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Customer Satisfaction, Switching Costs and Customer Loyalty: An Empirical Study on the Mobile Telecommunication Service

Noa Willys

School of Management and Economics, China University of Geosciences, Wuhan, China
Email: noahwillysfy@gmail.com

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Abstract

Previous research mentioned that Customer satisfaction and switching cost play an important role on customer loyalty. Based on empirical study, this present research attempts to evaluate the effect of the switching cost on customer loyalty and identify which one among switching cost dimensions and Customer satisfaction has the most influence on customer loyalty; then investigate the moderate effect of switching cost between customer satisfaction and customer loyalty link. To test the theoretical model, 300 questionnaires were self-administered to the subscribers of all mobile telecommunication providers in Madagascar and 273 questionnaires were returned with 253 questionnaires claimed efficient. Then SPSS 20.0 and regression method was used to establish the relationship between the dependent and independent variables. The findings indicate that there is significant relationship between switching cost and customer loyalty, then customer satisfaction and customer loyalty. It is also showed that among the dimensions of switching cost, financial cost has the most influence on customer loyalty. Even though switching cost shows up a strong effect to customer loyalty, it is always proved that satisfaction is the most significant cause to steer the loyalty from customers. The relationship between satisfaction and customer loyalty is moderated by the financial cost and relational cost.

Keywords

Customer Satisfaction, Switching Cost, Customer Loyalty, Mobile Telecommunication Firms

1. Introduction

Madagascar is among those African countries where the market of mobile te-

lephony developed rapidly and experienced an exceptional growth, according to the Observatory of mobile telephony in Africa Report (2014). Competition has risen among telecommunication operators. They are required to put into operation an effective strategy to keep the customer loyalty in order to make their business to survive in the highly competitive environment. Thus mobile telecommunication companies in Madagascar start to build up their own loyal customers and try to find way to increase the number of their subscriber.

Madagascar has 3 fixed/mobile telephony operators: Orange, Airtel and Telma.

1) Orange Madagascar comes from Orange France, rather known by its commercial name Antaris created in 1997.

2) Airtel Madagascar is a subsidiary of the Indian giant Bharti Airtel. Before becoming what it is today, the original company was MADACOM, and then it became Celtel and Zain. In 2010, Bharti Airtel bought the African subsidiaries of Zain.

3) Telma is simply the historical operator which the only one manages all phone service fixed in Madagascar. It was a state-owned Corporation that was privatized in 2004 and launched into the world of mobile two years later, in 2006. It is last to enter in the mobile telephony market. Telma seems to deal very well.

Between 2009 and 2011, these operators including Airtel and Telma have all claimed to be the number one in Madagascar. Technically, in number of subscribers, the number one is Orange followed by Airtel and the 3rd place is Telma but this is due to its late implementation. Telma, the last implemented of the three is developed on innovation. It is the precursor of mobile banking with MVola in Madagascar and the one to have a payment online for its MVola service module. In addition, it is the first one to use 4G. The other two operators are trolling on this side. In the streets, in Antananarivo (capital of Madagascar), Telma is the most visible, because of the effort and investment that they put on to catch up to the market entry. But, we can't designate either a winner or a loser between those three operators. All three must still make an effort to meet the Malagasy customers. Since December 2006, price war raging among Telma, Orange and Airtel. This fierce competition has pushed prices down and increased the rate of mobile services. Operators engaged a fierce battle to widen their market shares and retain their current customers. Operators engaged in another battle, that is the mobile internet. Since the advent of the Smartphone and the Tablet, mobile internet offers abound. In recent years, using internet, social networks, video, or geo-location, are particularly required.

The massive investment of the private operators during the last decade in Madagascar led to the expansion of the communications sector. Coverage has improved, prices have fallen, and recently, the country is connected to the rest of the world by optical cables which suggest an improvement of access and quality that should have an impact on users and offer new opportunities. This undeniable potential is however limited by: 1) the limited access to international capacity; 2) lack of national coverage, which must be improved; and 3) the insufficient availability of all services, especially of the internet. International experience has

widely demonstrated that competition is the engine growth of the telecommunications sector. The role of Government becomes important on managing this competition and avoids the situations of abuse in a dominant position, by respecting the rules and consistency of a development strategy in a long term.

