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## DETERMINANTS OF CUSTOMER CHURN: AN EMPIRICAL STUDY OF CELLULAR SUBSCRIBERS FROM SAUDI ARABIA

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### ABSTRACT

This research main objective finds the determinants of churn that affect the telecom industry of the Kingdom of Saudi Arabia (KSA). To analyze the churn predictions to retain the customers in the telecom industry, the paper takes factors of churns that create obstacles in the retention of the customers. The variables of the study included switching cost, price, value-added services, and service quality relevant to the telecom industry. The questionnaire was created using adopted items from various studies and was used to collect the data from 315 respondents through non-restricted random sampling. Data reliability and analysis were performed on IBM SPSS®20 software and multiple regressions were applied. The key findings that lower switching costs of cellular network providers significantly lead to customer churn (MNP). This study found that switching costs are not considered a factor if a customer is dissatisfied or innovator in nature to try other companies' services. Whereas, low service quality, high price structure, and less value-added encourage customers to switch service. The telecom industry should improve its service quality since it is considered one of the most important factors in churning in any industry. This paper would be highly beneficial for the managers of the telecom industry in KSA and other Middle Eastern telecommunication companies.

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## 1. INTRODUCTION

Today, the service sector contributes more than 60 % to worldwide GDP and still grows, and telecommunication service has a massive contribution towards the economy of any country (CIA, 2008; 2013). Every single communication over the globe is occurring through telecommunication (Akbar et al., 2017). In the past, the telecommunication sector was a monopoly in Saudi Arabia with a

Government-owned company named Saudi Telecom Company (STC) established in 1998. In 2004, its monopoly was broken when MOBILY entered the market and since then other new companies were given licenses, and currently, there are a total of five companies including STC, MOBILY, ZAIN, FRENDI, and VIRGIN. The Saudi government has been making efforts to transform the industry to improve competition and service for people. The effects of liberalization were evident on incumbent monopoly (Mumuni et al., 2017) that service quality perceptions and customer attitudes enhanced during early post-liberalization duration; however, they declined somewhat afterward.

In the digital and data age, telecommunication companies contribute a lot to the development of countries' economies. Among the different communication and telecommunications industry sectors, the phone and mobile services' market has rapidly increased market share and adoption. In 2013, the Communications and Information Technology Commission (CITC) issued a decision policy that allowed customers to transfer their number to another service provider; this decision affected the company's retention and sales. The competitiveness has influenced the perception of customers, as clients are faced with a large set of offers that allowed the customer to compare several options and choose one that is the best operator. (Kim & Yoon, 2004; Kim & Wong, 2016)

The mobile telecommunications market in Saudi Arabia is a competitive one. By the end of the first two quarters of 2016, the total mobile penetration was approximately 152 % that sums up to 48 million mobile phone subscribers in Saudi Arabia (Soomro, 2019). In this era of intense competition, each operator wants to retain loyal customers based on the provision of high-quality service as it has consequences on firms' revenue. This research thus determines the factors that affect the switching behavior (mobile network portability) among customers that will help the operators consider and make proper value addition in their service to avoid the churn.

Thus, this study finds the determinants of churn among customers that affect the telecom industry of Saudi Arabia that can help stakeholders including managers, CITC governing authority to understand the market and give supports to small companies and increase telecom competition.

## **2. LITERATURE REVIEW**

### **2.1 CUSTOMER CHURN**

Churn is the term used to describe customer attrition or loss. The inclination of clients to discontinue service on a given day is known as customer churn (Jahromi et al., 2010; Chandar et al., 2006). Further, Churn takes place when customers switch between one-service operators to another due to several reasons. These days, consumer churn has come to be the primary worry for companies in all of the industries. And irrespective of the industry, firms are facing a challenge dealing with this problem. Constant churn can hurt a company due to low-profit margins, losing an extremely good deal of price, and reduced in referrals customers from existing customers.

There are two fundamental ways to manage customer churn: 'untargeted methods' which depend upon the superior product and big marketing campaigns to grow brand loyalty and retention of customer base, and 'focused techniques' which rely upon figuring out customers who are expected to switch, and then offer them with a direct incentive or personalize a service plan to live (Burez & Van den Poel, 2007). The focused procedures fall into two classes: reactive and proactive. In a reactive

technique, an organization waits until clients communicate the organization to cancel their (provider) subscription and then the company gives the customer offers (Jahromi et al., 2010). Customer retention is an essential element resulting in superior business performance in service industries (Wong, 2010).

