then.

Financial technology (fintech) has been gradually growing as e-commerce was introduced in the country, triggering a number of non-cash transactions. *FinTech is a line of business based on using software to provide financial services.* There were more than 230 fintech companies in Indonesia in late 2017, offering payment, lending, tech

insurance and other financial services. Total number of transactions through fintech last year reached up to around IDR 2.4 trillion - mostly contributed by lending and payment transaction. Digital transactions were believed to be valued at USD 18 million last year, following the ongoing adaptation of a cashless society among Indonesians. E-wallet and e-payment are one of the familiar examples of cashless transactions using full digital technology. To build a strong and responsible lending fintech sector, the Financial Services Authority (OJK) and the government must improve regulations to minimize the possibility of risk such as liquidity mismatch and breach of cyber security. The Financial Services Authority (OJK) has issued a regulation on financial technology (fintech), which is more comprehensive than a prevailing regulation that only regulates peer-to-peer lending. (www.thejakartapost.com)

OJK of Indonesia has launched a registration system for fintech startups, marking a formal recognition of the sector. The platform is designed to set the direction of the fintech industry development, supervised by Bank Indonesia. With clearer regulation, better data security and more consumer protection, fintech in Indonesia can be a national priority to improve the quality of life as well as galvanize the economy at the macro level. (http://nowjakarta.co.id)

Statistical data from BI throughout 2016 stated that the amount of electronic money in circulation reached 51.2 million cards, growing 49.22% year-on-year (YOY). While in terms of transaction volume 683.13 million grew 27.6% with nominal transactions growing 33.69% worth IDR7.06 trillion. PT Bimasakti Multi Sinergi received official licensing for electronic money providers from Bank Indonesia (BI). The official e-money certification permit was obtained by Bimasakti on June 14, 2017 with permission number 19/467/DKSP/Srt/B. 'Bebas Bayar' is one of the fintech of 10 digital business units managed by PT Bimasakti Multi Sinergi.

Thus looking into the dynamic changes of mobile application, this study aimed to describe on how difference gender while statistic shown that is hardly surprising given that numerous earlier studies found gender differences in attitudes and time spent using computers (Felter,1985). Males use the internet mainly for purpose related to entertainment and leisure, whereas women use it primarily for interpersonal communication (Weiser, 2000)

2. Literature Review

Technology Acceptance Model (TAM) is a model that Fred Davis has introduced in 1986 through his dissertation entitled "*A Technology Acceptance Model for Empirically Testing New End-User Information System: Theory and Results*." It was later published in a scientific article entitled "*Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology*" in 1989.

David (1989) and Adams, Nelson, & Todd (1992) defined the term '*perceived usefulness*' as the level of individual's trust on using particular object which might bring benefits for them. This perception of usefulness directly affects the use of innovation on information technology. It indicates that a Bebas Bayar-service such as PPOB is considerably better in providing advantages toward users, and thus, it makes them tend to keep using such service. The advantage can be in the form of efficiency and fast-speed for online payment service.

Trust should be taken into account as the quality of any buyer-seller transactions in order to reach consumers' satisfaction as expected (Yousafzai, Pallister, & Foxall, 2003). Sumarwan (2014:166) argued that 'trust' was any consumers' insights into various objects, attributes along with the advantages perceived. It may not be necessary if the behavior applied is fixed, and no risk happen (Mayer, Davis, & Schoorman, 1995).

The factor of trust is crucial, particularly to technology based transaction. The concept is that users trust on particular advantages of a technology which provides security for them to have transaction. In this case, it means that the technology should be very secure, minimizing any chance of data/information lost. Overall, it shows that 'trust' is the crucial aspect of consumers' competence and judgment to do online transactions in order to meet their needs.

