

Analysis of Factors Motivating in The Use of E-Wallets in Indonesia

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ABSTRACT: *This paper aims to find out the factors that motivate the use of e-wallets in Indonesia. This research is a descriptive study uses quantitative methods. Quantitative methods are method with the aim of testing hypotheses that have been established. The sample in this study are Indonesian who used e-wallets (Go-Pay, OVO, DANA and Link Aja) as many as 400 respondents were randomly selected by using nonprobability accidental sampling method. The analysis technique used is Factor Analysis, which uses 8 factors from three previous studies that has been conducted. The research result using EFA and it carried out there are 6 factor that motivate the use of e-wallet in Indonesia, namely Efficiency, Personal Engagement, Security, Subjective Norms, Perceived Usefulness, and Switching Costs.*

KEY WORD: *Factor Analysis, E-Wallet User, Motivated E-Wallet Users*

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I. INTRODUCTION AND LITERATURE REVIEW

The development technology in the current era of digitalization is doing a fierce competition in the business world. Companies must have an innovated and creative business ideas that make it easy to meet the needs of people's lives and can still maintain customer satisfaction. To realize this, many companies recently use Information Technology (IT). The advances of Information Technology make all human activities easier both in the economic and social fields. As a result of the development, emerging technologies that lead to financial innovation with a touch modern technology called Financial Technology (Fintech).

The Financial Technology Industry in recent years has developed rapidly in Indonesia. According to Statista Data 2017, the value of Fintech transactions has reached 15 billion USD. By 2020, Indonesia is expected to become the largest digital economic in the region with a potential of 130 billion USD (Utomo, 2017). The financial transaction conducted by Indonesian people more than 50% is using e-wallet.

In Indonesia, one of the financial services is e-wallet. Bank Indonesia support the use of e-wallets with a program that launches the National Non-Cash Movement or commonly known as a less-cash society. There are three advantages of less-cash society; first, non-cash transactions are more efficient because everyone does not need to carry cash. Second, non-cash are relatively inexpensive. Third, non-cash transactions make it easier to trace if a crime occurs.

The existing of e-wallet which on internet-based electronic provides some convenience to its users, where payments become more efficient and can be done in anytime and anywhere. E-wallet is an alternative payment method that has something in common with cash, which used by public for payments (Damara and Suyanto, 2019). E-wallets continues to transform following the demand and needs of users. Each player has their interpretations and strategies, not only in terms of technology but also tariffs, convenience, and security levels.

According to iPrice titled "Who is the E-wallet Apps with the most users in Indonesia?", it stated that the top 4 e-wallet applications with monthly active users are still dominated by local players, which are Go-Pay, OVO, DANA, and Link Aja.

Those four e-wallets are very interesting, this can be proven by a larger number of downloaders and also the active users. The growth of those four e-wallets will not survive without efforts to improve service quality and understand the consumer preference in using e-wallets.

With this, the primary objective of the paper is to identify the factors that can either directly or indirectly motivate Indonesian people in using e-wallets (Go-Pay, OVO, DANA, and Link Aja). The objective of the research is to identify the factors that directly or indirectly motivating Indonesian people in using e-wallets and to identify the most dominant factors of using e-wallet in Indonesia.



.Source: iprice.co.id

Therefore, structure of the paper is organized as follows. Section 1 of the paper introduces the concept and clearly mentioned the basic research objectives of the paper. Section 2 tried to justify the possible reasons behind the study through a brief review of literature and model proposed. Section 3 clarifies the data and methodology of the paper. Finally, section 4 interprets the result and concludes

II. LITERATURE REVIEW

2.1 Consumer Behavior

Consumer behavior as the behavior that consumers display in searching for, purchasing, using, evaluating, and disposing of products and services that they will satisfy their needs (Schiffman and Kanuk, 2000:7). Mothersbaugh and Hawkins (2016:6), stated consumer behavior is the study of individuals, groups, or organizations and the processes they use to select, secure, use, and dispose of products, services, experiences, or ideas to satisfy needs and the impacts that these processes have on the consumer society.

