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The Influence of User Experience towards Switching Barrier of GSM Operators in Bandung

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Abstract:: ***GSM operators are dominant players inIndonesian cellular telecommunicationindustry. However, these players are experiencing high churn rate, delineates that they experience difficulty to keep customers.User experience influences customer decision to induce switching cost and perception when viable competing exist in the market, therefore, contribute in creating switching barriers to keep customers. Thus, this study intends to investigate the relation between elements of user experience (functionality, social, monetary, trustworthiness, perceived service quality) and switching barrier elements (switching cost, alternative attractiveness).The research is quantitative study. SEM-PLS is used to analyze the primary data acquired through questionnaire. The results show that among five elements of user experience, two elements which are social and trustworthiness are proven to have positive and significant influence towards switching cost which is one of the element of switching barriers. Furthermore, functionality and monetary are proven to have significant influence towards alternative attractiveness as one of the element of switching barriers.***

Keyword: User Experience, Switching Barriers, Switching Cost, Alternative Attractiveness

1. Introduction

As of today, the number of mobile subscribers in Indonesia has reached 326.3 million subscribers. With the penetration rate of 126%, the number surpass the actual total population number of 259.1 million which means that on average each users are using 1.7 active sim cards[13]. In practice, one user can holds 2 or 3 active sim cards at the same time, the reason behind this behavior is that users want to have the fastest and efficient access in communication [25]. In fact, Indonesia cellular telecommunication industry has been going into a new phase, where the competition among the operators is in high intensity due to market saturation.

GSM operators are the dominant players in the industry. However, they are competing in celullar industry that has become very sharp, marked by there's massive customers' acquisition in the recent years, remark that only the strong one can survive. Furthermore, the existing operators are facing difficulty in developing their business in a very dinamic market, where the consumer is easy to switch to other operator. In addition, the consumer has become more selective in choosing the product or service being used. Promotion and advertisement have no longer become an effective marketing tool especially for middle-up segment when in this segment, consumer not only consider price but also the quality of product or service being delivered.

The development of consumer behaviour today is very dynamic which is influenced by the interaction between the indivudual and the surrounding community and in line with technological environment. Today customers are cleverer, price-conscious, unforgiving, and have many options, therefore, become harder to be satisfied[18]. Hence, the challenge is not to satisfy the customers but to generate happy and loyal customers to retain the customers.

Failure in retaining the customers can make the customers move to other operator and increase the churn rate. In fact, operators do experience high churn rate around 20% per year, a really big number compare to developed country like America that has only around 2-3% of churn rate per year. Not only that, ARPU (Average Revenue per User) is also decreased compare to few last year. Also, the customer growth shows instability of growth along the year from 2012 to 2016.

The lower the market growth and the intense the competition in telecommunication sector make companies tend to focus on retaining the existing customer. A survey also shows that the cost to acquire new customers can cost up to 30 times as it does to keep the existing ones[19]. Moreover, 65% percent of company's revenue comes from the existing one as the existing customers also has big potenial to use other service line. Hence, focusing the marketing effort with the existing customers would be a wise option[17]. Therefore, operators should think about the strategy to keep their existing customers from moving to other operator.

In order to keep their customers from moving to other operator, mobile operators need to remain competitive by providing end users with an immense and satisfying experience[30]. User experience refers to the experience that a person got from interaction with a system, product, or service. Further, the experience then will influence the perception of the system, product or service[1]. User experience is critical when it comes to customer's acquisition and retention. It is predicted that by 2020, user experience will become the key brand differentiator[2]. In which, good user experience becomes one of the most valuable and strong competitive advantage.

A good experience can refrain a user from switching to another provider. However, a negative experience may encourage a user to induce switching cost and move to other operator[8]. Furthermore, user experience influence the decision to switch when viable competing exist on the market[32]. Together, switching cost and alternative attractiveness influences the barrier that binding customers in a less than ideal relationship[27].

Based on the previous explanation, this study is intended to analyze user experience and its influencing factors as well as their contributions toward switching barrier.