This increased competition that exists now leads telecommunication industries to maintain long-term relationships with their subscribers. So it has become essential for Madagascar mobile service to have another look at their strategies to meet the changing needs of their customers, provide them more value of service and keep them loyal. Satisfaction has been always known as the main channel to achieve Customer Loyalty. However, Only Customer satisfaction is not enough to retain customer. Literatures showed that satisfied customer will not directly loyal to the service/product. It was found that some companies may keep losing their customers even after receiving positive result feedback about satisfaction survey from their clients. Kotler (2009) in his work argued that firm can use both customer satisfaction and switching costs as strategies to in-lock customers [1]. Consequently, Switching costs play a crucial role by making it costly for customers to change service providers.

The present paper attempts to investigate the role of switching cost in intense competitive market and compare the effectiveness of customer satisfaction and switching cost on customer loyalty. The findings of this study shall contribute a new understanding about switching cost and customer satisfaction to the marketing literature. The originality of this research lies in the fact that it is the first study about the relationship between switching cost, customer satisfaction and customer loyalty in mobile telecommunication service in a developing country such as Madagascar. Thus, the results can be used to help telecommunication managers of Madagascar to have better strategy on maintaining their customers loyal. Despite its contribution, it has also a limitation; due to the time and resources constraint during data collecting; the sample size was limited and narrowed in the northern part of Madagascar which cannot represent entirely the population of the country. This study is divided into six chapters as follow; including introduction, literature review and hypothesis, study design, data analysis, conclusion and managerial implication.

2. Literature Review and Hypothesis

2.1. Customer Satisfaction and Customer Loyalty

Customer satisfaction refers to the summary psychological state resulting from the consumer's prior feelings about the consumption experience. It is often considered as an important determinant of repurchase intention and customer loyalty. Customer loyalty refers to the tendency of customers to stay with a certain business or product brand over another when seeking to meet a particular need. If a service provider can satisfies the needs of the customer better than competitors, it is easier to create loyalty.

Customer Satisfaction is reorganized as a key effect between Customers and

their suppliers. We believe that one satisfied customer will probably repurchase from the same supplier and even recommend to others. Satisfied users will have a higher usage level of the service than those who are not satisfied, and they are more likely to possess a stronger continuous intention. Moreover, a long-term high customer satisfaction can bring a good reputation for the company [2]. The customer wishes is not just to obtain the better price on the market, but also wants this cost to include quality of service, added value in accordance with their needs and innovation in the products [3]. If this is not the case, the customer will look to another operator to satisfy their expectations in terms of cost and access to technology. Customer Satisfaction has positive influence in Customer Loyalty both from behaviour and attitude. Therefore, we conclude that Customer Loyalty is heavily affected by Customer Satisfaction. Thus, it is proposed that:

H1: the higher satisfaction customers have, the more loyal the customers give to the operator service.

2.2. Switching Cost and Customer Loyalty

A customer who has invested in a learning relationship with a company or supplier will face a psychological barrier and practice when considering applying to a competing supplier. Switching Cost refers to all factors that make customers more difficult and costly to switch to alternative service providers. A lot of definitions have been proposed by previous researchers, but in this present study, we adopt the definition proposed by Bruner *et al.* (2003). They explained that: Procedural switching cost involves the expenses of time and efforts which includes learning, risk, setup and evaluation cost; Financial switching cost involves the financially loss resources which includes monetary loss and benefit loss cost; Relational switching cost involves emotional or psychological discomfort caused by the loss of identification and the breaking of the relationship which includes personal relationship loss cost and brand relationship loss cost [4]. Companies wanting to win customers in competition can implement measures to reduce or offset the costs of switching them. Some mobile operators use the switching cots to attract and in-lock customers. Switching is easy so firms decrease perceived switching costs for new customers (encourage them to switch) and increase it for the old customers [5].

Literatures have shown that switching cost take an important place in marketing. Joseph O. and Joachim A. (2009), their study about mobile phone market in Nigeria finds that switching cost affects significantly the level of customer retention [6]. Luis Miranda-Gumucio and *et al.* 2013, argued that Switching costs and store image have a significant positive influence on customer loyalty [7]. He Xuelin and Chen Jian, 2015, in their study, about the Influence of Switching Costs on E-loyalty under the B2C E-commerce Environment, reveal that financial and relational switching cost has a significant impact on customer loyalty, among which relational switching cost is the biggest. Then they conclude that in

making a plan to improve customer loyalty, enterprises should focus on switching costs, especially on perfecting measures of financial switching cost and relational switching cost. Switching costs are a main reason why buyers stay with or switch a seller. In mobile phone services, switching costs play an important role on making customer loyal [5]. Thus the hypothesis proposed:

H2: Switching cost has a positive significant influence on customer loyalty.