The study of intention is conducted in two contexts; to ones who have never done before and ones who have ever done before. This present study is on the second context. The previous study, for instance Wen *el al.* (2011), investigated a rebuying activity through online shop. Wen et al. (2011) found that the intention of reusing an online payment service such as PPOB was measured by two indicators; (1) continually using Bebas Bayar service, and (2) using Bebas Bayar service for other payment activities.

2.1. Research hypothesis

According to the research problem of the current and the previous studies, some hypothesis were formulated as follow.

H1: There are differences in trust and intention to Bebas Bayar applications between men and women?.

H2: *Perceived ease of use* (PEoU) positively influenced the *Intention to use* Bebas Bayar applications.

H3: P*erceived usefulness (PU)* positively influenced the *Intention to use* Bebas Bayar applications.

H4: *Trust* (T) positively influenced the *Intention to use* Bebas Bayar applications.

3. Research Method

100 students from the faculty of economy in UNESA participated in this study. They were selected purposively. The criteria of the sampel was that they should be 17 years old up, had a mobile payment application account, and ever used a Bebas Bayar application for online payment transaction (PPOB). The data was collected through questionaires.

Following Mayer et al. (1995) and Wen et al. (2011), the indicators for measuring *trust* variable involved (1) Bebas Bayar application was able to work as expected, (2) Bebas Bayar application should not disadvantage the consumers, (3) Bebas Bayar application could keep the customers' privacy, and (4) Bebas Bayar application provided right information. Finally, the intention to use application, in this case, referred to the intention of re-using the application. This variable was measured by two indicators; (1) continually using Bebas Bayar application, and (2) using Bebas Bayar application for other payment activities.

4. Result and Discussion

4.1. The characteristics of respondent

The Bebas Bayar members in Surabaya participated as the respondents of this study. Each of they used a Bebas Bayar application. After spreading out questionnaires, 101 of 110 members were considerably qualified as the respondents of this study as they met the qualification for data collection. The samples included 34 males and 67 females. The respondents in 18 – 25 years old had already used a Bebas Bayar application more than twice.

The *corrected item-total correlation* for *perceived ease of use* variable was > 0.3, indicating that the six indicators of that variable were found precisely correct in its measurement. Similarly, the six indicators of *perceived usefulness* variable reached the value of *corrected item-total correlation* on > 0.3, indicating that those indicators succeeded measuring the variable. Furthermore, it also happened on *trust* variable and the intention to use Bebas Bayar application. The result of reliability showed a high value for all items in each of the variables measured the value of the Alpha Cronbach was > 0.70.

4.1.1. t-test

TABLE 1: Results of *t*-test.

Item	Gender	N	t
PEoU	Male	34	−0.014
	Female	67	2.761
PU	Male	34	1.566
	Female	67	0.226
Trust	Male	34	2.497
	Female	67	6.286

Source: Data from respondents mixed.

Table 1, the perceived ease of use of women's values is higher, namely 2,761 of men. This shows that women in perceived ease of use pay attention to easy to operate, language easily understood, free online payments, view of application easy to operate, view of application easily understood.

In contrast to Perceived Usefulness where for men tall with a value of 1,566 higher than women 0. 226. This shows that for men the important thing in terms of more profitable for online payments, more efficient online payment transactions, less than offline payment, more quickly to make online payments, save time than to pay at the outlet.

Whereas in the case of Trust women with a value of 6,286 and men 2.497. This explains that a high level of trust in women users of free application prioritizes services payable to work well promised, services will not harm consumers pay, services can maintain the privacy of consumers, services provide true.

4.1.2. Regression assumption test

Before applying the regression model, it needed to test the linier regression assumption as the regression model should meet some classic assumptions including normality, non-multicollinearity, non-autocorrelation, and non-heteroscedasticity. Using *One-Sample Kolmogorov-Smirnov Test*, it resulted in Z = 1.094 with *p-value = 0.182 > 0.05*. This finding showed that the regression residual distribution was not different from the normal one, and thus, it was normal distributed.