2. Literature Study

2.1 User Experience

User experience is the impression left by a product, service, or system on its user. It is about how a user feel and what a user remember after the interaction. In summary, user experience consist of all aspect of the user's interaction with a product, service, or system[21]. User experience is not only about sophisticated interface, but also giving an experience through a device. Experience is a meaningful event with little knowledge gain[31].

From the definitions above, it can be inferred that user experience mainly come from how the user perceived and feel after usage. As the human psychology significantly influence the concept of user experience. It is very complex to design and predict. Elements of mobile telecommunication user experience consist of functionality, information architecture, content, design, user input, mobile context, usability, trustworthiness, feedback, help, social, and marketing[26]. Furthermore, trust, service quality, perceived value, functional, emotional, social, and monetary also possible to influence the experience felt by customers[4]. Hence, the relevance of these elements will change depend on the object. Thus, it is a vague concept in which researchers have different perspectives, it is unclear what makes a good user experience[7]. Therefore, metaanalysis is conducted to determine indicator which factors are the main indicators of user experience, in which, based on the theory and metaanalysis result, it suggest that factors such as Functionality, Social, Monetary, Trustworthiness, and Perceived Service Quality are elements of user experience.

Functionality
Functionality refers to the degree of a system operates according to the way it is structured and is expected to carry out the function as users wants [3]. The usefulness, maintainability, and reliability include in functionality [16].Internal aspect like functionality of a system can affect the whole system's usability. Functionality enhance the experience with a good operation, it includes interactivity and usability aspects[6].

Social
Social factor relate to how the use of the system able to create a sense of social participation, in which allow user interaction and facilitate sharing on existing social networks. Social related to how other people perception when a person using a product. When a user accept the product in their lives, it participates in their social interactions, it communicates part of their identity that either differentiate them from others or connect them to others through a sense of community means[12].

Trustworthiness
Trustworthiness refers to an estimate of thing's or people's worthiness of receiving trust from somebody else. Trustworthiness and trust is different concept with similar means. Trust is the connection which is a result that come from trustworthiness. In practice, the worthiness imply to someone's action or something's performance that rely a positive and favorable gesture towards the expectation and demands of a person. Trustworthiness is a moral value that usually considered as a kind of virtue [28].

Perceived Service Quality
Perceived service quality can be defined as the customer's judgement about a service's all over performance excellence. Perceived quality is different from the actual quality, it involves abstraction concept rather than the actual quality of the service's attribute, it is an assessment that sometime resemble attitude, and a judgment usually come from consumer's perception. Services are inconsistent as the performance differ from one producer to other, from a customer to other, and from day to other. Thus, the initial service value that a firm want to deliver may differ from the actual service that customer receives[5].

Monetary
Monetary refers to the costs that a customer should sacrifice to obtain a product or service. Price plays important role during value evaluation of the acquired product or service done by customers. Some consumers perceive value when the price is low meanwhile others perceive value when there's balance between price and quality. It differs from one customer to others. It relates to customer's sense of fairness. How good, service, knowledge or service which is useful or desirable to its recipient in a way that they are willing to sacrifice a fair price for exchange[29].

2.2 Switching Barriers

Switching barrier plays role that prevent customers from move to other operator. The higher the switching barrier imply the higher possibility of sustaining the current service provider. Hence, the customer retention rate is higher when switching barrier is high. As the switching barrier gets higher, the higher force that keep customer remain with his/her existing provider[15].In which if customer found switching barrier as troublesome, there's tendency of customer to stay with the current provider to avoid potential cost and loss, even when the customer is not satisfied.

Switching cost and alternative attractiveness make up the elements of switching barrier. In which, together, switching cost and alternative attractiveness affect the barrier that binding customers in a less than ideal relationship. Thus, switching barriers is consist of switching cost and alternative attractiveness[27].