H2a: Procedural cost has a positive significant influence on customer loyalty.

H2b: Financial cost has a positive significant influence on customer loyalty.

H2c: Relational cost has a positive significant influence on customer loyalty.

2.3. Comparison Effect of Customer Satisfaction and Switching Cost on Customer Loyalty

Customer satisfaction is often considered as an important determinant of customer loyalty. Literatures show that customer satisfaction has a positive impact on Customer Loyalty [8]. On other hand, Switching Costs help firms to retain their customer to not to switch to another provider. Switching Costs have a significant impact on Customer Loyalty [5]. Markus B. *et al.* (2015) the result of their study showed that both customer satisfaction and switching cost had a significant influence to customer loyalty [9]. Thus which one between switching cost and satisfaction is more efficiency?

Customer Satisfaction is the core of marketing. More the customers are satisfied about the product or service more they probably stay loyal. But Consumer behaviour becomes more and more complex and hard to understand due to variety of products provided by competitors. Some satisfied customers may want to test the competitor product and that lead them to temptation to switch. So firms need barriers to lock Clients to not switch easily. In a fierce competitively business, Chung K. H. *et al.* (2015) said that instead of copying schemes used by competitors to gear up program value to make customer satisfied, the value of a defensive tactic of increasing switching costs should be considered. But switching costs also have its positive and negative impact [10]. Narjes H. and Jean-Charles (2014), about their study on telecommunication firm reveal that customers react to switching costs. It is showed that positive Switching Costs generates both loyalty and higher level of desire to revenge. The negative switching costs lead customer to both exit and revenge. But regard to the complexity of consumer's behaviour, switching cost is more effective than satisfaction toward customer loyalty [11]. But that doesn't mean that the firms should neglect the needs of the clients. Narjes H. and Jean-Charles (2014) argued that manager may use Switching Costs as long as they take into consideration positive outcome and negative outcome. Positive Switching Costs can make customer apparently loyal when, in reality, they are enemies within the corporation [11]. To anticipate the negative consequence of the positive switching cost, managers might carefully monitor customers who enjoy such benefits.

Markus Blut *et al.* (2015) attest that managers need to take a nuanced and differentiated approach to managing switching costs. Switching costs and customer

satisfaction should be considered as complementary rather than competing approaches to managing customer loyalty [9]. Increasing switching costs may directly enhance customer loyalty, but they may also weaken the link between customer satisfactions and customer loyalty. Striking the right balance to maximize repurchase will require that managers and researchers take a context-specific approach, and ask why switching costs may alter satisfaction's impact on customer loyalty. Thus the hypothesis proposed:

H3: Switching cost is more influential than customer satisfaction.

2.4. Switching Cost as Moderate Variable

Literatures show that Switching costs play an important role as moderate variable between customer satisfaction and customer loyalty [2] [9]. For example, the presence of switching costs can mean that some seemingly loyal customers are actually dissatisfied but do not defect because of high switching costs. Thus, the level of switching costs moderates the link between satisfaction and loyalty. When there are no switching costs, consumers feel free to experiment other providers even if they are satisfied. And It is easy for customers to switch.

Markus Blut *et al.* (2015) differ high and low levels of switching cost type [9]. Normally, it would be expected that low Switching Costs, customers are unrestricted, that is, free in their purchase decisions, and that repurchase behaviour would, in the main, depend on satisfaction as a cumulative measure for past experience. And High Switching Costs reduce the strength of the relation between the two construct (satisfaction and loyalty) [2]. In other words, high Switching Costs inhibits dissatisfied customers from quitting even when a relationship is not working [12]. In all cases, the difference between high and low switching cost is statistically significant. Higher switching costs weaken the association between satisfactions and customer loyalty, expect for the case of financial switching costs enhancing the association between customer satisfaction and customer loyalty. The association between customer satisfaction and customer loyalty is stronger when switching costs are lower. Thus the hypothesis proposed:

H4. Switching cost moderates the relationship between customer satisfaction and customer loyalty.

H4a. Procedural cost moderates the relationship between customer satisfaction and customer loyalty.

H4b. Financial cost moderates the relationship between customer satisfaction and customer loyalty.

H4c. Relational cost moderates the relationship between customer satisfaction and customer loyalty.