2.2 Financial Technology

Financial Technology refers to the enabled financial solutions. The term of Fintech is not confined to specific sectors (e.g. financing) or business models (e.g. peer to peer (P2P), lending), but instead covers the entire scope of services and products traditionally provided by the financial service industry (Armer, Barberis, & Buckley, 2015). There are 4 types of Financial Technology services shown in **Figure 2** below.

Figure 2. Financial Technology Product and Services



Source: An Overview of Fintechs (2017)

2.3 E-Wallet

E-wallet or electronic wallet is a form of technology development in the finance field. E-wallet is a web based program or service which allows its users to save money and it can be used when it is required (Varsha and Thulasiram, 2016). The use of e-wallet is not restricted to bank account transfer, but uses also can buy a range of products from airline tickets to grocery without sweeping a debit or credit card. E-wallet can also monitor their transaction track and other information they need. It is secured by a password which should be entered to see the account's information, so its safely is guaranteed. In detail, the advantages of using e-wallets are as follow:

- a. Can be used to send and receive payments anywhere
- b. The transfer is more limitless
- c. Transfer and payment could be done easier
- d. Help and add the convenience of online purchase
- e. Allow the users to access and customize their accounts through a mobile phone
- f. The transaction between e-wallet can be done without the need to exchange personal account information. This is the anonymity that increases e-wallet security.
- g. Equipped with QR Pay or QRC (Quick Response Code) feature, a payment method that use a barcode and it will be scanned for each payment transactions.

2.4 Factors Motivating the use of E-Wallets

The research conducted by Rathore H.M (2016), explains there are benefits parties simultaneously. For consumer; it provides benefits of anytime payment, balance and transaction check option, security, reduced transaction time, offers and discounts, and convenience. Also there are several factors influencing the use of e-wallets (Rodrigues, 2018:19), which are:

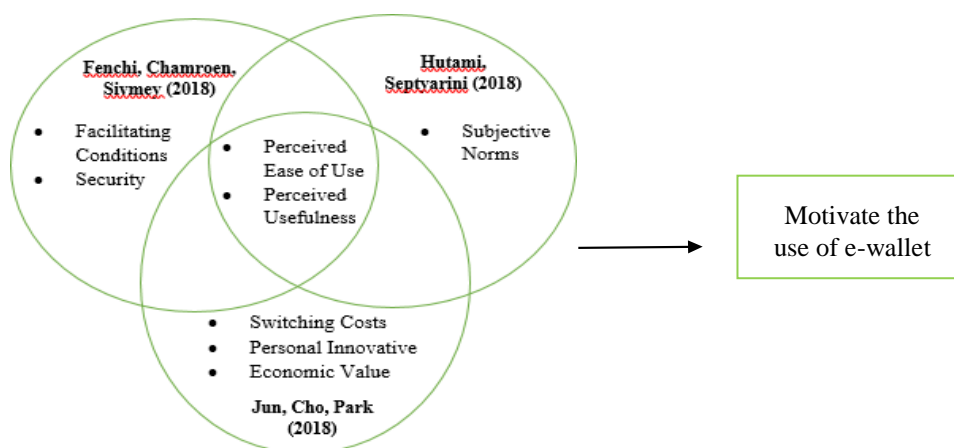
- a. Ease of use
- b. Security
- c. Convenient
- d. Attractive discount
- e. Economical and less transaction
- f. Written record

2.5 Research Framework

In this research framework, it is using 8 factors. These factors can motivate the use of e-wallet. It adopted from several previous studies which show there are several factors in driving the decision to use e-wallet. Researcher do a combination of several factors before the factor analysis is processed.

Figure 3. Model Proposed

Source: Model Proposed by Author, 2019



Based on the model proposed described above, the hypotheses in this study proposed and can be proven that “there is one or more dominant factors motivate the use of e-wallet in Indonesia”.

III. EMPIRICAL RESEARCH

Based on the research objectives, type of the research is a descriptive research which the researcher only describes the factors or variables, without seeing or testing the relationship or influence between the factors or variables. The method used in this research is quantitative method to obtain data or facts and answers the research questions. In this research is using interval score, it is the data obtained can be sorted by distance and or the same interval. Meanwhile for the instrumental is using Likert scale, the answer of each instrument has a range from the most positive to the most negative. The analysis techniques is using factor analysis. Factor analysis is used to find out what factors are motivating people in using e-wallets in Indonesia.

