Building a Research Model for Mobile Prepaid Phone Cards: An Evidence of Telkomsel in Bengkulu

Luis Marnisah, Nor'Ashikin Ali, Fakhry Zamzam, Herri Setiawan, Samsurizal

Abstract: The growth of telecommunication companies has led to competition in getting the customers to buy their data plan through the purchase of prepaid card. However, little is known on the factors that influence mobile phone users' decision to purchase prepaid card. This study aims to examine the effects of product quality, promotional strategy, and price on the intention to purchase prepaid car, which can be used by prepaid card providers to attract more users in purchasing prepaid card for their mobile phones. An online survey method was used to collect data, and 123 questionnaires were properly completed and submitted by mobile phone users in the Telkomsel mobile telecommunication market. Data was tested using a PLS-based Structural Equation Modeling (SEM). The results of this study indicate that there is a positive and significant effect on product quality, promotional strategy and price on purchase intention.

Keywords: Product Quality, Promotional Strategy, Price, Purchase Intention

I. INTRODUCTION

Mobile phones are now becoming the fastest spreading technology and have become an integral part of our lives. The growing number of mobile phone users have led to the existence of standardized and widely accepted mobile phone payment procedures. A consumer in virtually every modern economy has a number of choices when it comes to the payment instrument used to pay for a transaction. Postpaid payment is one common way to charge mobile payments, which is to add them to a monthly mobile phone bill. However, prepaid technology was introduced by mobile operators, which revolutionalised mobile markets in developing countries. Prepaid card strategy is payment for service that is made before use. Prepaid strategy has been used in China and Europe [27]. In China, mobile operators adopted a prepaid strategy to solve problems of unpaid bills [27]. Furthermore, prepaid strategy is another option of payment that suits to the economic situation of many mobile users. In the study conducted by [15] on US consumers of payment instructions, it was found that the less wealthy consumers use prepaid cards more than wealthy consumers.

In China, people use the prepaid method in order to control their spending and hence prevent future credit problems (27). With prepaid card strategy, consumers are more conscious of their spending.

In developing country like Indonesia where mobile phone services are still considered luxury for some population, prepaid cards are still the preferred payment method for mobile services.   In 2008, around 40% of the Indonesian population uses mostly prepaid mobile phones—this number represents a 30% increase in mobile phone subscriptions from 2007 [28]. It was reported that prepaid plans are the overwhelmingly predominant means of obtaining a mobile connection, used by up to 98 per cent of subscribers [4]. This indicates that mobile phone users rely heavily on prepaid card services. Prepaid card service is one of the marketing strategies for mobile operators to attract their potential customers. It was reported that the introduction of prepaid cards has led to a rapid spread of mobile phones in the developing countries [19]. Despite high demand of mobile phone prepaid cards, mobile operators also face lost revenue. due to increasing number of competing operators. A survey conducted [15] conducted a survey on use of payment instructions on US customers and found that prepaid cards are least preferred use of payment instructions as compared to other types of payments (credit cards, bank deduction, etc). They suggest that future research on adoption issues of prepaid cards is interesting and potentially important. To response to their call, this paper intends to examine factors that influence consumer decision to purchase prepaid cards. This study seeks to understand consumers' behavior in their use of mobile prepaid card services by examining the factors that influence Indonesian users to purchase mobile phone prepaid cards. This study focuses on Simpati-Telkomsel prepaid card users as the respondents for the survey, which later can be generalized to other mobile operators.   Telkomsel is the leading telecommunication operator in Indonesia. This study is important for mobile operators especially Telkomsel to improve their mobile phone prepaid services, which can be good marketing strategies to attract mobile phone users. Specifically, this study aims to answer the following questions:

1.   What is the effect of product quality on the decision to purchase Simpati-Telkomsel prepaid card?
2.   What is the effect of promotional strategy to the decision to purchase Simpati-Telkomsel prepaid card?