3. Study Design

3.1. Conceptual Framework

From above analysis, the aim of this study is to find on the relationship of

switching cost, satisfaction and loyalty; then evaluate which one among satisfaction and switching cost has the most influence to the loyalty; at last, investigate the role of switching costs as moderate variables. The validation of such a relationship will allow us to discover the effectiveness of using switching cost and satisfaction strategies. This research takes mobile telecommunication service in Madagascar as target to discuss the relationship among customer satisfaction, switching cost and satisfaction on loyalty.

This study focus into switching cost, satisfaction and customer loyalty among users of mobile telecommunication services and the design is a quantitative research. The research was studied from customers' point of view. The above conceptual framework showed in **Figure 1** illustrates the variables defined and explained in the literature review. As part of this research, the independent variables are: 1) Switching costs (Procedural, financial and relational cost), 2) customer satisfaction. The dependent variable is customer loyalty. Then switching cost as a moderate variable between customer satisfaction and customer loyalty.

3.2. Data Collection

The target firm is Mobile telecommunication service in Madagascar. The method used to collect the data from subscribers is self-administered questionnaire. It is the most used method in market research, where information is collected via question [13]. This technique was selected because the objective of our research is to discover the impact of switching cost and satisfaction on loyalty.

This data collection method follows the two conditions of: (Astous, 2005) the nature of information (no-personal information is used, anonymity and confidentiality are respected) and available time (respond ant may not have enough time to answer; so the survey was about 10 to 15 minutes).

3.3. Population and Sample

The method of sampling used in this study is Convenience sampling. The decision about the size of the sample was taken considering time and cost, the need of precision and a variety of further considerations. Due to the limit of time and costs, the population was narrowed to mobile phone users in Diego-Suarez

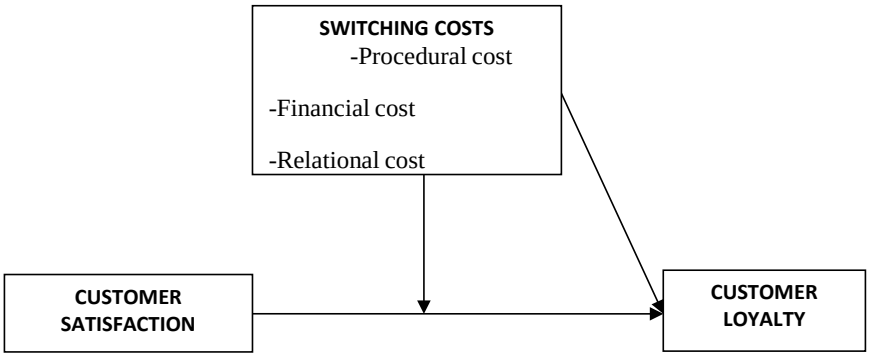

Figure 1. Research model; source: adapted from [2] [6].

(Northern part of Madagascar). The sample selected was not concepted for one particular group of users, the units included people with diverse demographics and employment status, ranging from students, entrepreneur, public and civil servants, among others. The sample used was determined by connivance sampling.

Only those clients, who have at least 16 years, were included in the sample. Thus, 300 questionnaires were distributed to customers and 273 were returned but 253 questionnaires were claimed efficiency.

4. Data Analysis

The sample is composed of 253 respondents, with 58.0% of men and 42.2% of women. The descriptive statistics table show that the majority 106 (41.9%) of the respondents are operator Orange subscribers while 100 (39.5%) are Telma subscribers and 47 (18.6%) are Airtel subscribers. It also shows that 115 (45.5%) of respondents are between 19 - 25 years old, followed by 65 (27.5%) of respondents are between 26 - 34 years old, then 28 (11.1%) of respondents are between 34 - 35 years old, at last 27 (10.7%) of respondents are between 16-18 years old and 18 (7.1%) of respondents are between 45 - 54 years old.

Descriptive statistics illustrates that 191 (75.5%) of respondents are single; 53 (20.9%) of respondents are married; 5 (2.0%) are divorced; and 4 (1.6%) are widowed. The sample consists predominantly 147 (58.1%) of student; 46 (18.2%) of respondents work in public servant; 27 (10.7%) of respondents work in private company; 27 (10.7%) of respondents work as an entrepreneur; 6 (2.4%) of respondents are retired.

Reliability and Validity of Scales of Measure

Before beginning the various statistical analyses, it is important to verify the reliability and validity of the used measurement scales.

Table 1 shows that the model is reliable, because it has acronbach's Alpha > 0.7. The Alpha cronbach of each item is also presented in Table 2. It is shown that the cronbach's Alpha of each item is above 0.7 which mean reliable.