The population in this study is Indonesian people who use e-wallets as their daily uses, using 5% significance level. Due to the number of people who have been using e-wallet is not known certain, the samples used in this study were 400 respondents. The items of each variable are presented below in Table 1:

Table 1: Questionnaire Item

Item Code	Variable Name
Perceived Ease of Use	
PE1	In operating e-wallet is easy and understandable
PE2	Easy to find the information needed
PE3	Top-up balances in e-wallet is easy to understand
Perceived Usefulness	
PU1	E-wallet can be used for various transaction services
PU2	E-wallet makes payments more efficient
PU3	E-wallet can be used in anywhere and anytime
Security	
SE1	E-wallet can store user's money safely
SE2	E-wallet company will protect the user's information
SE3	Every time user make payment, they must provide a password
SE4	Receiving confirmation notification when user complete a transaction
Facilitating Conditions	
FC1	E-wallet can work 24/7 without problems
FC2	E-wallet continuously improved in features
FC3	E-wallet is easy to register
Subjective Norms	
SN1	People consider important (family, friends) think I should user e-wallet services
SN2	People who influenced my decision, think I should use e-wallet services
SN3	User think it is important that everyone in the society should use e-wallet
Economic Value	
EV1	E-wallet offer attractive discount and voucher for user
EV2	"Pay Day" promotions are very tempting for e-wallet user
EV3	E-wallet application enable user to shop economically
Switching Costs	
SC1	To switch the payment method (cash to non-cash) means that user must take time to find the information about e-wallet
SC2	Switching to e-wallet will cost a new expenditure
SC3	Switching a method with e-wallet will result an unexpected hassle for user
Personal Innovative	
PI1	User would look for ways to experiment e-wallet as a new technology
PI2	E-wallet excites user because of the features
PI3	User think purchasing product using e-wallet is interesting

IV. RESULT AND DISCUSSION

Factor analysis was used to construct a new factor in motivating Indonesian people using e-wallets. Bartlett's Test of Sphericity and Kaiser-Mayer-Olkin Measure (KMO) are both used to determine the factorability of the matrix as whole. The result value is 0.891 which greater than 0.5 means the variables is good for factor analysis.

Table 2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.891
Bartlett's Test of Sphericity	Approx. Chi-Square	3393.296
	df	300
	Sig.	.000

Source: SPSS Result

The next step of factor analysis is extracting a set of variables selected to form one or more factors. In the communality of variables, the stronger relationship of variables with the factors formed. As the result of the communalities in this study is seen in table below.

Table 3: Communalities

	Initial	Extraction
PE1	1.000	0.547
PE2	1.000	0.565
PE3	1.000	0.642
PU1	1.000	0.670
PU2	1.000	0.555
PU3	1.000	0.614
SE1	1.000	0.519
SE2	1.000	0.500
SE3	1.000	0.504
SE4	1.000	0.510
FC1	1.000	0.584
FC2	1.000	0.451
FC3	1.000	0.539
SN1	1.000	0.768
SN2	1.000	0.796
SN3	1.000	0.636
EV1	1.000	0.515
EV2	1.000	0.545
EV3	1.000	0.277
SC1	1.000	0.449
SC2	1.000	0.684
SC3	1.000	0.713
PI1	1.000	0.488
PI2	1.000	0.647
PI3	1.000	0.569

Source: SPSS Result

The Communalities table shows the average of extraction community for all variables, means the relationship is relatively large between the variables and factors. These results illustrate that the variables used get a factor by showing the high relationship between variables and factors.

After that the Total Variance tables illustrates the number of factors that might have formed. Factors are said to be formed if the eigenvalue > 1. The total eigenvalue is sorted from the largest to the smallest. The result table of Total Variance Explained is as follows.

