

The impact of quality of services and satisfaction on customer loyalty: The moderate role of switching costs

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ABSTRACT

This study investigates the impacts of service quality of Jordanian telecommunication and customer satisfaction on customer loyalty. The study also studies though the role of switching cost as a moderate variable. Lack of studies in the field of quality in Jordanian telecommunication is the main reason for this investigation. The study investigates the impacts based on the employees' point of views in Aqaba special economic zone authority (ASEZA). Therefore, the study uses statistical data gathered through a questionnaire distributed to the employees of ASEZA. Thus, statistical methods are used to analyze the data collected and the hypotheses are tested. The study results show that there was a direct positive impact of service quality of Jordanian telecommunication and customer satisfaction on customer loyalty. In addition, the moderator model (Switching cost) has significant positive impacts on enhancing the relationship between service quality and customer satisfaction towards customer loyalty.

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1. Introduction

The beginnings of communications in the world goes back to the invention of the electric telegraph, which was the communication tool to send messages in the early years of the nineteenth century. It was used in Europe, and with the begin of 1980 the mobile communications were locally and internationally developed and enhanced the possibility of making calls at any time and place over time. The mobile telephone industry has revolutionized the digital information technology and impacted the world with its typical services. Until these days, mobile communications are still flourish and improving with the introducing more internet services such as email and social pages (Huurdeeman, 2003). In addition, the demand for telecommunication services has become a necessity and a desire among the customers, which lead to improve the old telecommunication networks, to satisfy the customers' needs, and moving to a new era (Hacklin et al., 2009). In addition, telecommunication networks have become the primary element among the individuals in society, and play vital role to communicate with others by high quality. Therefore, the demand increases toward mobile services, which led to improving in networks to become more fast, broadest rang and effectively, through generation three (3G), generation four (4G) and generation five (5G) where it will promise to consumers' best quality of services (Al-Debei & Al-Lozi, 2014; Singh & Srivastava, 2018; Wang et al., 2006).

In Jordan, the telephone service market faces competition in local market and internationally; where in Jordan there is three companies provide telephone and internet services such as Zain, Orange and Umniah. As the population of Jordan reaches 10

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million citizens (Department of Statistics Population and Housing Census 2017). The statistics shows (Jordan Telecommunication Regulatory Authority 2017) that the numbers of subscribers in these companies reached 16.746 million in 2017. Moreover, the number of subscribers in the aforementioned companies reached (5.90, 5.42 and 5.38) million respectively and with market share of 36.2%, 32.5% and 31.3%, respectively. The equity stakes in market share among telecommunication companies, confirmed the strength competition among those companies, where the companies offer better features and competitive prices increase for customer retention. Due to the strong competition in telecoms market, the telecommunication companies established strategies, worked as a barrier to prevent customer to switch to another competitor, such as the terms of the agreement borne by the customer and the costs paid by customer, therefore these strategies sought to keep current customers and attract new customer. In this context, the question comes to mind is to learn how Jordanian telecom companies increase the customer loyalty by providing high quality services and achieve satisfaction with these services through their competitive offers. To answer this question, the researchers set out this study for two reasons, first, because of its importance; how we can, as telecommunication companies, enhance our existing customers' loyalty by providing better offers as the main strategy of the companies and, second, because of the lack of studies investigate the Jordanian telecommunications sector.

2. Literature review

The global communications environment has seen a lot of changes since last decade, due to several factors that could be attributed to globalization and the technology revolution (Abubakar et al., 2019; Castells, 1999; Jahmani et al., 2018; Kaplan, 2009). Further, there is a high competition among companies in the telecommunications sector (Alzghoul et al., 2018). In the middle of these circumstances and changes, in addition to the similarity of the services provided by the telecommunications companies (Alamro & Rowley, 2011), there is an increase on customer knowledge about the services provided by international companies (Abuhjeeleh et al., 2018; Chua & Banerjee, 2013; Mithas et al., 2005). The customers also have become aware of their importance for companies and they are more interested in the way they are treated by company employees and how they receive their services (Alnajdawi et al., 2017; Pugh, 2001; Taylor et al., 2004; Woodruff, 1997). It has led to the development of a service quality role as an inevitable consequence to survival and continued in engagement with these companies.