The test of Multicollinearity was measured from the value of VIF (*Variance Inflation Factor*) of each of the independent variables. The result showed a Multicollinearity in which if VIF > 5 or $R_{ij}^2 > 0.8$. The result of Multicollinearity test showed that the value of VIF = 2.343 for the perception if *perceived ease of use*, VIF = 1.930 for the perception of *perceived usefulness*, and VIF = 1.748 for *trust*. According to those results, it found that Multiple Regression Model constructed in this study had no multicollinearity, and thus, the result of the partial *t*-test could be well interpreted.

The indication of heteroscedasticity was predicted through the significance of correlation test of Rank Spearman (r_s) between independent variables and the residual value (ei). The test was conducted on α = 5%. Thus, it would find a heteroscedasticity if r_s was significant $\leq$ 5%. However, the test of heteroscedasticity found that r_s was not significant for all of the independent variables, including *perceived ease of use* variable (r_s = –0.087; *p*-value = 0.392), the perception of *perceived usefulness* (r_s = –0.037; *p*-value = 0.712), and the perception of *trust* (r_s = 0.061; *p*-value = 0.548).

The assumption of autocorrelation was tested using residual regression by regressing the n^i residual case (e_i) with the next residual case (e_{i+1}). The result of *t*-test was found not significant, and thus, it had no autocorrelation within the model. The *t*-test resulted in *t* = –0.121 with the *p*-value = 0.904. Hence, it argued that Multiple Regression Model of this present study had no autocorrelation in its nature. Therefore, the regression model could be interpreted as it met the criteria of classic assumptions, and was considered as a model with BLUE criteria (*Best Linear Unbiased Estimator*).

Regression Model aimed to predict or appraise the variation of value of dependent variables due to the value of independent variables. The result of data analysis through SPSS was based on the empirical data of this present study was as follow.

$$Y = 0.320 + 0.083X1 + 0.042X2 + 0.409X3 + e.$$

According to the result of regression and *t*-test, as presented in Table 2, it found that the perception of *perceived ease of use* is not significant to the perception of *usefulness*.

TABLE 2: Results of hypothesis testing.

Variable	B	SE	t	Sig.
Constant	0.320	0.711	0.450	0.654
Perceived ease of	0.083	0.054	1.548	0.125
Perceived usefulness	0.041	0.027	1.524	0.131
Trust	0.409	0.067	6.131	0.000
Multiple R	0.755	F_{count}		42.553
R-Square	0.571	Significant F_{count}		0.000
Source: Data from respondents mixed.				

The result of *t*-test for the perception of *perceived ease of use* was t_{count} (X_1) = 1.548 with the probability = 0.125 > 0.05. Based on the rule of test, H_2 was not supported, indicating that *perceived ease of use* variable did not bring any impact on intention to use 'Bebas Bayar' application. However, it should be noted that although the variable did not bring any influence in Multiple Regression Model, the simple correlation between the *perceived ease of use* and the intention to use Bebas Bayar application was still significant.

The effect of *usefulness* on the intention to use the application was found significant. This was showed by the value of its t_{count} (X_2) = 1.524 with the value probability = 0.131 > 0.05. As H_3 was not supported, it indicated that *perceived usefulness* variable had significantly positive influence on the intention to use Bebas Bayar application.

The effect of *trust* on the intention to use the application was found significant. The result of its *t*-test (X_3) was t_{count} = 6.131 with the value of probability = 0.000 < 0.05. Therefore, H_4 was supported, indicating that the *trust* variable (X_3) had significantly positive influence on the intention to use Bebas Bayar application. In regard to the value of the *t*-test, it found that *trust* gave the highest contribution in explaining the users' intention to use Bebas Bayar application.

