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WHAT MAKES MOBILE APPS USERS LOYAL? CUSTOMER ENGAGEMENT AND CUSTOMER EQUITY ROLES

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ABSTRACT

Discussions regarding app loyalty will assist the company in developing existing features and creating new features. This study aims to determine customer equity mediation's role in customer engagement and loyalty. This study's novelty discusses factors that determine loyalty. Respondents in this study were the MyPertamina (application for cashless payment at Pertamina's public gas filling stations) users of 218 people registered in Indonesia. This research uses descriptive research design (cross-sectional) and Structural Equation Modeling (SEM). The research data were processed by using SmartPLS software with a partial least square technique to test the hypothesis. The empirical findings show that customer engagement positively affects customer equity, customer equity positively affects customer loyalty, and customer equity mediates the influence between customer engagement and customer loyalty.

Keywords: *Customer Engagement, Customer Equity, Customer Loyalty*

1. Introduction

Major social and economic changes in Indonesia are the impact of the Covid-19 pandemic (Budastra, 2020). The restricted human movement pushes people's activities toward digital. The Covid-19 pandemic has pushed people to take advantage of the digital economy, which has changed their lifestyles. The shifting of people's activities to the digital world is closely related to the growth of the digital economy sector. The surge in the use of economic digitization is evident from the increase in online applications by 443% and online retail by 400% (Sugiarto, 2021). Therefore, the use of digital in terms of retail applications can be one way out to increase productivity, especially for the industrial sectors, which are in decline due to the Covid-19 pandemic. One of them is the Oil and Gas industry (Widyastuti & Nugroho, 2020).

This study investigates how mobile apps' customer engagement influences customer equity (brand, value, and relationship equity) and customer loyalty (repurchase intention and positive e-WOM intention). To attain this outcome, the study relies on the customer perception and experience of a leading Indonesian oil and gas brand, PT Pertamina (Persero). This study focused on MyPertamina App users. Founded in 2016, MyPertamina is a digital financial service application from Pertamina and members of State-Owned Enterprises (BUMN) integrated with the LinkAja application. This application is used for non-cash payments for fuel oil at Pertamina's public fueling stations.

The digitalization successfully carried out by the largest Oil and Gas company in Indonesia, namely PT Pertamina (Persero), is a cashless payment for the MyPertamina application. This effort is a concrete step for PT Pertamina (Persero) in implementing transparency in carrying out assignments from the government and increasing the ease of buying products for the public. MyPertamina application was initially intended to be a loyalty program for users. However, during this pandemic, MyPertamina experienced a shift in function from an application to earn rewards to an application for making transactions, making cashless payments, obtaining information on the location of the nearest gas station, and information on entertainment facilities.

September 2021 data shows that the MyPertamina application has reached 18,221,655 downloads with a total Gross Merchandise Value (GMV) of up to Rp 2.634 billion. The growth of the MyPertamina application occurs because PT Pertamina (Persero) always provides the best innovation and service for consumers

(Elizabeth, 2021). A 250% increase influenced the growth of the MyPertamina application in new users from 2020 and transactions by users of 13.1 million transactions. MyPertamina is aspired to be one of the Super Apps and is targeted to reach 50 million users by 2024.

Success in digital transactions is driven by loyalty (Reichheld & Schefter, 2000). Lorenzo's research (2019) states that reward attractiveness has a significant effect on experiential benefits, experiential benefits have a positive effect on loyalty programs, and loyalty programs and brand loyalty positively affect word-of-mouth on the MyPertamina application. Other factors determine customer loyalty in applications besides the form of rewards received by customers after transactions, namely customer involvement in the application and customer equity from the aspect of value, brand, and relationship forming an assessment in using the application (Ho & Chung, 2020). Customer loyalty on the MyPertamina application is interesting to test with two new determining factors.