Luis Marnisah, Universitas Indo Global Mandir, Jln. Jendral Sudirman KM. 4 No. 629 20 Ilir Kec. Ilir Timur I, Palembang Indonesia
Nor'Ashikin Ali, Universiti Tenaga Malaysia, Jalan Ikram-Uniten, 43000 Kajang, Selangor, Malaysia
Fakhry Zamzam, Universitas Indo Global Mandiri, Jln. Jendral Sudirman KM. 4 No. 629 20 Ilir Kec. Ilir Timur I, Palembang Indonesia
Herri Setiawan, Universitas Indo Global Mandiri, Jln. Jendral Sudirman KM. 4 No. 629 20 Ilir Kec. Ilir Timur I, Palembang Indonesia
Samsurizal, Telkomsel

3. What is the effect of the price on the decision to purchase Simpati-Telkomsel prepaid card?

II. CONCEPTUAL MODEL

The aim of this study is to gain understanding on the factors that influence consumers' decision to purchase mobile phone prepaid cards. For the purpose of this study, the factors to be examined are product quality, promotional strategy and product price.

Purchase intention

Consumer behavior is defined as behavior that consumers find, purchase, use and evaluation of various products and services that meet their needs [21]. The purchase intention is a necessary condition to direct the real purchase behavior and is influenced by various incentives. In this study, we discuss the influential factors of prepayment card purchase intention from three aspects: perceived value, price and promotion programs.

Product quality

In the study by [8] on the customer switching behavior in mobile phone service, product quality was reported to be the utmost important to be focused by mobile phone service operators. The failure in providing good quality products may result in customers to switch to other service providers. [12] emphasized the importance of product quality in positioning and selling products. Product quality is measured by performance, features, reliability, conformance, durability, serviceability, aesthetic, and perceived quality.

There are contradicted findings on the influence of perceived quality on purchase intentions. In some studies, perceived quality has been found to have a positive direct effect on purchase intentions [25];[8]; [21]. Similarly, in this study, it is perceived that product quality may influence the intention of customers to purchase prepaid card. Consequently, it is proposed that when product quality is good, consumers' intention to purchase prepaid card services is higher. Therefore, it is hypothesized that:

H_1 : Product quality has a significant effect on the intention to purchase the prepaid card.

Promotion Strategy

Promotion is used by companies to communicate with consumers about their products [1]. Promotion is an effective marketing strategy for introducing new products or making new customers, as well as retaining loyal customers. Promotion is used by companies to influence customers for a company's goods or services.

There are five elements of promotion mix including advertising, sales promotion, personal selling, public relations, and direct marketing [8]. Promotional strategy is designed to motivate or remind target customers for a product or service. Promotion activities can also be used to understand consumers' behaviour towards buying their products. To motivate consumers' purchase intention of mobile phone prepaid cards, promotion is considered as an important influential factor. Therefore, this research proposes the following hypothesis concerning purchase intention of mobile phone prepaid cards:

H_2: Promotional strategy has a significant effect on the intention to purchase the prepaid card.

Price

"Price is the amount of money charged for a product or service, or the sum of the values that customers exchange for the benefits of having or using the product or service." [16]

Price is needed to obtain benefits and felt after the rights of ownership was obtained. Hence, at a certain price level, if the benefits perceived by consumers has increased, the value will increase as well. On the other hand, the value of goods and services will increase with the rise in benefits. In determining the value to meet the needs, consumers compare the ability of an item and service with the ability of substitution goods and services.

A company first sets the price when they develop a new product, introduce to a new distribution or area, and when the company will perform a new work contract. The company must decide the position of its products based on quality and price because this will show consumers' demand and perceptions of the value of goods and services. Price was found to have a positive relationship with purchase intention [3]. If consumers perceive that they cannot afford the product at a higher price, they may choose not to purchase them even though they have positive attitudes toward buying the products [30].