After testing the reliability of the model, it is necessary to perform the factor analysis of the Items by using Kaiser-Meyer-Olkin test. The factor analysis for each variables should justify the criteria of KMO > 0.5 and the test of sphericity ($p = 0.000$) (Daghfous, 2006). This test is a general measure of the partial correlation between the variables in the study which allows us to check the convergent validity of our measuring instruments.

Table 3 shows that the KMO of all variables are superior of 0.5 and

Table 1. Reliability statistics.

Cronbach's Alpha	N of Items
0.733	15

Source: Output from SPSS.

Table 2. Reliability statistic of total item.

Variables	Scale M	SD	Cronbach's Alpha
I am glad that I use this current communication service.	4.27	1.065	0.705
This communication service satisfies many of my needs.	3.57	1.379	0.701
My claims or problems are always dealt with quite well.	3.80	1.224	0.725
It requires complicated steps to switch to another operator.	3.07	1.442	0.708
I worry that the cost and services provided by the other operators might not match my expectations.	3.40	1.404	0.711
It is difficult to evaluate the competence of the other operators.	3.29	1.363	0.735
For switching to other operators, it still takes times and efforts to learn their services.	2.88	1.712	0.738
By continuing to use the same operator, I receive certain benefits that I would not receive if I switch to a new one.	3.53	1.355	0.710
Switching to a new operator would involve some up-front costs (call fees, connection fees, etc.)	3.15	1.331	0.713
The service personnel of the current operator are more comfortable for me than those in other communication service companies.	3.77	1.098	0.706
If I switch to other operator, I lose contact with some of my friends.	3.58	1.474	0.750
I like the public image of current operator.	3.58	1.451	0.742
In the future, I will always continue using the service provided by this current operator.	3.78	1.180	0.701
I will always suggest my friends to use the service of this current operator.	3.89	1.342	0.715

Source: Output from SPSS **adapted** by the author.

Table 3. Respective KMO.

Variables	KMO	Sig.
Customer satisfaction	0.580	0.000
Customer loyalty	0.645	0.000
Procedural cost	0.603	0.000
Financial cost	0.530	0.000
Relational cost	0.537	0.000

Source: Output from SPSS adapted by the author.

sphericity test ($p = 0.000$) were met. The principal components analysis of: satis-

faction generated one component which represents 47.190% of the model; procedural cost generated one component which captures 69.106% of the model; financial cost generated one component with 68.910% of the model; relational cost generated one component with 39.749% of the model; and the loyalty generated one component which represents 71.180% of the model.

Table 4 shows the regressions result of the data analysis. It is composed by 6 models. The model 1 contains only the control variables gender, age, martial status, job, education; the model 2 represents the effect of independent variables satisfaction, procedural cost, financial cost and relational cost on customer loyalty; the models 3, 4, and 5 indicates the effect of all independents variables and each interaction between variables separately; and the model 6 represents the saturated model because it includes all interactions between satisfaction, switching costs and loyalty.

According to the model 2, customer satisfaction has a direct relationship on customer loyalty. The coefficient beta of satisfaction is $\beta = 0.529$ ($p = 0.000 < 0.001$). It means the more subscribers are satisfied the more they are loyal to the service operator. Hypothesis H1 is supported. The coefficient beta of procedural cost is $\beta = 0.086$ ($p = 0.034 < 0.05$). It means procedural cost has a positive significant influence on customer loyalty. The coefficient beta of financial cost is $\beta = 0.319$ ($p = 0.000 < 0.001$). It means financial cost has a significant influence on customer loyalty. The coefficient beta of relational cost is $\beta = -0.264$ ($p = 0.000 < 0.001$). It is showed that relational cost has a negative significant influence on customer loyalty. Thus H2a and H2b are supported but H2c is rejected. Which means the hypothesis H2 about the impact of switching cost on loyalty is partially supported.

According to the model 3, model 4 and model 5; the respective coefficient beta of satisfaction are $\beta = 0.607$ ($p = 0.000 < 0.001$), $\beta = 0.502$ ($p = 0.000 < 0.001$) and $\beta = 0.569$ ($p = 0.000 < 0.001$). Hypothesis H1 about the impact of satisfaction on loyalty is supported. The respective coefficient beta of procedural cost are $\beta = 0.085$ ($p = 0.048 < 0.05$), $\beta = 0.095$ ($p = 0.027 < 0.05$) and $\beta = 0.113$ ($p = 0.000 < 0.05$), which means procedural cost has a significant influence on customer loyalty. The respective coefficient beta of financial cost are $\beta = 0.334$ ($p = 0.000 < 0.001$), $\beta = 0.206$ ($p = 0.003 < 0.001$) and $\beta = 0.288$ ($p = 0.000 < 0.001$), which means financial cost has a significant influence on customer loyalty. The respective coefficient beta of relational cost are $\beta = -0.272$ ($p = 0.000 < 0.001$), $\beta = -0.244$ ($p = 0.000 < 0.001$) and $\beta = -0.413$ ($p = 0.000 < 0.001$), which means relational cost has a negative significant influence on customer loyalty. Thus H2a and H2b are supported but H2c is rejected. Which means the hypothesis H2 about the impact of switching cost on loyalty is partially supported.