In addition, the focus on service quality is fundamental to being directly related to the level of customer satisfaction which helps to make customer satisfaction as one of the important goals for any organization (Caruana, 2002; de Ruyter et al., 1998; Mosahab et al., 2010). Moreover, to maintain customers; the telecom companies must continue monitoring the change in consumer behavior, where the more customers are satisfied with the service offered to them, the greater their loyalty and the weaker the ability of competitors to tempt them (Aydin & Özer, 2005; Kim et al., 2004; Nawaz & Usman, 2011). Further, the more customers feel that the telecommunication companies are interested in solving their problems, the more loyal they are. In this context, the fact is the winning a new customer takes five times more than customer retention.

Due to the importance of customers for all companies, the telecommunication companies are plagued by challenges to reach quality of services. In other words, customer satisfaction has to focus on customers and to attempt to attract new customers with new strategies. Therefore, the telecommunication companies were added some conditions in some of their offers to avoid customers from switching to the competitors such as the costs that the customer will be paid when he/she does not finish his/her contract with company and in case he/she wants to switch to another company. This study determines the impact of the quality of telephone services by Jordanian telecom companies and customer satisfaction on the customer loyalty in the light of switching costs as a moderate variable, from the perspective of Aqaba Special Economic Zone Authority.

2.1 Customer loyalty

Customers' commitment to use the products or services of a company, without regarding their prices and it is not be affected by the offers of competitive companies. Moreover, the customers' satisfaction is one of the indicators and measures of loyalty to the organization, and loyal customers are not affected by rumors or false news to shade them from the positive actual performance of the company. In addition, the positive experience when the loyal customer tells the others to try this company services and to convince them to test this company offers and to try it is called a zenith of customer loyalty (Kotler & Keller, 2012; Oliver, 1999). Through the quality of service, the customer shows his satisfaction based on his accumulated experience in dealing with companies that in the same sector, represented by the satisfaction of the customer through his evaluation after usage and get serve, which is the essence of his experience over time (Mizenur Rahaman, Abdullah, & Rahman, 2011). This is associated with customer evaluation of the service or product in a way that matches the expectations (Flint, Blocker, & Boutin, 2011; Yang & Peterson, 2004). This is also the framework of the main indicators of the evaluation of companies (Dzafic & Babajic, 2016). Marketing perspective, customer loyalty and word of mouth (WOM) are the most effective activities in the companies, where customer loyalty is linked to customer satisfaction positively (Buttle, 1998; de Matos & Rossi, 2008), thus existent satisfaction means of achieving loyalty and achieving the objectives of the companies (Leverin & Liljander, 2006). According to Durkin and Howcroft (2003) in order to sustain the relationship with customers, customer loyalty must be maintained and developed through solid social relationships in order to achieve the new concept of emotional customer loyalty, so that customers reach the top of loyalty to the companies.

A number of researchers, such as Arnott and Bridgewater (2002), who focused on the fact that in order to achieve the highest profit and the largest market share, the current loyal customers must be retained because they cost the organization less than attracting new customers who expected to serve them. This is due to the constant search of institutions at a certain level of

stability, through the loyal customer base of 20%, 80%, which explains that 20% of the loyal customers yield 80% profits for the firm. Moreover, the increase of 5% of the loyal customers means to increase the company profits by 25% to 85%, and this applies exactly to the telecommunication services market (Kotler & Keller, 2012). It is too difficult for loyal customers to switch to another company, because they do not have sensitivity toward the price and ready to purchase in high prices in addition to intent of repurchase which lead to frequently purchase. WOM is a positive source to the companies through and previous positive experiences which lead to increase in the number of loyal customers (Page & Lepkowska-White, 2002; Parasuraman et al., 1988). Customer loyalty allocated to a particular company or a specific brand will give an advantage by indirect promotion to the company services. Moreover, they will tell others about the previous positive experiences and the way that they used the services and even to convince the others about joining to the company. Therefore, they become active source to attract new customers for this company, and decrease the costs of attracting customer and even they will invest the difference to promote to other customers by promotions campaigns (de Cannière et al., 2010).