The correlation and reasoning between the conditions of the phenomenon that the need for high customer involvement and customer equity for customer loyalty to the application is the reason for the preparation of this paper. In addition, the object of research is also the customers of PT Pertamina (Persero), which is a brand of the oil and gas industry that is very attached to every Indonesian people's mind and uses MyPertamina application with a high challenge to change the customer's habit of paying cash to be cashless. Customers of PT Pertamina (Persero) who became the object of the study were not limited by age because researchers wanted to see the phenomenon of loyalty from various age groups. This research is expected to provide a descriptive description of the Mypertamina application user representatives and prove the theory of customer loyalty in the MyPertamina application.

This research contributes to customer engagement, customer loyalty, and customer equity literature. First, this research enriches (Ho & Chung, 2020), discussing customer engagement, customer equity, and repurchase intention in the automotive application. Second, customer loyalty in using mobile applications is mainly discussed in the non-commodity sector. This research gives another perspective on customer loyalty in mobile application commodity sectors. Furthermore, this research is done in the middle of the COVID-19 era. It enriches the study about the way customer loyalty uses mobile commodity applications.

2. Literature Review

2.1. Mobile apps customer loyalty

Customer loyalty can be interpreted as a condition when individuals feel a psychological bond with a brand or company. This condition further increases the possibility of loyalty to the brand or product of the company (Islam & Rahman, 2017). In Meilatinova's research (2021), the dimensions of customer loyalty were identified through word-of-mouth intention and repurchase intention. Gao and Huang's (2021) research on omnichannel integration conducted a study on customer engagement and relationship program receptiveness on customer loyalty. In other studies, customer equity influences customer loyalty (Kim, Kim, & Hwang, 2020).

2.2. Mobile apps customer engagement

Van Doorn et al. (2010) mention that customer engagement is the actualization of customer behavior that focuses on the brand outside the aspect of purchase motivation. Ho & Chung's (2020) research examines the role of customer engagement on customer equity and repurchase intention. An increase in customer engagement can affect customer equity, which affects customer loyalty. Customer engagement has a significant positive impact on loyalty in the online retail world in Indonesia (Zaid & Patwayati, 2021). The application of customer engagement can be judged from the pleasure, interest, and ease of using the application. Research by Gao and Huang (2021) conducted a study on the role of customer engagement and relationship program receptiveness on customer loyalty, showing that psychological involvement and consumer behavior can encourage the acquisition of customer loyalty.

H1: Customer engagement has a significant and positive effect on customer equity

2.3. Customer equity

Customer equity is defined as the customer lifetime value of current and future consumers, which is seen from the characteristics of the size of the foresight. Future insight measures will help companies exercise control over their marketing strategies to avoid bottlenecks in the short term (Matsuoka, 2021). Another study conducted by Kim, Kim, & Hwang (2020) used the dimensions of value equity, brand equity, and relationship equity developed by Rust, Lemon, & Zeithaml (2004).

In Cambra-Fierro, Gao, Polo, and Sese's research (2019), it is proven that customer equity has a role in positive customers. This result is in line with the aspect of word-of-mouth intention, which encourages customers to spread positive information (positive e-WOM intention). Customer equity also supports customer

engagement in bridging the influence on customer loyalty. Research by Ho & Chung (2020) proves the role of customer equity as a mediator of the influence of customer engagement on repurchase intention.
H2: Customer equity has a significant and positive effect on customer loyalty
H3: Customer equity as mediator of influence between customer engagement on customer loyalty

3. Research Method

3.1 Research Design

The paper is prepared below (Fig.1) begins with the theoretical history and hypotheses development, then presents the research methodology and results. The conclusions and implications are provided next. The limitations and directions for future research are discussed in the final section.

The population is the selected unit and represents the traits of interest in a more significant collection of cases (Neuman, 2013). MyPertamina application users registered in the territory of Indonesia are the population in this study. There are two types of users using the MyPertamina application: active users and passive users. The products purchased by MyPertamina application users also vary according to product availability at distribution agencies, namely types of Fuel Oil (BBM), Liquefied Petroleum Gas (LPG), Lubricants, and Refrigerants. The scope of this research is also the population in the industrial scope, so it is not limited to only one customer.