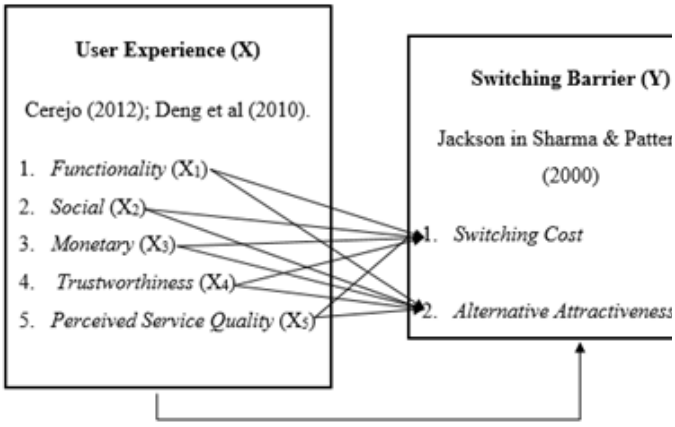
Switching Cost
Switching cost refers to exerted costs when switching, the costs include time, money, and psychological cost. In summary, switching cost refers to any costs incurred when a customer switching to another provider. The switching cost perceived by customer when they're changing service providers[15].When customer perceive switching costs as high, it should eventually outweigh the perceived switching benefit that arise from customer's dissatisfaction. This imply that when switching cost are low, there's tendency of dissatisfied customer to defect. Meanwhile, when switching costs are high, customers tend to remain despite their dissatisfaction[10].

Alternative Attractiveness

Alternative attractiveness is customers' perceptions about other competitor who can give the same level of service with their current provider are available in the marketplace. Low alternative attractiveness is deemed to be favorable to retain customers. If customers are unaware of attractive replacing carriers, then they tend to stay even when it is perceived as less than ideal. Likewise, there's tendency of customers to discontinue current subscription when customers perceive that the alternative to be attractive if the alternative can deliver better service, full range of service, and lower fees[10].

2.3 Framework

Based on the literature study this study framework is as display below:



The hypothesis that will be tested is as follow:

H1 : There's significant influence of *functionality* towards *switching cost*

H2 : There's significant influence of *functionality* towards *alternative attractiveness*

H3 : There's significant influence of *social* towards *switching cost*

H4 : There's significant influence of *social* towards *alternative attractiveness*

H5 : There's significant influence of *monetary* towards *switching cost*

H6 : There's significant influence of *monetary* towards *alternative attractiveness*

H7 : There's significant influence of *trustworthiness* towards *switching cost*

H8 : There's significant influence of *trustworthiness* towards *alternative attractiveness*

H9 : There's significant influence of *perceived service quality* towards *switching cost*

H10 : There's significant influence of *perceived service quality* towards *alternative attractiveness*

3. Results

3.1 Outer Model Test

Measurement model test is necessary to determine the validity and reliability of a model. SmartPLS 3 Professionalis used to test the model in order to achieve an accurate result.Validity test consists of convergent validity and discriminant validity.Convergent validity will be stated as valid if value of loading factorof each indicators and average variance extracted (AVE) for each construct are more than 0.5. Meanwhile, convergetnt validity is measured by looking at cross loading value in which the value with its latent variable is bigger than the value with other latent variable