Service provided to customers will keep them loyal to service companies if the value of what they get, is greater than what they expect from competitors since loyalty reflects the customer's return and the frequency of dealing with the service provider. This affects the extent of the customers' beliefs in the services that provided by the company, where customers always prefer a company that is characterized by quality, specifications and characteristics that fulfil their needs and desires and thus lead to build customer loyalty (Kotler & Keller, 2012). As a result of many studies indicate that there is a positive relationship between quality of service and level of loyalty, particularly that customer loyalty is often one of the dependent variable in the model of quality of service, where Sirdeshmukh et al. (2002) indicate a positive correlation between customer perception of quality of service and degree of loyalty, While a study of Soteriou and Stavrinides (2000) indicated a positive correlation between service quality and customer loyalty in restaurant services sector. Regardless of the interest of improving the services provided toward customer satisfaction and lack of attention of switching costs to another supplier, this backs to the strategies that was imposed significant costs on customers when switching to competing companies, where either forcing customers to continue with the same company and follow all conditions until the end of the contract or pay to the company where it will cost customer, moreover the new service provider maybe did not reach customer expectation (Grønhaug & Gilly, 1991; Heide & Weiss, 1995; Sirdeshmukh et al., 2002).

2.2 Customer satisfaction

This concept is well known in many scientific fields, where a number of definitions are limited when the service or product is received and meets the expectations expected by the client, including satisfaction of the needs and desires associated with the purchase process (Kotler et al., 2002).

Bitner and Hubbert (1994) confirmed that the satisfaction is linked to customer service evaluation where it achieves his/her needs and wants, therefore, the companies nowadays focus on customer satisfaction and they work to study and analysis the customer behavior and his attitude from the service and extent of it. Mohsan et al. (2017) added that efforts in the scientific field must be intensified in order to achieve full customer satisfaction, because it has a great impact on the activities of companies. This is basically the goal of every organization to which it seeks to strengthen relationship, growth and gain customer satisfaction. Specifically, those who had a previous positive experience will be seen as a free advertising for a company when they seek the news from friends and others about the company services. In addition, customer satisfaction is described as one of the main keys of each company, when customer satisfaction is transformed to loyalty and the companies achieve their goals (Durkin & Howcroft, 2003; Page & Lepkowska-White, 2002). Due to the importance of customer satisfaction in the services industry, the unsatisfied customers for a specific service provider can keep the organization out of gaining the customers who are expected to use the company services, where the customer's satisfaction can maintain and attract new customers frequent in the near and long term. Moreover, the attention of employees should be increased to take care of customers and develop new ways to maintain customers satisfaction (Anderson & Sullivan, 1993; Brady et al., 2012; Elrehail, 2019; Pansari & Kumar, 2017). Satisfaction can be divided into two important aspects based on theoretical literature, specific satisfaction, and cumulative satisfaction. Specific satisfaction can be summarized as collected information about a particular service when the customers want to use it, where the cumulative satisfaction is the evaluation of the service period after the usage process and over time and past experience about the service customers reach full satisfaction because it predicts about high performance in present and future (Ghazali, 2011; Vildová et al., 2015; Wu, 2011). There are three aspects influencing on customer satisfaction directly (Athanasopoulos et al., 2001; Sim & Plewa, 2017). Transaction procedures such as providing the high quality of customer care, efficiency of employees to solve the customer's problem proficiently and accuracy and ease of use regarding the key numbers of the company (*000#). Li and Green, (2009) mentioned that the market has a number of competitors providing the same services, therefore the customer is free to choose any firms or provider, in addition, to maintain the current customer when they join the firm, they must provide better offers for better quality at the same time and low costs then the customer will join the best provider offers in the service market. Akbar and Parvez (2014) pointed out about the quality of service and customer satisfaction in both the business and academic sectors and provided a strong relationship between quality of service and customer satisfaction. It can measure customer satisfaction through customer expectation comparison with actual performance, where the customer will be satisfied when the actual performance meet his expectations, and dissatisfied when actual performance does not meet his expectations (Abdullah et al., 2014; Lin et al., 2015; Saidu Badara et al., 2013). The fluctuation of the value, that customers benefits directly affects customer satisfaction, which leads to the decrease on the number of customers from using the products or services of this company, and they start looking for an alternative service

provider who can maintain the same level of services quality provided (Cronin et al., 2000; Hennig-Thurau & Klee, 1997; Wangenheim & Bayón, 2007). In addition, the customer's knowledge of the services is considered whether the offers reflect the reality of the services or the offers only attract the consumer to the service market and does not consider the service value (Gupta, 2012; Mascarenhas et al., 2006). The telecommunication sector can enhance the customer's satisfaction through providing a better service quality to the consumers and reach their needs and wants, therefore they will keep dealing with the same company (Al Khattab & Aldehayyat, 2011; Cronin & Taylor, 1994).