A sample is a small group of cases selected by the researcher that represents the population. The data analyzed in a detailed and correct sample can represent the population results. For this reason, sampling procedures must be selected and used appropriately in quantitative research (Neuman, 2013). The sample of this research is active users who are customers and the core of the MyPertamina application. The minimum number of samples in this study was 90 people. This figure reduces bias when the data processing is tested using the Structural Equation Model (SEM) method. In Hair, Black, Babin, & Anderson (2014), the recommended number of samples is five times the measured indicator.

3.2. Variables and measures

This study uses six-point Likert-scale survey research (1 = strongly disagree; 6 = strongly agree) to examine the underlying measures of the proposed constructs. Determination of the number of research samples refers to the guidelines written by Hair, Black, Babin, & Anderson (2014). The latent variables tested were three variables with more than two indicators. For this reason, the ideal number of respondents is 100-150 respondents. The calculation approach uses a second-order construct. There are two variables in the study that have dimensions (customer equity and customer loyalty variables).

This study has an instrument consisting of a customer engagement variable with 13 indicators and a customer equity variable with three dimensions consisting of 15 indicators. The customer loyalty variable consists of two dimensions with eight indicators. The number of research indicators is 18, so when multiplied by five, the minimum number of respondents is 90. Questionnaires will be distributed to approximately 150 respondents. The minimum expectation is that as many as 75% of respondents provide complete and appropriate feedback.

This study uses descriptive analysis consisting of the demographic characteristics of the respondents, including gender, duration of use, position, customer name, an education level (Malhotra, 2010). This study uses respondents' demographic characteristics, including gender, domicile, age, last education, monthly expenses, the average number of transactions per month, and duration of use of the MyPertamina application. Then, the Structural Equation Model (SEM) method with software SmartPLS to analyze hypotheses, validity, and reliability.

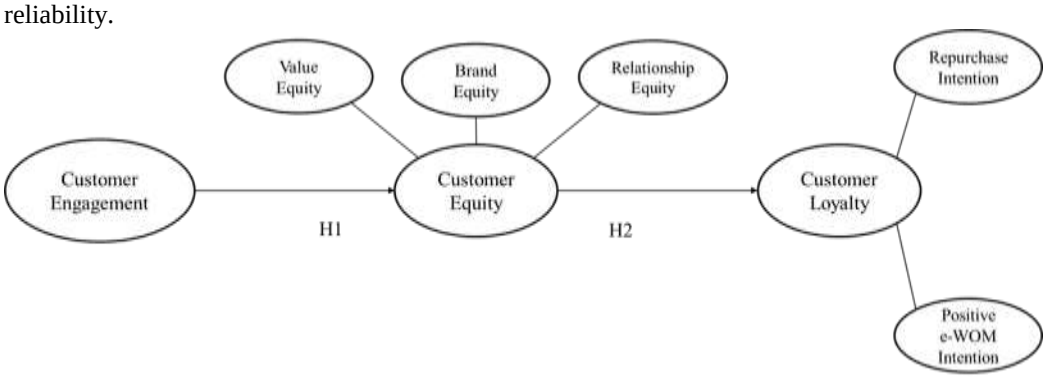

Figure 1. Research framework
(Source: Ho & Chung, 2021; Meilatinova, 2021)

4. Results and Discussion

The questionnaire was distributed online in March-May 2022 and resulted in 290 samples in this study. The total of questionnaires that passed the control statement test was 218 respondents. The responses were then tested for validity and reliability using SmartPLS software. Table 1 indicates the sample characteristics, Table 2 indicates all constructs proposed in this research, Table 3 indicates constructs correlation and discriminant validity, and Table 4 indicates the result of hypothesis testing. As presented in Table 2, constructs have resulted in outer loading values ranging from 0.641 – to 0.897. Meanwhile, the indicators with the outer loading of 0.4 to 0.7 may also be retained (Hair et al., 2014). The Cronbach's alpha of constructs shows values above 0.9 and the average variance extracted (AVE) values higher than 0.5. Table 3 shows the comparison of the larger AVE root value to the correlation between constructs with other constructs. All variable items have passed the validity test from the analysis results, so they are declared valid and reliable and then can be analyzed further.