According the Model 3, the coefficient beta of satisfaction x procedural cost is −0.179 with $p = 0.074$ which is superior 0.001. It means procedural cost doesn't moderate satisfaction and loyalty relationship. Hypothesis H4a is not supported.

According the Model 4, the coefficient beta of satisfaction x relational cost is

Table 4. Result of regressions and the moderate effect of switching cost on satisfaction-loyalty (N = 253).

Variables	Model 1			Model 2			Model 3			Model 4			Model 5			Model 6		
	Beta	S.E	Sig.	Beta	S.E	Sig.	Beta	S.E	Sig.	Beta	S.E	Sig.	Beta	S.E	Sig.	Beta	S.E	Sig.
Gender	0.040***	(0.126)		−0.026*	(0.093)		−0.047***	(0.093)		−0.054	(0.094)		−0.013	(0.090)		−0.055**	(0.090)	
Age	−0.117*	(0.103)		−0.016	(0.076)		−0.015	(0.076)		−0.002	(0.076)		0.034	(0.074)		0.044	(0.073)	
Martial Status	−0.382	(0.152)		−0.381**	(0.111)		−0.366	(0.112)		−0.389**	(0.111)		−0.370**	(0.107)		−0.354***	(0.106)	
Job	0.156	(0.077)		0.047**	(0.057)		0.041	(0.058)		.064	(0.057)		0.014	(0.055)		0.021	(0.056)	
Education	0.063**	(0.055)		−0.017	(0.041)		−0.021	(0.042)		−0.030	(0.041)		−0.009	(0.040)		−0.025	(0.041)	
Satisfaction				0.529***	(0.051)	0.000	0.607***	(0.066)	0.000	0.502***	(0.068)	0.000	0.569***	(0.073)	0.000	0.631****	(0.082)	0.000
Procedural cost				0.086*	(0.048)	0.034	0.085*	(0.049)	0.048	0.095*	(0.048)	0.027	0.113*	(0.047)	0.017	0.118*	(0.048)	0.004
Financial cost				0.319****	(0.052)	0.000	0.334***	(0.053)	0.000	0.206***	(0.068)	0.003	0.288***	(0.050)	0.000	0.215****	(0.066)	0.000
Relational cost				−0.264**	(0.048)	0.000	−0.272***	(0.048)	0.000	−0.244***	(0.048)	0.000	−0.413***	(0.058)	0.000	−0.399***	(0.060)	0.000
Satisfaction x procedural cost							−0.179**	(0.095)	0.740							−0.242*	(−0.140)	0.061
Satisfction x financial cost										0.026*	(0.099)	0.031				0.100*	(0.128)	0.038
Satisfaaction x relational cost													−0.213*	(0.100)	0.035	−0.236*	(0.140)	0.024
R^2				0.399***			0.327***			0.389***			0.329***			0.392***		
Adjusted R^2				0.377			0.322			0.384			0.324			0.393		
F-value				62.531			60.854			79.700			61.262			79.310		

Dependent variable: Loyalty; Standard errors in parentheses; $p < 0.10$, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$. **Source:** Output from SPSS adapted by the author.

0.026 with $p = 0.031$ which is less than .05. It means financial cost moderates satisfaction and loyalty relationship. Hypothesis H4b is supported.

According the Model 5, the coefficient beta of satisfaction x relational cost is −0.213 with $p = 0.034$ which is less than 0.05. It means relational cost moderates satisfaction and loyalty relationship. Hypothesis H4c is supported.

The model 6 showed that customer satisfaction has a direct relationship on customer loyalty. The coefficient beta of satisfaction is positive and significant (β =0.631, $p < 0.001$). So Hypothesis H1 about the impact of satisfaction on loyalty is supported. This justify that satisfied customer always generates a positive reaction toward the operator.