## 2.2 SWITCHING BEHAVIOR

The literature on customer churn (switching) has examined its possible antecedent (Dick, 1994; Bolton, 2004). Keaveney (1995) presented the model for customer switching behavior, containing eight predominant factors which were crucial to switching behavior, particularly, price, inconvenience caused by anything, main services failures, servicescape failures, and unsatisfactory responses & performance of employees in service, competitive problems, moral issues, and involuntary elements. Amongst these antecedents, the pricing issue stands out as the most effective factor for switching (Kau et al., 2012; Colgate, 2001). To preserve their competitive role and market share, service operators should pay attention to making plans and executing customer retention strategies (Lee, 2001; Wong, 2010). Customer satisfaction intermediates the relationship between customer value and loyalty. Organizations have moved past contending on delivery and the price of the core service to the advancement of their value-added service and quality of service offered. Moreover, the benefits from high quality have been observed to be vital – however not adequate – the main predictor for customer loyalty towards the service firm. Quality is an important element in your organizations' product or service but not enough for customer loyalty (Aydin, 2005).

## 2.3 SWITCHING COST

The primary factor of the switching barrier is switching costs (Kau et al., 2012; Colgate & Lang, 2001). Switching costs are turning into a noteworthy issue for rivalry in the market of mobile communications (Grzybowski, 2008; Maicas et al., 2009; Srinuan et al., 2011). Switching cost is rising day by day, which along these lines increases repurchase goals and negative verbal exchange and at last, switching (Jones et al., 2007; Ghouri et al., 2010). The switching cost is the cost brought about when shifting from one service provider to another, this cost includes psychological cost along with time, and monetary cost (Kau et al., 2012; Dick & Basu, 1994). The most important consequences of the firm strategy and competition are switching costs. Several studies (Farrell & Klemperer, 2007; Maicas et al., 2009) conclude that the existence of switching costs affects the power of the company on market, forces it to charge higher prices and minimize service or product quality, three create entry limitations and, four obtain irregular returns.

## 2.4 SERVICE QUALITY

Service quality is very vital to service industries, especially in the telecom industry (Cronin Jr & Tylor, 1992; Ofir & Simonson, 2001). The capability of company managers to comprehend and capitalize on how the clients evaluate service quality has direct impacts on firms' performance and success (Jain, 2004; Peng, 2014). Sebastianelli and Tamimi's (2002) findings that there are different impacts of different service quality levels. For instance, greater service quality will encourage favorable behavioral outcomes among customers and consequently reduce the likelihood of adverse behavior such as switching (Soomro et al., 2012).

To show high service quality standards, firms get certified and participate in various awards

show through different programs, e.g., ISO certifications, the Malcolm Baldrige National Quality Award (MBNQA), and Six Sigma certification, to signify quality performance in both service industry & manufacturing (Prybutok, 2011; Zu & Douglas, 2008; Peng, 2014). Poor service and product quality do not only disappoint the customer expectation but lead to customer switching to competing brands and their word of mouth (WOM) also influences other clients (Gilbert, 2004). From research evidence, converting a new customer is much more costly than retaining an existing customer (Szmigin, 1998). The conceptualization of service quality has its foundations in anticipating and filling the gap between clients' desires and actual services delivered (Chen & Aritejo, 2008).

Quality perception, perceived value, and customer satisfaction have proved to be a predictor of the behavioral plan (Chen & Aritejo, 2008; Chen & Chen, 2010; Cronin, 2000; Petrick, 2004). It has also been extensively accepted satisfaction and perceived value are directly influenced by service quality (Baker, 2000; Chen & Aritejo, 2008; Cronin, 2000; Chen & Cheng, 2012). The visible service quality prompts fulfillment, which is fundamentally a result of the intelligent relationship between the service supplier and the client (Gronroos, 1984; Lee, 2000). In earlier studies, service quality of Telco companies have been tested with modified “SERVQUAL” model (Chen, & Aritejo, 2008; Johnson, 2002; Kang, 2004; Van-Der-Wal, 2002), to investigate, for example, quality of calls, pricing structure, smart device, easy procedures, value-added services, and client bolster (Lee, 2001; Lim, 2006; Chen & Cheng, 2012).

#### **2.4.1 CALL QUALITY**

Quality is the main concern that immediately affects customer satisfaction for mobile subscribers (Kim, 2005). The client expects a sensible time between placing a call and the actual connection to the receiving call. The voice quality, clearance, and distortion-free are aspects leading to better call quality.

#### **2.4.2 CONNECTIVITY**

Although faced with a multi-service explosion by mobile operators, telecommunication services are the primary and important services rendered by cellular service providers as they provide the maximum of simple and giant services for cellular users. The first-class community is important for the first class of cellular telecommunication services. The quality is defined by the performance of the underestimated cellular community in terms of accessibility, balance, and reliability of the sign. The overall performance strongly affects the advantage of competitive mobile companies (Gans, 2000).