Table 4: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative	Total	% of Variance	Cumulative
1	7.523	30.094	30.094	7.532	30.094	30.094
2	1.721	6.883	36.977	1.721	6.883	36.977
3	1.357	5.427	42.405	1.357	5.427	42.405
4	1.302	5.206	47.611	1.302	5.206	47.611
5	1.230	4.921	52.532	1.230	4.921	52.532
6	1.154	4.616	57.148	1.154	4.616	57.148
7	.969	3.876	61.025			
8	.929	3.715	64.739			
9	.876	3.503	68.242			
10	.778	3.114	71.356			
11	.729	2.916	74.272			
12	.680	2.721	76.993			
13	.606	2.422	79.415			
14	.582	2.329	81.743			
15	.547	2.188	83.932			
16	.507	2.028	85.960			
17	.488	1.953	87.912			
18	.476	1.905	89.818			
19	.465	1.861	91.679			
20	.423	1.692	93.371			
21	.410	1.640	95.011			
22	.372	1.488	96.499			
23	.314	1.255	97.754			
24	.301	1.204	89.957			
25	.261	1.043	100.000			

Source: SPSS Result

Based on the following table, it can be seen there are 25 variables items in the factor analysis, based on Eigenvalues > 1, there are 6 factors are formed.

After getting the 6 new factors, component matrix is the result of data processing which shows the distribution of 25 variables items to 6 new factors that are formed. The number contained in the component matrix is a loading factors. The results of the Component Matrix data processing can be seen in table below:

Table 5: Component Matrix

	Component					
	1	2	3	4	5	6
PE1	.593	-.267	.226	.160	-.217	.029
PE2	.628	-.180	.158	.225	-.230	.095
PE3	.548	-.296	.206	.379	-.261	.011
PU1	.495	-.116	-.228	-.066	-.045	.594
PU2	.527	-.310	-.046	-.316	-.067	.274
PU3	.565	-.127	-.107	-.015	-.002	.516
SE1	.549	.074	-.288	.287	.192	.099
SE2	.589	-.113	-.241	.256	.095	.086
SE3	.500	-.262	-.170	.214	.163	-.291
SE4	.574	-.297	.079	.185	.003	-.229
FC1	.476	.026	-.537	.101	-.038	-.239
FC2	.549	-.089	-.203	.085	-.046	-.301
FC3	.680	.038	-.102	-.016	.203	-.155
SN1	.569	.426	-.158	-.158	-.452	-.092
SN2	.615	.432	-.141	-.139	-.430	-.079
SN3	.605	.301	.053	-.276	-.302	-.095
EV1	.510	-.191	.435	-.115	-.045	-.121

EV2	.498	-.050	.525	-.112	-.033	-.073
EV3	.494	.026	.122	-.056	.087	.079
SC1	.464	.336	.104	-.123	.275	.142
SC2	.439	.491	.257	.309	.297	.025
SC3	.335	.595	.203	.399	.152	.154
PI1	.583	-.005	.000	-.239	.271	-.132
PI2	.634	-.105	-.073	-.328	.337	-.085
PI3	.580	-.034	.079	-.385	.271	-.064

Source: SPSS Result

The next stage is to rotate the factors, which too know that each factors has loadings and non-zero coefficient. Factor rotation must be done so there are no difficulties in interpreting new factors. In this study is using orthogonal rotation with varimax procedure.

Table 6: Factor Rotation

	Component					
	1	2	3	4	5	6
PE1	.654	.111	.193	.134	.226	.037
PE2	.609	.052	.234	.184	.294	.125
PE3	.712	-.076	.281	.070	.195	.085
PU1	.088	.124	.116	.124	.785	.050
PU2	.263	.382	.073	.141	.520	-.210
PU3	.208	.182	.133	.093	.705	.120
SE1	.059	.109	.529	.066	.325	.337
SE2	.213	.114	.528	.048	.357	.181
SE3	.276	.214	.615	-.053	.008	.010
SE4	.521	.220	.434	.021	.031	.014
FC1	.054	.083	.682	.311	.110	-.020
FC2	.240	.199	.543	.242	.010	-.009
FC3	.183	.450	.457	.188	.123	.210
SN1	.108	.103	.176	.826	.118	.134
SN2	.135	.126	.191	.822	.138	.175
SN3	.223	.321	.060	.676	.092	.115
EV1	.586	.401	-.014	.101	-.001	.028
EV2	.568	.403	-.118	.141	-.018	.161
EV3	.246	.328	.103	.128	.204	.199
SC1	-.001	.431	.023	.172	.187	.445
SC2	.142	.190	.116	.092	-.022	.778
SC3	.079	-.030	.044	.166	.050	.821
PI1	.129	.602	.267	.131	.097	.107
PI2	.098	.703	.310	.086	.198	.023
PI3	.141	.699	.133	-.136	.145	.051

Source: SPSS Result

As a final process, researcher evaluates the rotated factors loadings for each variable in order to determine that variable's role and contribution in determining the factor structure. Based on the result of the factor analysis, 6 new factors were obtained. Grouping is based on factor loading values the following 6 new factors formed.