Framework
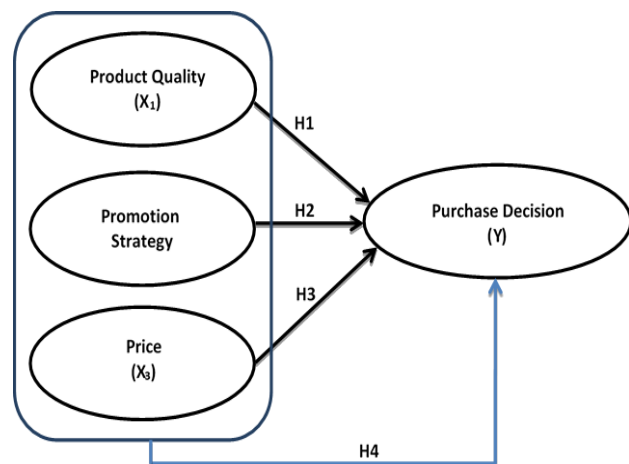
III. METHODOLOGY

A survey with items measuring all of the proposed constructs and demographic questions was developed. All items used a 5-point Likert scale, ranging from "1 = strongly disagree" to "5 = strongly agree". The items were all adopted from the literature with minor changes to suit the context of this study.

The location of research study was in Palembang. The population in this research study was people who used prepaid cards determined using Slovin formula. There were 123 people used as samples who were gained through questionnaires.

Data Analysis

The research study used causality or relation nship or influences to test the proposed hypotheses. The data was processed using SPSS 24 software *(Structural program for social science)* and SPSS AMOS 24 *(Analysis of Moment Structure)*. The analysis for the relationship of variables was conducted using Structural Equation Method as shown in Table I.

Table. I Table of analysis method

Purpose	Data
H-1: Effect of X_1 on Y	*Structural Equation Model*
H-2: Effect of X_2 on Y	*Structural Equation Model*
H-3: Effect of X_3 on Y	*Structural Equation Model*
H-4: Effect of X1, X_2, and X_3, together on Y	*Structural Equation Model*

The researcher used the SEM analysis method because SEM could identify the dimensions of a construct and at the same time was able to measure the influence or degree of relations between factors whose dimensions were identified [5].

Validity test
Validity test Product quality

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
VKP1	13.46	2.464	.816	.891
VKP2	13.54	2.348	.826	.886
VKP3	13.54	2.349	.859	.875
VKP4	13.58	2.180	.759	.916

Validity test Promotion Strategy

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
VST1	12.71	4.028	.669	.810
VST2	12.54	4.299	.622	.829
VST3	12.73	3.723	.724	.786
VST4	12.67	3.975	.717	.789

Validity test Price Strategy

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
VH1	12.80	3.798	.644	.831
VH2	12.47	4.595	.702	.797
VH3	12.60	3.930	.708	.790
VH4	12.44	4.707	.734	.792

Validity test Buying decision

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
KP1	8.63	1.597	.703	.666
KP2	8.48	2.039	.691	.734
KP3	8.86	1.317	.631	.792

Validity test on all indicators has a total corrected item value correlation of each statement item shows more than 0.176 (r_{tabel}), this means that each item is valid.

Reliability Test

Determination of a data instrument that is realiable is to compare the value items resulting from output processing *Statistical Product and Service Solutions* (SPSS) versi 24 that is alpha value with value *alpha if item deleted* each attribute where the alpha value for each variable must not be greater than the alpha comparison.

Reliability Test Product quality

Reliability Statistics	
Cronbach's Alpha	N of Items
.916	4

Reliability testing has value *alpha if item deleted* each factor of analysis is smaller than the comparative alpha value of 0.916, so that all items of the analysis factor can be declared reliable

Reliability Test Promotion Strategy

Reliability Statistics	
Cronbach's Alpha	N of Items
.846	4

Reliability testing has value *alpha if item deleted* each factor of analysis is smaller than the comparative alpha value of 0.846, so that all items of the analysis factor can be declared reliable

Reliability test Price Strategy

| Reliability Statistics	
Cronbach's Alpha	N of Items
.843	4

Reliability testing has value *alpha if item deleted* each factor of analysis is smaller than the comparative alpha value of 0.843, so that all items of the analysis factor can be declared reliable