Table 4.1: Results for Model Validity

Latent Variable	Indicator	*Loading Factor*	AVE	*Cross Loading*							Description
				F	S	M	T	PSQ	SC	AA	
Functionality	F1	0.826	0.573	**0.833**	0.330	0.337	0.439	0.325	0.233	0.059	Valid
	F2	0.881		**0.831**	0.398	0.299	0.442	0.308	0.161	0.108	Valid
	F3	0.749		**0.807**	0.329	0.282	0.417	0.274	0.155	0.126	Valid
	F4	0.746		**0.855**	0.343	0.399	0.489	0.307	0.163	0.178	Valid
Social	S1	0.889	0.806	0.420	**0.853**	0.375	0.426	0.383	0.166	0.124	Valid
	S2	0.911		0.400	**0.866**	0.379	0.393	0.399	0.200	0.167	Valid
	S3	0.880		0.307	**0.870**	0.360	0.356	0.388	0.214	0.188	Valid
	S4	0.858		0.346	**0.883**	0.460	0.395	0.411	0.205	0.200	Valid
Monetary	M1	0.880	0.731	0.269	0.321	**0.840**	0.394	0.500	0.286	0.298	Valid
	M2	0.797		0.281	0.363	**0.764**	0.378	0.424	0.230	0.228	Valid
	M3	0.795		0.371	0.300	**0.799**	0.407	0.411	0.241	0.305	Valid
	M4	0.894		0.353	0.373	**0.785**	0.306	0.426	0.203	0.320	Valid
Trustworthiness	T1	0.788	0.581	0.475	0.325	0.235	**0.743**	0.345	0.194	0.186	Valid
	T2	0.804		0.503	0.298	0.336	**0.807**	0.376	0.246	0.148	Valid
	T3	0.738		0.416	0.358	0.448	**0.836**	0.438	0.298	0.166	Valid
	T4	0.683		0.288	0.419	0.411	**0.721**	0.486	0.227	0.159	Valid
Perceived Service Quality	PSQ1	0.909	0.781	0.299	0.428	0.487	0.461	**0.851**	0.292	0.238	Valid
	PSQ2	0.877		0.349	0.433	0.428	0.483	**0.827**	0.208	0.231	Valid
	PSQ3	0.833		0.288	0.304	0.487	0.408	**0.865**	0.302	0.196	Valid
Switching Cost	SC1	0.867	0.791	0.175	0.140	0.211	0.290	0.231	**0.825**	0.140	Valid
	SC2	0.934		0.227	0.174	0.238	0.255	0.252	**0.888**	0.230	Valid
	SC3	0.884		0.164	0.264	0.323	0.273	0.334	**0.885**	0.207	Valid
Alternative Attractiveness	AA1	0.776	0.705	0.149	0.085	0.250	0.154	0.135	0.189	**0.681**	Valid
	AA2	0.915		0.127	0.260	0.315	0.189	0.237	0.191	**0.845**	Valid
	AA3	0.867		0.072	0.110	0.296	0.157	0.236	0.157	**0.843**	Valid

All indicators have loading factor value more than 0.5 and all constructs have AVE more than 0.5 delineates that all indicators of constructs in this research is meeting the requirement of convergent validity. From the results shown on the table, the bold numbers represent the relationship that earn the highest *cross loading*. Therefore, it can be stipulated that the correlation between indicators with its construct > indicators with other construct. Thus, the model is fulfilling the requirements for discriminant validity.

The model reliability can be measured by inferring to value of composite reliability and cronbach's alpha of each constructs. A construct can be stated as reliable if its composite reliability > 0.7 and cronbach's alpha > 0.7. The following table contains the summary of reliability value of the model.

Table 4.2: Results for Model Reliability

Construct	Composite Reliabilty	Cronbach's Alpha	Description
F	0.900	0.852	Reliable
S	0.924	0.892	Reliable
M	0.875	0.809	Reliable
T	0.859	0.782	Reliable
PSQ	0.885	0.805	Reliable
SC	0.900	0.835	Reliable
AA	0.835	0.704	Reliable

All constructs of the model has composite reliability value more than 0.7 and cronbach's alpha also above 0.7 thus it can be concluded that the model is reliable.

From the previous tests, it can be stipulated that the all indicators and constructs are valid and reliable, therefore, it is eligible to be used in inner model test.

3.2 Inner Model Test

Structural model test is done by looking at R^2, Q^2, and model fit.In which, the extent of how much independent variables can explain the dependent variable is described by R^2.Q^2 refers to predictive relevance to estimates whether a model have predicting power or not. The value of $Q^2 > 0$ stipulates that the model has predictive relevance meanwhile $Q^2 < 0$ refers that the model lack of predictive relevance.Furthermore, goodness of fit is also required to measure the overall fit of the model, it can be measured by looking at SRMR value that can be used to avoid model misspecification. In which, the value of SRMR < 0.1 is considered a good fit.