Table 7: Component of New Factors

Factor	Item	Statements	Loading Factor
Factor 1	PE1	In operating e-wallet is easy and understandable	0.654
	PE2	Easy to find the information needed	0.609
	PE3	Top-up balances in e-wallet is easy to understand	0.712
	SE4	Receiving confirmation notification when user complete a transaction	0.521
	EV1	E-wallet offer attractive discount and voucher for user	0.586
	EV2	"Pay Day" promotions are very tempting for e-wallet user	0.568

Factor 2	EV3	E-wallet application enable user to shop economically	0.328
	PI1	User would look for ways to experiment e-wallet as a new technology	0.602
	PI2	E-wallet excites user because of the features	0.703
	PI3	User think purchasing product using e-wallet is interesting	0.699
Factor 3	SE1	E-wallet can store user's money safely	0.529
	SE2	E-wallet company will protect the user's information	0.528
	SE3	Every time user make payment, they must provide a password	0.615
	FC1	E-wallet can work 24/7 without problems	0.682
	FC2	E-wallet continuously improved in features	0.543
	FC3	E-wallet is easy to register	0.457
Factor 4	SN1	People consider important (family, friends) think I should use e-wallet services	0.826
	SN2	People who influenced my decision, think I should use e-wallet services.	0.822
	SN3	User think it is important that everyone in the society should use e-wallet	0.676
Factor 5	PU1	E-wallet can be used for various transaction services	0.785
	PU2	E-wallet makes payments more efficient	0.520
	PU3	E-wallet can be used in anywhere and anytime	0.705
Factor 6	SC1	To switch the payment method (cash to non-cash) means that user must take time to find the information about e-wallet	0.445
	SC2	Switching to e-wallet will cost a new amount of expenditure	0.778
	SC3	Switching a method with e-wallet will result an unexpected hassle for user	0.821

Source: SPSS Result

After grouping the variables based on loading factor, then the next step is to give a name of factors that are formed by sorting the loading factors from the largest number to the smallest. The following factors that have been formed:

Table 8: New Factor Name

Factor	New Factor Name	Contribution
1	Efficiency	30.094
2	Personal Engagement	6.883
3	Security	5.427
4	Subjective Norms	5.206
5	Perceived Usefulness	4.921
6	Switching Costs	4.616
Total		57.148%

Factor analysis testing in this study begins by evaluating variables that can be processed in the next analysis. Types of variables can be entered into next analysis are variables that have high correlations with other variables, so they can form a new factor.

Respondents' data are obtained from the questionnaires as many as 400 respondents, then it processed with inputting the respondents' data into SPSS 25 software, which generate from 8 factors into a 6 new factor of motivating the use of e-wallets as following:

1. Efficiency

In this factor has an eigenvalue of 7.532 and contribution percentage of 30.094%. This factor includes six item variables which are: in operating e-wallet is easy to understand (0.654), easy to find the information needed (0.609), top up balances in e-wallet is easy to understand (0.712), receiving confirmation notification when the user completed a transaction (0.521), e-wallet offers attractive discounts and voucher for user (0.586), and PayDay promotions are very tempting for e-wallet user (0.568).

2. Personal Engagement

In this factor has an eigenvalue of 1.721 and contribution percentage of 6.883%. This factor includes four item variables, which are: the e-wallet application enables user to shop economically (0.328), user would look for ways to experiment with e-wallet as a new technology (0.602), e-wallet excites user because of the features (0.703), and user think purchasing product using e-wallet is interesting (0.699).