Reliability test Buying decision

Reliability Statistics	
Cronbach's Alpha	N of Items
.800	3

Reliability testing has value *alpha if item deleted* each factor of analysis is smaller than the comparative alpha value of 0.800, so that all items of the analysis factor can be declared reliable

IV. RESULT AND DISCUSSION

Model Structure Testing

After going through the overall-model measurement process and producing a fit model, then the testing continued into the structural model phase. The output structure of the initial stage model had not yet obtained overall model fit as shown in Figure 1.
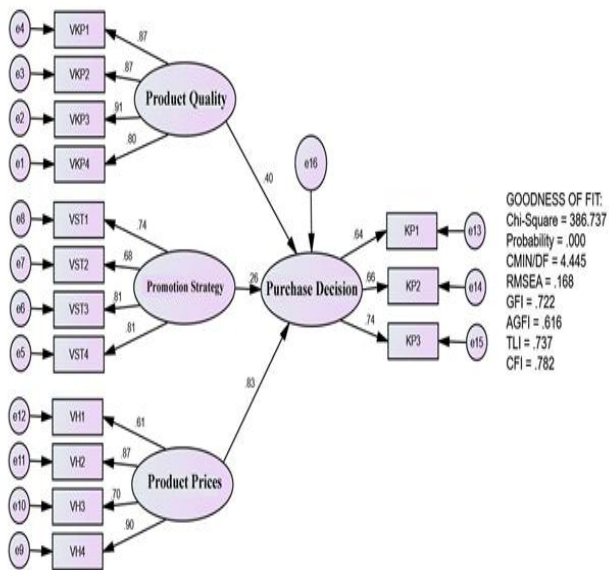
According to above, chi square produces a value of 386.737 with a probability of 0.000 5 0.05, and the RMSEA value of 0.168 ≥ 0.08, the GFI value of 0.722 ≤ 0.90, the AGFI value of 0.616 ≤ 0.90, the CMIN/DF value of 4.445 ≥ 2, the TLI value of 0.737 ≤ 0.95, and the CFI value of 0.782 ≤ 0.95. This indicated that the model conformity test could be well received, so that the structure of modeling analysis could be applied. From the path analysis in Figure 4.5, the structural model is obtained as follows:

$Y_1 = α1 - 0.40$ product quality $+ 0.26$ promotion strategy $+ 0.83$ product price.

Based on the above analysis, product prices were the variables that played a dominant role in forming purchasing satisfaction variables.

V. CONCLUSION

Based on the results of the analysis and discussion in the previous chapter, it proved that there was an influence of product quality, promotion strategy, and price on the decision to purchase Simpati-Telkomsel prepaid cards based on the following factors:

1) The quality of Simpati-Telkomsel prepaid-card products was in a good category. It had a meaning the quality of the Simpati-Telkomsel prepaid card and the quality of the packaging from the Simpati Telkomsel prepaid card met with their expectations.

2) Promotions for Simpati-Telkomsel prepaid cards were considered attractive, meaning the promotion indicators such as TV advertising and sales promotions carried out so far, according to respondents, had been interesting and easy to understand.

3) The price of Simpati-Telkomsel prepaid cards was in the affordable category, which the price indicator, in this case, the price of the Simpati-Telkomsel prepaid card, according to respondents or consumers, had been affordable and able to compete with other products.

4) The decision to buy Simpati-Telkomsel prepaid cards was in the high category. This indicated the consumers often bought Simpati-Telkomsel prepaid card if they wanted to buy a new card. Besides, the Simpati Telkomsel prepaid card was the main consideration and the top priority choice of consumers. In addition, they felt to receive protection after using the Simpati-Telkomsel prepaid card and they could find information and interest in buying Simpati-Telkomsel prepaid card.

5) Product quality variables had an influence on purchase decisions with a Critical Ratio (CR) value of 4.697, greater than 1.98 with a probability of 0.00, smaller than 0.05. It presented the great influence of product quality. This proved the product quality had a strong relationship with purchasing decisions.