Table 1. Sample Characteristics

Sample Characteristics	n	%
Gender		
Male	138	63.3
Female	80	36.7
Origin		
Jabodetabek Area	74	34
Non-Jabodetabek Area	144	66
Age		
18 – 23	76	34.9
24 – 31	84	38.5
32 – 38	21	9.6
39 – 45	14	6.4
Above 45	23	10.6
Education		
High School	70	32.1
Diploma	8	3.6
Bachelor	110	50.5
Master	29	13.3
Doctor	1	0.5
Monthly Expense		
Under IDR 1,000,000	50	22.9
IDR 1,000,000 – 5,000,000	91	41.7
IDR 5,000,001 – 10,000,000	55	25.3
Above IDR 10,000,000	22	10.1
Average Monthly Transaction		
1 – 3	126	57.8
4 – 6	67	30.7
7 – 9	16	7.4
Above 9	9	4.1
Duration of use		
Less than 1 week	33	15.1
1 – 2 weeks	26	11.9
3 – 4 weeks	20	9.2
Above 4 weeks	139	63.8

Source: Primary data (2022)

Table 2. Validity & Reliability Test

Construct/Measures	Outer Loading	T-value	Cronbach's Alpha	AVE
Customer engagement				
CE1: Using the MyPertamina is fun	0.825	32.785		
CE2: Anything in the MyPertamina catches my attention	0.837	39.465		
CE3: The content displayed on the MyPertamina looks interesting	0.800	24.073		
CE4: MyPertamina allows me to share information with others	0.757	17.996		
CE5: MyPertamina allows me to have conversations or exchange opinions with other people	0.740	18.227		
CE6: It is very easy for me to express my opinion through the MyPertamina	0.768	19.769	0.951	0.630
CE7: I can usually get a quick response to every idea I post on the MyPertamina	0.727	16.369		
CE8: MyPertamina displays the latest information	0.820	26.842		
CE9: Using the MyPertamina is a very modern thing for me	0.739	14.077		
CE10: MyPertamina offers a service that suits my needs	0.818	28.255		
CE11: MyPertamina offers information that suits my needs	0.839	31.125		
CE12: I want to share information about a brand, product, or service from the MyPertamina to my friends	0.821	33.780		
CE13: I enjoy spending time exploring the content of the MyPertamina	0.819	30.577		
Customer equity				
VE1: MyPertamina allows me to increase my knowledge about a particular product or use of a product	0.813	25.363		
VE2: MyPertamina helps me solve problems related to using certain products	0.831	29.393		
VE3: MyPertamina helps improve my understanding of certain products	0.852	36.986		
VE4: MyPertamina Content provides me with product/service information that is relevant to my needs	0.833	32.298		
VE5: MyPertamina content helps me to make a good purchasing decision	0.816	25.040		
BE1: I admit Pertamina is a leading brand in the Oil and Gas industry	0.641	10.350		
BE2: I admit that Pertamina has a brand personality	0.708	15.593	0.947	0.577
BE3: I have a clear image of the type of customer who will buy Pertamina's products	0.757	20.226		
BE4: I know the characteristics of the Pertamina brand	0.798	22.201		
BE5: Pertamina is my preferred brand	0.697	14.197		
RE1: I can make friends with people who use the MyPertamina	0.680	14.977		
RE2: MyPertamina app helps me connect with other users	0.705	16.942		
RE3: I can expand my social network through participation in MyPertamina	0.725	16.890		
RE4: I can interact closely and intensively with other users of the MyPertamina	0.711	17.484		
RE5: I can help other users in using the MyPertamina	0.785	22.609		
Customer loyalty				
RI1: I intend to continue buying Pertamina products in the future	0.709	10.003		
RI2: I want to recommend Pertamina products to others, even though they are old customers	0.846	26.751		
RI3: I look forward to the launch of new products by Pertamina and related suppliers	0.811	18.008		
RI4: I want to get direct information about Pertamina's new products	0.847	28.048	0.943	0.718
PI1: I will encourage friends or others to use the MyPertamina	0.885	41.429		
PI2: I will recommend MyPertamina to people who ask for my advice	0.882	38.714		
PI3: I will say positive things about MyPertamina to others	0.888	52.528		
PI4: I will recommend MyPertamina to others	0.897	32.794		