Table 4.3: Results for Inner Model Test

Latent Endogen Construct	R^2	Q^2	SRMR
SC	0.058	0.028	0.073
AA	0.089	0.051	

It can be seen that the value of R^2 for Switching Cost construct is 0.057 which means that UX elements such as Functionality, Social, Trustworthiness, Perceived Service Quality, and Monetary can explain 5.8% of Switching Cost. Meanwhile, the rest is influenced by other factors. As for, Alternative Attractiveness construct with R^2 equal to 0.089 delineates that UX elements such as Functionality, Social, Trustworthiness, Perceived Service Quality, and Monetary can explain 8.9% of Alternative Attractiveness and the rest is influenced by other factors.Q^2 are above 0, which means that the model has predictive relevance.The SRMR value for this research is 0.073 delineates that the model has a good fit. From all the indicators above, it can be conclude that the model used in this research is acceptable.

3.2 Hypothesis Testing

Hypothesis are tested using two-tailed with the significance level of 5%, the hypothesis is rejected when t-statistic <1.96 ; p-value > 0.05 and accepted if t-statistic ≥ 1.96 ; p-value < 0.05.In addition, path coefficient indicates the positive or negative influence of latent exogen construct on latent endogen construct.

Table 4.4: Results ofHypothesis Test

Hypothesis	Path	*Path Coefficient*	*t-statistic*	Description
H1	F→SC	-0.032	0.460	Rejected
H2	F→AA	-0.151	2.033	Accepted
H3	S→SC	0.155	3.015	Accepted
H4	S→AA	0.067	0.697	Rejected
H5	M→SC	0.004	0.059	Rejected
H6	M→AA	0.195	2.098	Accepted
H7	T→SC	0.172	2.196	Accepted
H8	T→AA	-0.034	0.440	Rejected
H9	PSQ→SC	0.047	0.619	Rejected
H10	PSQ→AA	-0.106	1.372	Rejected

Among hypothesis tested, the results show that there are 4 hypothesis supported by this study. It is found that functionality significantly influence alternative attractiveness in negative direction, thus H2 is supported. Also, social has significant impact on switching cost in positive way (H3). Simultaneously, monetary has significant influence towards alternative attractiveness in positive direction. This study also proves that trustworthiness is significantly influencing switching cost in positive direction. However, it is not found that functionality, monetary, and perceived service quality have significant influence towards switching cost. Also, social, trustworthiness, and perceived service quality to have significant influence towards alternative attractiveness.

4. Discussion

From the series of statistical tests, it is found that the model has met the requirement of outer and inner model tests. Thus, the model of this study is viable to be tested.

The result of hypothesis testing shows that, it is found UX elements such as social and trustworthiness have significant influence towards switching cost. This finding is consistent with previous study conducted by Kim et al. (2004) where the study revealed that perception of loss in social performance when switching to other provider greatly influence switching cost felt by customers. In which, the higher the loss the higher switching cost perceived by customers. For instance, although current technology has allowed its user to have more than 2 sim cards, however, each person must have a main phone number which is used to connect to most of people they know. This makes a user

need to invest a lot of effort and time to notify their colleagues when switching to other operator.

Furthermore, the finding of trustworthiness has significant influence towards switching cost is also inline with study by Yen &Horng (2010) which suggested that when providers act in a way that weaken customers trust, it lowers customers perception regard the disadvantages from switching, instead encourage them to switch because customers may fear that the providers are not reliable and cannot keep their promises.

Whereas, the results also suggest that UX elements such as functionality and monetary have significant influence towards alternative attractiveness. In which functionality turned out to have significant and negative relationship with alternative attractiveness. Similar to this finding, a study conducted by Kim et al. (2011) also found that technicality affect the overall perception of a service and significantly influence alternative attractiveness in negative direction. Which means that the higher functionality perceived by users, the lower users perception on alternative attractiveness. Interesting finding found is that monetary turned out to have significant and positive relationship with alternative attractiveness. In which, based on the items on the questionnaire, this relationship implies that despite the current provider that a customer user use offer good value for the service, customers are still aware of the attractiveness of alternatives. This can be explained because providers in Indonesia are involved in intense tariff war that makes operators compete in giving the best value such as quota bundling with lower fee. In addition, operators also bomb customers with generous promotion.

However, despite the significant findings, the explanatory power of the X elements to explain switching cost and alternative attractiveness is very low, it delineates that effort and promotion that's done by operators are not enough to affect the attractiveness of competitors. Also, operators have small chances to create switching costs, because competition has the most prominent impact on both AA and SC[22].