Model 6 also shows that: the coefficient beta for procedural cost is $\beta = 0.118$, whereas the Significant value is 0.004 which less than 0.05. It can be concluded that there is a positive significant impact between procedural cost and customer loyalty. So Hypothesis H2a is accepted; the coefficient beta for financial cost is β = 0.215, whereas the Significant value is 0.000 which less than 0.001. It can be concluded that there is a positive significant impact between financial cost and customer loyalty. So Hypothesis H2b is accepted; and the coefficient beta for relational cost is negative with $\beta = -0.399$, whereas the Significant value is 0.000 which less than 0.001. Thus there is a negative significant impact between relational cost and customer loyalty. But this result is contrary from the hypothesis. So it can be concluded that Hypothesis H2c is rejected. That is to say switching costs play a partial role on retaining clients and financial cost seems to have the most influence on loyalty among all components of switching costs. Model 6 also determines that the hypothesis 3 which predicts that switching cost has higher impact than satisfaction on loyalty has been rejected since satisfaction coefficient ($\beta = 0.631$) is the highest coefficient among the all independents variables. Thus, satisfaction is always the best predicator of loyalty in business environment.

Additionally, the coefficient of the interaction between satisfaction x procedural cost is −0.242 and the significant value is 0.061 which is more than 0.05. It means that there is a no significant influence of procedural cost on customer satisfaction and customer loyalty relationship. The hypothesis H4a mentioned that procedural cost moderates the customer satisfaction and customer loyalty link is rejected. Possibly, the reason for that is the cheap price of SIM card, and there is almost no procedural cost when subscribers decide to switch to new mobile operator. In addition, subscribers do not consider procedural cost as an important matter.

The coefficient of the interaction between satisfaction x financial cost is 0.100 and the significant value is 0.038 which is less than 0.05. It means that there is a positive relationship among financial cost and customer satisfaction-loyalty link. Financial cost is an important issue for customers since it is previously proved that it has the most influence on loyalty among the three components of switching costs. Thus, hypothesis H4b mentioned that financial cost moderates the customer satisfaction and customer loyalty link is supported.

The coefficient of the interaction between satisfaction x relational cost is −0.236 and the significant value is 0.024 which is less than 0.05. It means that there is a significant relationship among relational cost and customer satisfaction-loyalty link. The hypothesis H4c about the moderation role of relational cost toward customer satisfaction and customer loyalty link is supported. The regression results are summarized and reported in **Table 5**.

Table 5. Hypotheses summery.

S.NO.	Hypotheses	Empirical analysis
H1	The higher satisfaction customers have, the more loyal the customers give to the operator service.	Accepted
H2a	Procedural cost has a positive significant influence on customer loyalty.	Accepted
H2b	Financial cost has a positive significant influence on customer loyalty.	Accepted
H2c	Relational cost has a positive significant influence on customer loyalty.	Rejected
H3	Switching cost is more influential than customer satisfaction.	Rejected
H4a	Procedural cost moderates the relationship between customer satisfaction and customer loyalty	Rejected
H4b	Financial cost moderates the relationship between customer satisfaction and customer loyalty	Accepted
H4c	Relational cost moderates the relationship between customer satisfaction and customer loyalty	Accepted

Source: Adapted by the author from regressions result.

5. Discussion of the Results

All hypotheses of the study have been posted, showing the impact of each variable analysed on customer loyalty. As a first step, simple regressions were performed to test the effect of each independent variable on customer loyalty. Then, we realized a multiple regression to determine the interactions between variables in our model.

5.1. The Impact of Customer Satisfaction on Customer Loyalty

The various analyses of regressions carried out in this study showed that the customer satisfaction has a significant and positive impact on customer loyalty. This means that a happy customer is more probable to be a loyal customer. This finding defines a satisfy customer as a customer who is likely to intensify its relationship with the company by purchasing several products. The result proposes firms to determining in advance the changing needs of their customers. By organizing target groups (existing customers and potential customers) or by conducting surveys through questionnaire to draw out the responses on hidden customer needs, managers will have the chance to collect adequate and objective information on the real needs of their customers in telecommunication service.