#### **2.4.3 COMPLIANT MANAGEMENT**

Ahn et al. (2006) identified the number of complaints has a positive relationship to the probability of churn. Sulaimon et al. (2016) revealed that undesirable response to complaints made or no solution to the problems results in poor service evaluation and hence, to terminate the contract. Most dissatisfied customers are due to unresolved complaints. Complaining customers take two actions to reduce their dissonance; first is personal actions that include switching from a service provider and spreading negative word-of-mouth; the Second step is to complain to official consumer rights or trade associations for a lawsuit and compensatory outcome (Ahn et al., 2006). Complaints are a major factor resulting in switching or customer churns (Keaveney, 1995). Reducing the number of complaints and dissatisfied customers is to implement the “Complaint Management” system. If

complaints are professionally followed and dealt resulting in customer satisfaction. Thus, complaint management is another element that mobile companies cannot afford to overlook (Akbar et al., 2017).

## 2.5 VALVE-ADDED SERVICES

Value-added service features grows constantly as cellular telecom generation evolves rapidly. Cost-added services affect customer satisfaction notably (Kim & Yoon, 2004; Kim, 2005). Client value affects satisfaction, retention, and long-term profitability (Ku, 2009). Krishnan (2008) discovered that the first-rate signs to decide whether or not people will suggest a service provider customer support and the way it is offered (i.e. value-added services). Further, clients that purchase more, and use bundles of service categories tend to be loyal.

## 2.6 PRICING STRUCTURE

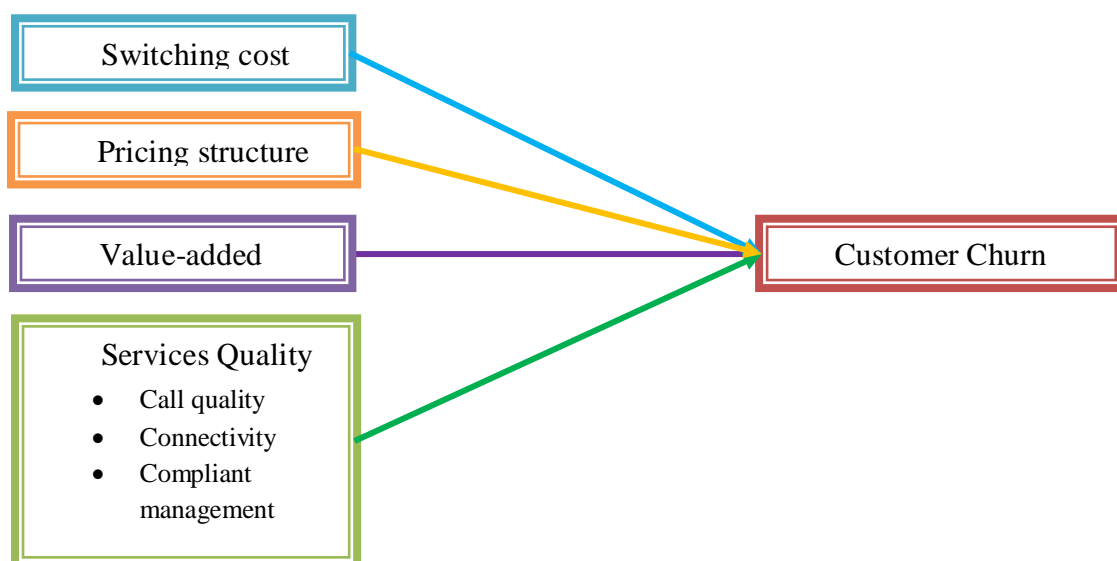
The price is an effective factor to customer gratification for cell phone subscribers; (Kim & Yoon, 2004; Kim, 2005) Supporting customers to keep the money, by using matching them to the superior fee plans, is a viable method to lessen client churn rate. Formerly, (Joo, Jun, & Kim, 2002)they have recommended that average plan optimization is beneficial to Wi-Fi providers from a long-term economic attitude (Wong, 2009; Lim, 2006).

## 2.7 MOBILE DATA

Past research proves that general service quality radiates from a fast and stable and quality of internet network (He & Yan, 2010; Quach et al., 2016) in the telecom market, the quality of the network includes the strong network signal and coverage (Wang et al., 2004; Quach et al., 2016) the number of downloading errors, and downloading speed errors (Vlachos & Vrechopoulos, 2008). This implies at this point that any interruption in the availability of the Internet can induce customer evaluation of service ratings as low.