The results of the study it can be seen that there are differences in terms of perceived ease of use, perceived usefulness, and trust between men and women. The perceived ease of use in women is higher, than men. This shows that women in assessing the application of Bebas Bayar pay attention to how easy to operate, language easily understand view of application easy to operate, view of application easily understood. Supports previous research which states that women usually experience greater difficulty in finding information on the Internet than men. This is evidenced by how easy it is to use the 'Bebas Bayar' application for women.

Therefore, how companies manage their appearance is considered important, especially if it is aimed at female consumers. With a display that is easy to understand and

easy to operate, it can be used as a strategy to target female consumers. Different from men who pay more attention to the important thing in terms of online payments, more efficient online payment transactions, less than offline payments, more quickly to make online payments, save time than to pay at the outlet. This supports previous research which states that men use the internet to shop, listen, broadcast audio, build web pages, search for goods and products that are difficult to find, and desire to keep up to date with news.

The level of trust in women users of free application prioritizes services is payable to work well promised, services will not harm consumers pay, services can maintain the privacy of consumers, services provide true. In accordance with the argument by Marett et al. (2015), which postulates that consumers build their trust based on the institutions they associate with. When these beliefs are strengthened positively, they directly influence the intention to use, thus strengthening their trust and then their intentions and/or attitudes to use the service. It can be said that, if respondents have positive beliefs in their relationship with their bank, they show an intention to trust their m-banking and, therefore, this will positively influence their intention to use the application

5. Conclusion

Even though the application 'Bebas Bayar' is proven that men are more concerned about their level of use while women are due to the level of trust and ease of operation. For this reason, producers can design marketing strategies that "Bebas Bayar' application by increasing more trust through information with one of them registered with license No.19⁄467/DKSP/Srt/B. and is one of the fintech of 10 digital business units managed by PT Bimasakti Multi Sinergi. And as evidenced by the application upgrade, it is a company's power to facilitate its customers in using the application more effectively and efficiently. Manufacturers can increase the number of 'Bebas Bayar' users from male consumers by increasing the excitement of this application. Evidenced by the addition of the collaboration features of PT Bimasakti with 'Gojek', 'Grab', and E-toll which require electronic transactions for transportation activities can increase the consumers' free-pay in the transaction.

References

[1] C.-H., Yen, H.-P., and Lu. (2008). Factors influencing *the online* auction of repurchase intention. *Internet Research*, vol. 18, no. 1, pp. 7–25.

[2] Tu, C.-C., Fang, K., and Lin, C.-Y. (2012). Perceived ease of use, trust, and satisfaction as determinants of loyalty in e-Auction marketplace. *Journal of Computers*, vol. 7, no. 3, pp. 645–652.

[3] Davis, F. D. (1989a). Perceived usefulness, perceived ease of use, and *user* acceptance of information technology. *MIS Quarterly*, vol. 13, no. 5, pp. 319–339.

[4] Engel, J. F., et al. (1993). *Consumer Behavior* (sixth edition), vol. 2, Budijanto (trans. 1995). Jakarta: Binarupa Script.

[5] Ghozali, I. (2007). *Applications Multivariate Analysis with SPS Program*. Semarang: Diponegoro University Publishers Agency.

[6] Irawan, H. (2008). *10 Principles of Customer Satisfaction*. Jakarta: PT Elex Media.

[7] Jogiyanto. (2008). *Guidelines for Survey Questionnaire*. Yogyakarta: Fak. Ekonomi and Business UGM.

[8] Jogiyanto. (2010). *Behavioral Information Systems* (revised edition). Yogyakarta: Andi CV.

[9] Keil, M., Beranek, P. M., and Konsynski, B. R. (1995). Usefulness and ease of use: Field study evidence regarding the task considerations. *Decision Support Systems*, vol. 13, no. 1, pp. 75–91.

[10] Kotler, P. (2005). *Marketing Management* (Millennium Edition), vol. 1, Teguh Hendra, Ronny A. Rush, and Benjamin Molan (trans.). Jakarta: PT Gramedia Group Index.