5.2. The Impact of Switching Cost on Customer Loyalty

The results of the regression analysis performed in the present study show that switching costs influence partially customer loyalty since it has found that procedural cost and financial cost have positive significant impact on the phenomenon of customer's loyalty to the operators in Madagascar but relation cost

does not. The finding also present that amongst the three components of the switching cost; the financial cost has the most influence on customer loyalty. Switching costs are widespread, and our analysis suggests that the firms need to use switching to lock their client. Switching costs generally raise prices and create deadweight losses of the usual kind in a closed oligopoly, and may also discourage new entry and so further reduce the market's competitiveness. Switching costs reduce the product variety available to consumers by reducing firms' incentives to differentiate their products in any real way, as well as by directly preventing switching between different products. To the extent that some consumers nevertheless switch between firms, direct welfare losses are implemented. Finally, because switching costs tend to reduce competition, firms may dissipate more social surplus in costly activities to create them.

5.3. The Moderating Effect of Switching Cost on the Relationship between Customer Satisfaction and Customer Loyalty

Switching cost is essentially the negative components that could influence dissatisfied customer to churn or switch to other service providers. Table 5 showed that switching cost moderates partially the relationship between satisfaction and loyalty. The finding mentioned that the relationship of satisfaction and loyalty is moderated by financial cost and relational cost. This result can be explained by the cost-benefit theory [14]. Most of the subscribers are well-educated, with 74.8% having university level. So they are able to evaluate and compare the cost-benefit for switching. Customers judge the financial benefit and the financial cost, and then determine whether they will maintain the relationship with the current operator or not.

In difference, procedural cost does not play moderating role in the satisfaction and loyalty link. The reason is, mobile phone customers can minimise procedural cost as they can easily compare the services. Furthermore, moving to another operator is not difficult. There is minimal setup or little procedure required in order to switch to new service providers. The customers can still use their same numbers with the Mobile Number Portability implementation after moving to other operators. In other words, it does not matter whether the dissatisfied or satisfied customer, their decisions to churn are influenced by the switching cost. Their action on whether to behave loyally is moderated by the financial cost and the relational cost. The moderating effect of switching costs on the relationship between satisfaction and customer loyalty has been empirically tested in prior studies [15]. Researchers argue that the differences in the findings could be due to variables such as types of business, products and consumers. Possible explanation for this is that mobile phone services are relatively easy to use with only little procedural effort required.

6. Conclusions and Managerial Implication

6.1. Conclusions

After checking the reliability, correlation and the regression analysis, we can

conclude that this present study shows: firstly, the existence of significant relationship between satisfaction and customer's loyalty; secondly, the existence of significant impact of switching cost to customer loyalty, and among the three components of the switching cost, it is showed that financial cost has the most influence on customer loyalty; thirdly, switching cost has a strong effect on customer loyalty but satisfaction remains the most important cause to steer the loyal from customers; fourthly, the relationship between satisfaction and loyalty is moderated by financial cost and relational cost. In other words, dissatisfied customer decision to move or to remain loyal is influenced by the financial and relational cost. But the relationship between satisfaction and loyalty is not moderated by procedural cost.

In sum, we believe that switching cost combined with customer satisfaction programs can be more effective in increasing customer retention. However, since switching costs are often relative to the dimensions of consumption or the purchase rate, and they have influences on the customer satisfaction and customer loyalty link. Because switching costs reach the doorstep that can deter customers to switch, a reward program needs to be implemented to increase the benefits of subscribers, which leads to customer loyalty. Moreover, the management of switching costs can be well used towards both loyal and disloyal subscribers, so both groups intentions to consume more products or services can be increased. Through the results obtained, several recommendations and managerial implications are presented to help telecommunication operators in Madagascar to keep their customers loyal.

6.2. Managerial Implications

The results of this study have important managerial implications for various Operators in Madagascar. It is recommended the marketing managers to make sure that the environment in the customer's reception happens in a pleasant and satisfying climate. The used strategy to enhance the satisfaction of customers would be adequately meet customer's claims. Indeed, the resolving process should involve all claims from the unsatisfied and satisfied customers. In addition, according to Technical Assistance Research Program Institute, customers who complained more always bought in the same company (about 54% - 70%). Foregoing, marketing managers are recommended to implement a complaints system that provides quick and efficient services. The customer should feel valued and its application must be treated with professionalism and respect. The actions taken to resolve the situation must be put in place as soon as possible, by offering more than the customer requested.

Furthermore, since it is proved in this present study that financial cost and relational cost moderate the relationship between customer satisfaction and customer loyalty. Marketing managers are suggested to focus much more on the financial cost, then on relational cost to increase the retention of their satisfied and unsatisfied customers. In addition, those managers in charge of consumer research should learn new research methods and always be vigilant on consumer

behaviour, particularly quantitative analyses of customer churn. Finally, marketing managers should realize the importance of pricing the business environment.

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