## 2.8 PROPOSED CONCEPTUAL RESEARCH MODEL

The research empirically developed proposed model and variables are given in Figure 1.



**Figure 1:** Propose Conceptual Research Model.

## 2.9 RESEARCH HYPOTHESES

- H1: Lower switching cost of cellular network provider significantly lead to customer churn (due to Mobile Number Portability (MNP)).
- H2: The higher prices of cellular network providers significantly lead to customer churn (MNP).
- H3: Less value-added services offered by cellular network providers induce users to churn (MNP).
- H4: Low service quality of cellular network providers significantly leads to customer churn (MNP).

## 3. RESEARCH METHODOLOGY

Based on the deductive approach, a hypothesis testing design was adopted and questionnaires are used as a research tool. The population is all mobile users in Saudi. The sample was determined through non-restricted random sampling and a total of 315 respondents filled the questionnaire distributed through Google survey during July-August 2019. Respondents' belonged to the millennial generation living in Saudi Arabia ranging between the age of 18-38. Table 1 presents the respondents' demographic details. Sample participants were 70.9% males, 55.6% with a bachelor's degree holder, and 31.6% with high school graduates. Participants had more than one SIM card of different companies and we found 67.5% had STC SIM card and 40.6% had MOBILY SIM card and only 14.4% had ZAIN SIM. The research questionnaire was finalized and all construct items were chosen and modified from previous literature available (see Table 2).

**Table 1:** Demographic detail of respondents (Sample (N)= 315).

Items	Percentage	Item	Percentage
Gender		Education	
Male	70.9	No education	0.3
		High School	31.6
Female	29.1	Bachelor's	55.6
		Master's	12.2
		Ph.D	0.3
Age		Telecom Company	
18-24	23.1	STC	67.5
25-31	36.6	Mobily	40.6
32-38	40.3	ZAIN	14.4

**Table 2:** Questionnaire Construct Items

Question Items		Sources
<b>Switching cost</b>		
1	Switching your SIM to another provider would cause too many problems	Kim et al. (2016)
2	Switching your SIM to another provider would be too expensive	
3	I think it is more costly for me in terms of time and money trying to switch to another telecom company	Nimako et al. (2014)
4	General, it is a hassle switching to a new network operator	Edward et al. (2010); Yang & Peterson, 2004
5	Switching to another network service provider would take a lot of energy, time, and monetary cost on my part.	
<b>Price</b>		
1	Compared to what I pay and what I get from my current operator, I think it is value for money	Edward, et al. (2010)
2	Call Prices of my current services provider are very competitive	
3	Prices of my current services provider are expensive than another competing service provider	
4	Data bundles of my service provider are very expensive	

**Table 2: Questionnaire construct items (continue).**

Question Items		Sources
<b>Service quality</b>		
1	My network provider has a wide coverage	Asiedu & Sarfo (2013)
2	My service provider has no call drops/breakage in calls	Edward et al. (2010)
3	My Network has Strong signals were ever I go	Asiedu & Sarfo (2013)
4	I stay with a provider because the number of network errors is low.	Peng et al. (2014)
5	My services provider provides very low packages for on-net calls and off-net calls.	
6	The provider has excellent connection quality everywhere	Malhotra & Malhotra (2013)
7	When I face any problem, the service provider can immediately solve it	
8	When I request any changes in my contract, the service operator still holds a friendly attitude	
9	I would also share my negative experience with other customers	Quach et al. (2016)
10	I always have an exceptional service experience during every interaction with the service provider	Liu et al. (2011)
<b>Switching Behavior</b>		
1	How likely it is that you may switch from your current service provider to another service provider	Bansal et al. (2005)
2	Have you ever considered of changing your service provider	
3	Would you switch to another service provider due to higher brand image	
4	If I like a service provider, I rarely switch from it just to try someone different	
<b>Value Added service</b>		
1	Considering the trade-off between all of the costs and benefits of obtaining the service, the value of service provided by “my service provider ” is excellent	Yang & Peterson (2004)
2	Evaluating the amount I pay and what I get in return from my network operator compared to competing brands, I believe the company provides me with fair and good value.	Edward, et al. (2010)

## 4. RESULTS

### 4.1 RELIABILITY ANALYSIS

Table 3 displays Cronbach Alpha reliability test result. Values higher from 0.7 are considered reliable. Thus, all the collected data for construct are highly reliable and can be used for data analysis to determine churn in the telecom industry.