3. Security

In this factor has an eigenvalue of 1.357 and contribution percentage of 5.427%. This factor includes six item variables, which are: e-wallet can store user's money safely (0.529), e-wallet company will protect the user's information (0.528), every time user make payment, they must provide a password (0.615), e-wallet can work 24/7 without problems (0.682), e-wallet continuously improved in features (0.543), and e-wallet is easy to register (0.457).

4. Subjective Norms

In this factor has an eigenvalue of 1.302 and contribution percentage of 5.206%. This factor includes three item variables, which are: people consider important (family, friends) think I should use e-wallet services (0.826), people who influenced my decision, think I should use e-wallet services (0.822), and I think it is important that everyone in the society should use e-wallet (0.676).

5. Perceived Usefulness

In this factor has an eigenvalue of 1.230 and contribution percentage of 4.921%. This factor includes three item variables, which are: e-wallet can be used for various transaction services (0.785), e-wallet makes payments more efficient (0.520), and e-wallet can be used in anywhere and anytime (0.705).

6. Switching Costs

In this factor has an eigenvalue of 1.154 and contribution percentage of 4.616%. This factor included three item variables, which are: to switch the payment method (cash to non-cash) means that user must take time to find the information about e-wallet (0.445), switching to e-wallet will cost a new amount of expenditure (0.778), and switching a method with e-wallet will result an unexpected hassle for user (0.821).

The growth of four E-wallets company (Go-Pay, OVO, DANA, and LinkAja) will not survive without efforts to improve service quality and understand the user's preferences in using e-wallets. E-wallet's management should understand and could make a priority which factors are needed to be concerned in development business strategy. Thus, management will understand more what the user's preference to improve the company's performance.

In the process of analysis factors have been carried out, the paper has identified the factors that motivate people in using e-wallets in Indonesia, namely efficiency, personal engagement, security, subjective norms, perceived usefulness, and switching costs.

The paper also concluded from the new factor have been formed, there are several dominant variables of each factors, including: "top-up balances in e-wallet is easy to understand" found in Efficiency, "e-wallet excites user because of the feature" found in Personal Engagement, "every time user make payment, they must provide a password" found in Security, "people consider important (family and friends) think I should use e-wallet services" found in Subjective Norms, "e-wallet can be used for various transaction services" found in Perceived Usefulness, and "switching method with e-wallet will result in unexpected hassle for users" found in Switching Costs. But in overall, the most dominant factor in motivating the use of e-wallets in Indonesia is Efficiency factor which has the highest score of 7.532.

BIBLIOGRAPHY

- [1]. Armer, D.W., Barberis, J.N., & Buckley, R.P. (2012). The Evolution of Fintech: A New Post-Scrisis Paradigm. Retrieved on October 14th, 2019 from <https://hub.hku.hk/bitstream/10722/221450/1/Content.pdf>
- [2]. Damara, A. & Suyanto, A. (2019). Analysis of Factors Construct Indonesian's Society Using Electronic Money. *e-Proceeding of Management: Vol.6, No.2*. ISSN: 2355-9357
- [3]. Hawkins, D., & Mothersbaugh, D.L. (2016). Consumer Behavior Building Marketing Strategy. New York: McGrawHill Irwin.
- [4]. Hutami, L.T.H., & Septyarini, E. (2018). *Intensi Penggunaan Electronic Wallet Generasi Millennial pada Tiga StartUp "Unicorn" Indonesia Berdasarkan Modifikasi TAM*. *Journal of Management Vol.8 No.2, 136-145*.
- [6]. Jun, J., Cho, I., & Park, H. (2018). Factors Influencing Continue Use of Mobile Easy Payment Service: an empirical investigation. *Journal of Total Quality Management*, doi:10.1080/14783363.2018.1486550
- [6]. Rathore, H. (2016). Adoption of Digital Wallet by Consumer. *Journal of Management Research Vol. 8 No.1, 69-75*.
- [7]. Schiffman, L.G., & Kanuk L.L. (2000). Consumer Behavior. 5th edition. New Jersey: PrenticeHall Inc
- [8]. Varsha, R., & Thulasiram, M. (2016). Acceptance of E-wallet Services: A Study of Consumer Behavior. *Journal of Innovative Research in Management Studies (IJIRMS) Vol.1*. Retrieved on October 17th, 2019