Source: Primary data (2022)

Table 3. Construct Correlations and Discriminant Validity

Construct	Customer engagement	Customer equity	Customer loyalty
Customer engagement	0.794		
Customer equity	0.898	0.759	
Customer loyalty	0.740	0.812	0.847

Source: Primary data (2022)

As presented in Table 4, this study used structural equation modeling analysis to test the hypothesis. Hypothesis testing was carried out through a bootstrapping SmartPLS procedure. The bootstrapping procedure's evaluation was carried out with a t-test and a significance test with a p-value. Hypothesis accepted if T-statistics value is above 1.96 and significant when P-values are under 0.05. All hypotheses are accepted with a positive relationship between variables according to the values of STDEV.

Table 4. Hypotheses Test

Construct	STDEV	T statistics	P values
Customer engagement → customer equity (H1)	0.015	59.160	0.000
Customer equity → customer loyalty (H2)	0.110	6.905	0.000
Customer engagement → customer equity → customer loyalty (H3)	0.101	6.796	0.000

Source: Primary data (2022)

5. Conclusion and Implications

Our research examines customer engagement and customer equity to explain customer loyalty for mobile apps in an emerging market. Our study will show the importance of customer engagement in customer equity and customer loyalty. Main test results show sample characteristics, variables' validity, variables' reliability, and hypotheses testing. From the validity test results conducted on the customer engagement, customer equity, and customer loyalty variable, it is known that the outer loading value is more than 0.4. It can be concluded that all indicators are valid. From the reliability test results on all variables, all the variables tested had Cronbach's Alpha values > 0.6. This test shows that all the research instruments tested can be used to measure variables consistently.

Our study's findings add a new dimension, positive e-WOM intention (Meilatinova, 2020), to combine repurchase intention into customer loyalty variable in existing mobile apps literature (Ho & Chung, 2020). This new insight advances studies that only explore the effects of customer engagement, customer equity, and repurchase intention on customer loyalty. Our study reveals that customer engagement positively affects customer equity, customer equity positively affects customer loyalty, and customer equity mediates the influence between customer engagement and customer loyalty.

One way to measure the success of an application is how loyal application users are to the brand. When users are loyal to an app, they will be more attached. Loyal users regularly use the app, interact, and spread positivity to others. Increased loyal users can increase company revenue. Application user loyalty can be affected by rewards, benefits, and loyalty programs (Lorenzo, 2019). However, other important factors determine customer loyalty in applications besides the form of rewards received by customers after transactions, namely customer involvement in the application and customer equity from the aspect of value, brand, and relationship forming an assessment in using the application (Ho & Chung, 2020).

Our research has several limitations that need to be addressed by future research. Our study is mainly related to mobile app firms in Indonesia. Further research should consider firms' experience from other emerging markets on another continent outside Asia to capture different possible results. Then, our study adds a new dimension of loyalty. Further research should consider another dimension of loyalty based on current users' behavior.