**Table 3: Constructs Reliability**

Constructs	Mean	SD	Cronbachs Alpha
Switching Behavior	3.269	0.770	0.821
Switching cost (SC)	2.778	0.897	0.714
Pricing structure (PS)	3.128	0.555	0.725
Value Added (VA)	2.927	1.011	0.856
Service Quality (SQ)	3.033	0.729	0.778

**Table 4: The total effect assessment.**

Variables	Beta Coefficient (t-value)	Percentile 95% confidence intervals
Total effect (R <sup>2</sup> = 14.3%; Q <sup>2</sup> =13.2% model significant at 0.05 level)		
SC	-0.054(-0.986) <sup>ns</sup>	[-0.139; 0.046]
PS	0.150 (2.764) *	[0.060; 0.356]
VA	-0.158 (2.482) *	[-0.216; -0.025]
SQ	-0.256 (3.877) *	[-0.408; -0.133]

**Note:** R<sup>2</sup> (coefficient of determination); Q<sup>2</sup>(Adjusted R<sup>2</sup>); \*Significant at the 0.05 level; ns indicates not significant at 95% confidence level

### 4.2 HYPOTHESES TESTING AND ANALYSIS

Regression analysis was employed in this research study. The regression test observes the conditions where dependent variables are concurrently determined by independent variables. When the R square value is close to one, it suggests that the theoretical framework fits the collected data

very well. The value of beta is an effort to arrive at a more comparable regression coefficient. The ANOVA Table endorses the fitness of the model.

Table 4 presents the summary of the multilinear regression model with R square and adjusted R square as 0.143 and 0.132. Even though the model is significant at 1 percent level, but R square and adjusted R square are shockingly low. This means that the variable used in this model are only capturing at most 14.3 percent change independent variable. Rest 85.7 percent is falling under residual. In the model, “switching behavior” was taken as the dependent variable and all other variables, switching cost, service quality, pricing structure and value-added are the independent variables. If all independent variable assumes the value zero, then switching behavior will acquire 3.9 as its value. Also, the p-value of all independent variables except switching cost, were significant at one and five percent error level refer to Table 5.

### 4.3 RESULT OF HYPOTHESES

H1: The switching cost has no significant impact on switching behavior due to having 0.325 significant levels with T stats of -0.986 (see table 4). This means that customers do not consider switching costs while deciding to switch. Therefore, the network portability fee (normally 100 SAR) imposed by the operator does not stop from switching if a customer is dissatisfied or is an innovator in nature and personality.

**Table 5:** Hypotheses summary.

Hypotheses	p-value	Empirical conclusion
H1	0.325	Not supported
H2	0.006	supported
H3	0.014	supported
H4	0.001	supported

*Note: Significant at the 0.05 level*

H2: The price structure has a significant impact on switching behavior due to having 0.006 significant levels with T stats of 2.764 (see Table 4). This means price structures and switching behavior are significantly related. Higher price packages of cellular network providers make the customer switch to other companies that offer better rates and services at a low price.

H3: The value-added has a significant impact on switching behavior due to having 0.014 significant levels with T stats of 2.482 (see Table 4). This means, value-added and switching behavior are significantly related. Hence, if the company fails to provide value-added service then the customer is going to switch the network to a competing brand that has more value-added services.

H4: The service quality has a significant impact on switching behavior due to having 0.000 significant levels with T stats of 3.877 (see Table 4). This implies, there exists a significant relationship between service quality and switching behavior. Poor service quality will lose customers.

## 5. CONCLUSION

This research determines churn factors in the Saudi telecom industry. Although R-square in regression models is quite low, it is significant in the context of our objective. The model variables played a significant role in churn in the telecom industry. Those variables are pricing structure,



value-added and service quality; all these variables were significant and causing a significant change in independent variable i.e. switching behavior or churn. However, switching cost was insignificant so it is safe to conclude that when a customer switches from one service operator to another, switching cost does not affect his decision but the price, value-added and service quality does. Hence, primary reasons which lead to customer retention are price, value-added and service quality, not switching cost. Service quality is considered as an important factor for any firm. In this article, respondents remained neutral about service quality; this demonstrates that the telecom industry is not performing at their best to provide best quality service to their customer; if scenario remains, loyal customers will most likely switch to another service provider with better service quality and price structure, since there is no significant switching cost.

Telecom companies should also offer several international and domestic calls and text offers to attract more customers. It is a recommendation for the company to analyze the pattern of its customers and then create a pricing structure and deals so that customers can get what they want from their service providers. Service providers can also collaborate with smartphone industries to offer attractive on the purchase of new smartphones; this idea alongside other creative ideas should be made a priority of service provider.

## 6. DATA AND MATERIAL AVAILABILITY

Information regarding this study is available by contacting the corresponding author.

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