6) Price variables had an influence on purchasing decisions with a Critical Ratio (CR) value of 7.127, greater than 1.98 with a probability of 0.000 or less than 0.05, which the influence of the product quality was great. This also proved that the price had a strong relationship with the purchase decision.

7) Promotional variables had an influence on purchasing decisions with a Critical Ratio (CR) value of 3.231, greater than 1.98 with a probability of 0.00, less than 0.05. This indicated the great effect of product quality. This also proved the promotion had a very strong relationship with the purchase decision.

8) Product quality, promotion strategy, and the price had a significant and positive effect on the decision to purchase the Simpati-Telkomsel prepaid cards. The results of the study on structural model coefficients and their relation to the research hypothesis are presented in the following structural equation: Purchase decision (0.68) = product quality (0.40) + promotion strategy 0.26) + price (0.83) + e (32). Hence, H1 was accepted and the equation reflected an equal influence between product quality, marketing strategy, and price on the decision to purchase Simpati-Telkomsel prepaid cards. Furthermore, with the value of the influence of 0.68, meaning the influence of the purchasing decision by product quality, marketing strategy, and the price was equal to 0.68 or 68%.

Managerial Implication

The implications of the results of this research analysis are as follows:

1) The results of this study were expected to be the input for Telkomsel, that the product quality, promotion strategies, and prices were the factors influencing the decision to purchase Simpati-Telkomsel prepaid cards for

the community in Bengkulu City and Indonesia in general.

2) It educated the companies to compete in a healthy manner to attract consumer interest by adjusting the condition of products to consumer needs such as complementing products with diverse features, relatively cheaper tariffs, and providing satisfactory services. Therefore, it was expected to be in accordance with the factors considered by consumers in making purchase decisions.

3) It developed the companies to maintain consumer loyalty by maintaining product quality, promotion strategies, and prices that could satisfy the customers.

Suggestion

Based on existing conclusions, the researcher provides suggestions as follows:

1) The price of the Simpati-Telkomsel prepaid card must be constantly adjusted to the quality of the product. For this reason, the efforts to maintain these conditions must always be implemented routinely. In determining the right price and its application accordingly, the company should look in terms of the services quality and the product quality, so it can affect the number of consumer purchase-decisions. In this case, the company should consider the price of the Simpati-Telkomsel prepaid card with the people's purchasing power and the quality of the product itself, which will later affect the purchase decision. Hence, it is expected that consumer purchase-decisions are well maintained.

2) Based on the results of the study, the promotion variable had a strong influence on the purchasing decision variable. To maintain consumer purchase-decision on the promotion of the Simpati-Telkomsel prepaid card, the company should improve promotion aspects, such as clarity about the information delivered, the attractiveness of the advertising, and the frequency of promotions. This can be conducted by starting to display advertisements about the products on television since it has a significant effect on the customers, and always updating the display of advertisements on the company's web.