2.3 Switching costs

Switching costs are defined as the difficulty and inability of the customer to change the current service provider and transfer from one company to another, even in the case of dissatisfaction the customer has to stay with the company. The high costs that will be incurred by the customer, since the companies use strategies in order to retain the customers such as the postpaid offers, and also it could reach the psychological and social strains. Adding to that the costs of education and financial costs caused by transfer to another service provider (Fornell, 1992). The majority of recent researches confirmed that the switching costs are not specified as just economic cost but it can be with psychological aspects based on the type of activities such as invitation from other people to use the company services without consideration of the alternative companies offers and even if their offers are positive or negative (Bilgihan & Bujisic, 2015; Morgan & Hunt, 1994; Vivek et al., 2012). The switching cost strategies reduce the transfer from one provider to another, due to the role of the knowledge of customer and previous experiences while trying to transfer, and when customer expect that the switching costs are more beneficial from the switching. Therefore, the customer may continue with the same provider, even if the customer is dissatisfied with the service provider (Pick & Eisend, 2014). On the other side, customers have a free opinion to choose the best provider when switching costs are low, or the companies do not use switching costs strategies (Spiller & Belogolova, 2016; Zeithammer & Thomadsen, 2013). The previous studies found that there is a negative relationship between switching costs and the uncertainty in the levels of customer satisfaction in most sectors. In addition, there is a concern about the role of switching costs and fluctuate the result in each study analysis and many suggest that the relationship between switching costs and customer loyalty is a relative and specific relationship (Viard, 2007). There are different types of techniques which influence switching costs based on the type of commercial activity and the quality of service or the product. Therefore, in the case of telecommunication sector where the competition between the competitors is critical, the increase of supply in the market decreases the demand (Jeon, Menicucci, & Nasr Esfahani, 2015; Marinoso, 2001). According to the difficulty that facing customers to switch from one provider to another, because of the high costs when they want to switch, is better for customer to keep the relationship with the current provider and stay away of the risk and switch to a new provider and bearing new costs and probability of dissatisfaction with the new service provider (Jackson, 1985). Dick and Basu (1994) mentioned that, there are a few of companies globally adopted a switching costs strategy to develop and raise the level of customer loyalty, in the same context, Burnham et al. (2003) confirmed in their study that switching costs had a direct positive impact on customer loyalty.

2.4 Service quality

Researchers confirm that the service quality is the comparison between actual service quality and customer expectation of the service quality. This is based on previous experience from the others, where the customer will be aware of how to join this company and how to get the services (Parasuraman, Berry, & Zeithaml, 1991). Service quality played the main role in gaining the largest number of customers and organization profit, so this is what makes the value and importance of service quality among the companies and in order to enhance customer satisfaction. Further, it keeps their trust about service quality for companies, on the other side, for researchers to reach a clear and exact determination to service quality (Cronin & Taylor, 1992; Ladhari, 2008; Seth et al., 2005).

The previous studies found that the high level of competition increases the service quality for the customers. Therefore, the service provided by the company that recognize their customers in high service quality and best offers provided, which lead to increasing in customer trust to continue with the current service provider and do better than the customer expectation in the next time (Aydin & Özer, 2005; Parasuraman et al., 1988). Customer satisfaction is linked to the features and offers provided by the company. Therefore, companies must focus on developing the service quality and to provide the competitive advantage and keep the relation with the customers to get their goals (Oliver, 1999; Taamneh et al., 2018).

The customers depend on their previous experiences in expectation either positive or negative. Therefore, if the previous experience is positive it will lead the customers to continue with the same provider, however, if it is negative, it will encourage the customers to leave the current service provider. Accordingly, these methods lead the company to know to which extent the customers are satisfied with their service quality (Alatailat et al., 2019; Kuo et al., 2009; Patterson & Spreng, 1997; Taylor & Baker, 1994). The customer normally checks the service and decides whether the quality is consistent with the price (Chen et al., 2008).