Further, in this study, it is not found that UX elements like functionality, monetary, and perceived service quality have significant influence towards switching cost. One possible justification for this is because the context of mobile celullar industry in which these relationship being tested that have low involvement service setting[10]. In addition, this findings also in contrast to a study conducted by Qayyum & Khang (2011) that found the significant relationship, in which the national context of the study limits the generalizability its findings, and may generate different results in other cultural contexts and economies. For instance, in terms of functionality, one possible reason why the relation is insignificant is due to similar features offered by GSM operators. Features like call, text, and data are common and standard service which offered by all players. In which, it doesn't require customers to invest their time or money to learn how to use the feature when switching. Furthermore, in one of functionality items asking about ease of use had around 83% of the respondents agree that features provided by players are easy to use. In which, according to Johnson in Chen & Hitt (2004), service that easier to use do not force their customers to make sunk investment in learning in which make the switching cost lower. As for monetary, the offering tariff by operators are low, therefore, many users don't recognize them as cost. In this case, monetary cannot significantly affect switching cost. For perceived service quality, the probable reason is that the level of service quality delivered by providers are similar. For example, the quality of signal provided by GSM operators is depend on the location, it means that the coverage by all the operators are uneven. In which, such a thing makes customers feel less benefit loss when switching to other operator.

This study cannot find the significant effect of social, trustworthiness, and perceived service quality toward alternative attractiveness. This finding is in contrast to the finding of Picon et al (2013) that confirm the significant relationship, however, different setting of country may generate different results. In Indonesia, in regards to social, one possible reason why the relation is insignificant is because of users are not fully aware on how using this certain provider would affect their social life. It is supported by the primary data acquired in this research describes that for social items, the majority of respondents answer neutral to the question. It delineates that they're not sure on how they are perceived by others when using certain provider. Hence, as they're not sure, the emotional cost will be lower.

5. Conclusions & Suggestions

5.1 Conclusions

To sum up, the following are the conclusions derived from the results of this study which expected to be able to answer the research questions:

1) From the series of statistical test and analysis, it is found that among five elements of user experience, two elements which are social and trustworthiness are proven to have positive and significant influence towards switching cost as one of the element of switching barriers.
2) From the series of statistical test and analysis, it is found that among five elements of user experience, two elements which are functionality and monetary are proven to have significant influence towards alternative attractiveness as one of the element of switching barriers. In which, the relation between functionality and alternative and attractiveness is negative meanwhile monetary and alternative attractiveness is positive.

5.2 Suggestions

Theoretical Aspect

This study has a number of limitations. First, sample being used in this research mainly comprise from west area of Indonesia which can affect the generalizability of the findings, therefore, further research can use different approach of sampling such as quota sampling to have sample that represent all area of Indonesia. Second, the finding is obtained by using cross-sectional sample that reduce the ability of this study to reflect variables that have effects of which only become apparent over long periods. A longitudinal study is necessary to confirm the effect of the changes. Finally, the industry context of this research limits

the implication of finding in each operators, thus, researcher can do clustering of the respondents based on their subscription to yield more specific results, therefore more specific suggestion for each operator.

For further research, study can conducted around the relationship between user experience elements with other variable such as satisfaction and repurchase intention.

Practical Aspect

Based on the result of the conclusion, the suggestions are as follow:

1) In term of switching cost, GSM operators in Indonesia should focus on how to create and deliver service that able to boost the social value perceived by customers and company trustworthiness. For instance, operators can offer a program that allow the customers to create a group that allow the members to text and call to each other with lower tariff. Also, improve their customer service. For example, since customer service are handled by people, therefore, it is necessary for the frontliner to have proper training to ensure them to have product knowledge in order to have a good communication and relay assurance and reliability to customers.
2) In term of alternative attractiveness, GSM operators in Indonesia should focus on improving their functionality and pricing system. As the functions offered by most operators are similar, therefore, it is necessary for the company to ensure that the features like call, text, and data access are functioning properly and prevent any failure of the system. Furthermore, in the midst of tariff war, operators also should wisely choose the right pricing strategy that able to attract customers as well as give profit for company.

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