REFERENCES

1. Alvarez, B. A. & Casielles, R. V. (2005). Consumer evaluations of sales promotion: The effect on brand choice. European Journal of Marketing, 39(1/2), 54-70.
2. Amoroso, D. L., & Magnier-Watanabe, R. (2012). Building a research model for mobile wallet consumer adoption: the case of mobile Suica in Japan. *Journal of theoretical and applied electronic commerce research*, *7*(1), 94-110..
3. Ansar, N. (2013). Impact of green marketing on consumer purchase intention. *Mediterranean Journal of Social Sciences*, *4*(11), 650.
4. Azali, K. (2016). Cashless in Indonesia: gelling mobile e-frictions?. *Journal of Southeast Asian Economies*, 364-386.
5. Arbuckle, J. L. (1996). Full information estimation in the presence of incomplete data. *Advanced structural equation modeling: Issues and techniques*
6. Bahri, S., & Zamzam, F. (2014). Model penelitian kuantitatif berbasis SEM-Amos. *Yogyakarta: Deepublish*
7. Bentler, P. M., & Chou, C. P. (1987). Practical issues in structural modeling. *Sociological Methods & Research*
8. Chinomona, R., Okoumba, L., & Pooe, D. (2013). The impact of product quality on perceived value, trust and students' intention to purchase electronic gadgets. *Mediterranean Journal of Social Sciences*, *4*(14), 463.
9. Cooper, Donald R dan Emory, C William, 1999. *Metode Penelitian Bisnis*, Jakarta : Erlangga.
10. Cravens.W.David (1994) *Pemasaran Strategis*, edisi ke 2 Erlangga
11. Delafrooz, N., Paim, L. H., & Khatibi, A. (2011). Understanding consumers internet purchase intention in Malaysia. *African Journal of Business Management*, *5*(7), 2837-2846.Etim, A. S. (2014). Mobile banking and mobile money adoption for financial inclusion. *Research in Business and Economics Journal*, *9*, 1.
12. Garvin, D. A. (1984). Product quality: An important strategic weapon. *Business horizons*, *27*(3), 40-43.
13. Gujarati N.Damodar (2003) Basic Econometrics, Fourth Edition, McGraw-Hill
14. Gupta, S. (2013). The mobile banking and payment revolution. *European Financial Review*, *2*(1), 3-6.
15. Koulayev, S., Rysman, M., Schuh, S., & Stavins, J. (2016). Explaining adoption and use of payment instruments by US consumers. *The RAND Journal of Economics*, *47*(2), 293-325.
16. Kotler, P. *Manajemen Pemasaran, Analisis, Perencanaan, Implikasi dan kontrol*, Alih Bahasa Hendra Teguh dan Romly A. Rusli, Jilid 1, Jakarta : Prehalindo, 2000.
17. Liao, S. L., Shen, Y. C., & Chu, C. H. (2009). The effects of sales promotion strategy, product appeal and consumer traits on reminder impulse buying behaviour. *International Journal of Consumer Studies*, *33*(3), 274-284.
18. Nasir.M (2009) Metode Penelitian, Ghalia Indonesia
19. Orozco, M., Jacob, K., & Tescher, J. (2007). Card-based remittances: a closer look at supply and demand. *The Center for Financial Services Innovation*.
20. Research Project Corp, Jakarta, 20 August. Available: http://www.trpc.com.hk/bank/presfiles/ ifc_jakarta_0808.pdf (accessed March 2009)
21. Saleem, A., Ghafar, A., Ibrahim, M., Yousuf, M., & Ahmed, N. (2015). Product perceived quality and purchase intention with consumer satisfaction. *Global journal of management and business research*.
22. Titiheruw, I. S., & Atje, R. (2009). *Payment system in Indonesia: Recent developments and policy issues* (No. 149). ADBI working paper series.
23. Tjiptono,F., Chandra,G., & Adriana, D. Pemasaran strategik. *Yogyakarta: Andi Offset*. 2008.
24. Tjiptono, F. *Manajemen Jasa*, Edisi Kedua, Yogyakarta : Andi Offset, 2008
25. Tsiotsou, R. (2006). The role of perceived product quality and overall satisfaction on purchase intentions. *International journal of consumer studies*, *30*(2), 207-217.
26. Warokka, A., & Gallato, C. (2012). Do customer dissatisfaction and variety seeking really affect the product brand switching? A lesson from the biggest Southeast Asia mobile telecommunication market. *Journal of Marketing Research & Case Studies*, *2012*, 1.
27. Wang X, Shao J, Steenbergen F V, Zhang Q (2017), Implementing the Prepaid Smart Meter System for Irrigated Groundwater Production in Northern China: Status and Problems
28. Ure, J. 2008. M-Banking and M-Payments in Asia Pacific. Presentation delivered to the International Finance Corporation, Telecommunication
29. Ferdinand, A. T. A, 2000,". Structural Equation Modelling Dalam Penelitian Manajemen.
30. Yeon Kim, H., & Chung, J. E. (2011). Consumer purchase intention for organic personal care products. *Journal of consumer Marketing*, *28*(1), 40-47.