[11] Kotler, P. and Keller, K. (2012). *Marketing Management*, vol. 2, no. 13. Jakarta: Erland

[12] Li, H. and Hong, J. (2013). Factors influencing consumers' online repurchasing behavior: A review and research agenda. *Scientific Research*, vol. 5, pp. 161–166.

[13] Ludin, I. H. B. and Cheng, B. L. (2014). Factors influencing customer satisfaction and e-loyalty: Online shopping environment among the young adults. *Management Dynamics in the Knowledge Economy*, vol. 2, no. 3, pp. 462–471.

[14] Lukman, E. (2014). *Popular 18 Online Stores in Indonesia (Online)* (accessed on November 23, 2015).

[15] Lupioyadi, C. (2007). *Marketing Services*. Jakarta: Four Salemba.

[16] Lee, C. and Wan, G. (2010). Including trusts subjective norm and technology in the Technology Acceptance Model: a case of e-ticketing in China. *ACM SIGMIS Database*, vol. 41, no. 4, pp. 40–51.

[17] Malhotra, N. K. (2004). *Approach Applied Marketing Research* (fourth edition), vol. 2. Rusyadi Maryam Salah (trans.) 2009. Jakarta: PT index.

[18] Mayer, R. C., Davis, J. H., and Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of Management Review*, vol. 20, no. 3, pp. 709–734.

[19] McCloskey, D. W. (2006). The importance of ease of use, usefulness, and trust to online consumers: An examination of the technology acceptance models with older consumers. *Journal of Organizational and End User Computing*, vol. 18, no. 3, p. 47.

[20] Marett, K., Pearsona, A., Pearsona, R., et al. (2015). Using mobile devices in a high risk context: the role of risk and trust in an exploratory study in Afghanistan. *Technology in Society*, vol. 41, pp. 54–64.

[21] Momtaz, H., Islam, M. A., Ariffin, H K K, et al. (2011). "Customers Satisfaction on *Online* Shopping in Malaysia". *International Journal of Business and Management*, vol. 6, no. 10, pp. 162–169.

[22] Nysveen, H., Pedersen, P. E., and Helge, T. (2005). Explaining intention to use mobile chat services: moderating effects of gender. *Journal of Consumer Marketing*, vol. 22, no. 5, pp. 247–256. DOI: 10.1108/07363760510611671

[23] Schiffman, K. (2010). *Consumer Behavior* (second edition). Jakarta: Index PT Gramedia Pustaka Utama.

[24] Setiawan, I. A. and Ritonga, F. (2011). *Analysis of Line (Path Analysis) Using Amos Program* (first edition). Bogor: Torch Media.

[25] Sugiyono. (2009). *Business Research Methods (Quantitative Approach, Qualitative and R&D)*. Bandung: PT. Alfabeta.

[26] Sumarwan, U. (2011). *Consumer Behavior Theory and Practice in Marketing* (second edition). Bogor: Publisher Ghalia Indonesia.

[27] Suryani, T. (2013). *Consumer Behavior in the Age of the Internet*. Yogyakarta: Graha Science.

[28] Sutedjo, B. (2001). *E-business Perspective*. Yogyakarta: Adi.

[29] Tjiptono, F. (2008). *Marketing Strategy*. Yogyakarta: Andi.

[30] Tsiotsou, R. (2006). The role of perceived product quality and overall satisfaction on purchase intentions. *International Journal of Consumer Studies*, vol. 30, no. 2, pp. 207–217.

[31] Wen, C., Prybutok, V. R., and Xu, C. (2011). An integrated model for online customer repurchase intention. *Journal of Computer information* systems, vol. 52, no. 1, pp. 14–23.

[32] Weiser, E. B. (2000). Gender differences in internet use patterns and internet application preferences: A two-sample comparison. *Cyberpsychology & Behavior*, vol. 3, no. 2. Retrieved from: http://www.gartner.com/newsroom/id/2592315 (accessed February 2017).