References

Budastra, I. K. (2020). Socio-economics impact of covid-19 and potential programs for mitigation: a case study in lombok barat district. *Jurnal Agrimansion*, 48-57.

Cambra-Fierro, J., Gao, L. X., Polo, I. M., & Sese, F. J. (2019). What drives consumers' active participation in the online channel? Customer equity, experience quality, and relationship proneness. *Electronic Commerce Research and Applications*, 35, 100855.

Elizabeth, P. P. (2021, October 28). *Peran MyPertamina Dorong Transaksi Digital Pertamina*. Retrieved from https://www.marketeers.com/peran-mypertamina-dorong-transaksi-digital-pertamina/

Gao, M., & Huang, L. (2021). Quality of channel integration and customer loyalty in omnichannel retailing: The mediating role of customer engagement and relationship program receptiveness. *Journal of Retailing and Consumer Services, 63*, 102688.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). Multivariate Data Analysis. Hampshire: Cengage Learning.

Hair, J. F., Hult, G.T.M., Ringle, C., & Sarstedt, M. (2014). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). Thousand Oaks: Sage.

Ho, M. H.-W., & Chung, H. F. (2020). Customer engagement, customer equity and repurchase intention in mobile apps. *Journal of Business Research, 121*, 13-21.

Islam, J. U., & Rahman, Z. (2017). The impact of online brand community characteristics on customer engagement: An application of Stimulus-Organism-Response paradigm. *Telematics and Informatics, 34*(4), 96-109.

Kim, W., Kim, H., & Hwang, J. (2020). Sustainable growth for the self-employed in the retail industry based on customer equity, customer satisfaction, and loyalty. *Journal of Retailing and Consumer Services, 53*, 101963.

Lorenzo, M. (2019, July 15). *Analisis Faktor-Faktor yang Mempengaruhi Program Loyalty dan Brand Loyalty dan Implikasinya pada Word of Mouth : Telaah pada Pengguna Aplikasi MyPertamina.* Retrieved from UMN Knowledge Center: https://kc.umn.ac.id/10060/

Malhotra, N. K. (2010). Marketing Research 6th Edition An Applied Orientation. New Jersey: Pearson Education.

Matsuoka, K. (2021). A framework for variance analysis of customer equity based on a Markov chain model. *Journal of Business Research, 129*, 57-69.

Meilatinova, N. (2021). Social commerce: Factors affecting customer repurchase and word-of-mouth intentions. *International Journal of Information Management, 57*, 102300.

Neuman, W. L. (2013). Social Research Methods 7th Edition Qualitative and Quantitative Approaches. New Jersey: Pearson Education.

Reichheld, F., & Schefter, F. (2000, July-August). E-loyalty: Your secret weapon on the web. 105-113.

Rust, R. T., Lemon, K. N., & Zeithaml, V. A. (2004). Return on marketing: Using customer equity to focus marketing strategy. *Journal of Marketing, 68*, 109-127.

Sugiarto, E. C. (2021, July 26). *Akselerasi Transformasi Digital dan Pemulihan Ekonomi*. Retrieved from https://www.setneg.go.id/baca/index/akselerasi_transformasi_digital_dan_pemulihan_ekonomi

van Doorn, J., Lemon, K. N., Mittal, V., Nass, S., Pick, D., Pirner, P., & Verhoef, P. C. (2010). Customer Engagement Behavior: Theoretical Foundations and Research Directions. *Journal of Service Research*, 253-266.

Widyastuti, N. L., & Nugroho, H. (2020). Dampak Covid-19 terhadap Industri Minyak dan Gas Bumi: Rekomendasi Kebijakan untuk Indonesia. *The Indonesian Journal of Development Planning*, 166-176.

Zaid, S., & Patwayati, P. (2021). Impact of Customer Experience and Customer Engagement on Satisfaction and Loyalty: A Case Study in Indonesia. *Journal of Asian Finance, Economics and Business*, 983-992.