According to Grönroos, (2004), the quality of services enhances the company's relationship with customers, but this relationship depends on providing the best quality service to develop a relationship with existing customers and even attracting new ones in the future.

There is a difference between the evaluation of the service and product. The evaluation of the product lasts after the purchase and use, but it is difficult to evaluate the service because of the multiple characteristics and differences in the ways of providing

it to customers, therefore it is different from time to time, and from hotel to bank based on the type of industry, therefore the researchers attempt to measure the quality of service accurately to evaluate it, and to offer the best to the customer. According to Parasuraman et al. (1988), we suggest a SERVQUAL model, which focuses on how to measure the extent of achieves the service quality for the actual performance and the expected performance which provides to the customers, based on the five factors, tangibility, Reliability, Sympathy, Responsive and security.

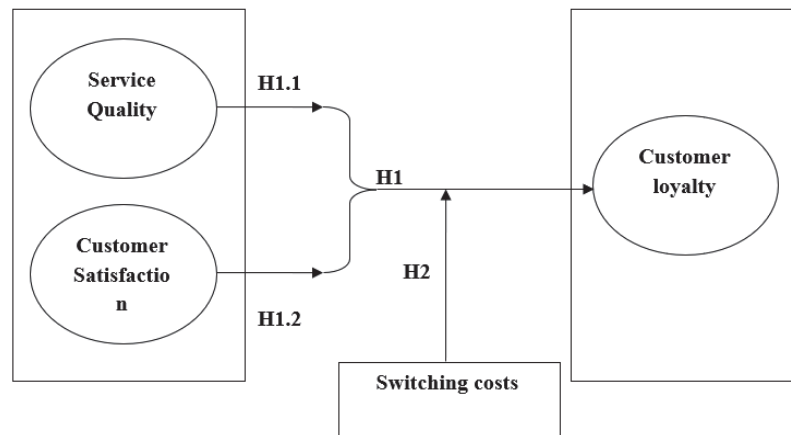


Fig. 1. Proposed research framework

3. Research Hypothesis

H1: Quality of telecommunications services and customer satisfaction impact customer loyalty of the Jordanian telecommunication companies positively.

H11: Quality of telecommunication services impacts customer loyalty of the Jordanian telecommunication companies positively.

H12: Customer satisfaction impacts customer loyalty of the Jordanian telecommunication companies positively.

H2: Switching costs as moderating variable improves the relationship between quality of telecommunications services and customer satisfaction with customer loyalty of the Jordanian telecommunication companies positively.

H3: There are statistically significant differences on customer loyalty of the Jordanian telecommunication companies, in terms of demographic variables; viz age, gender, level of scientific and income.

Sub hypotheses

H31: There is statistically significant difference on customer loyalty of the Jordanian telecommunication companies in terms of gender.

H32: There is statistically significant difference on customer loyalty of the Jordanian telecommunication companies in terms of age.

H33: There is statistically significant difference on customer loyalty of the Jordanian telecommunication companies in terms of the level of education.

H34: There is statistically significant difference on customer loyalty of the Jordanian telecommunication companies in terms of income.

4. Methods applied

This study tries to assess the interplay among quality of Jordanian Telecoms services, satisfaction and customer loyalty under the presence of switching costs as a moderator variable. Noting that this study is conducted in the Aqaba Special Economic Zone Authority and without the intervention from the researcher while the time horizon of the study is cross-sectional. The researchers' designed the study in accordance with the appropriate conditions, for the process of collecting data through the method of the stratified random sample, selected from the selected study population and analyzed in a method corresponding to its objectives in order to answer the study questions and hypotheses to ensure its success. The study population consists of all employees working in Aqaba Economic Zone Authority, as well as its affiliated departments inside Aqaba city, the total number in the time of collecting data was (2253) employee (source: Human resource management/ Aqaba Special Economic Zone Authority) as shown in Table 1 below.

Table 1
Number of employees in Aqaba Economic Zone Authority (Aqaba city)

#	Departments	No. of Employees	#	Departments	No. of Employees
1	Directorate of beach management	48	15	labs department	69
2	Administration of land and property	23	16	Human resource management	165
3	Administration public works	157	17	Department of transportation	12
4	Administration of tax revenues	79	18	Information system	45
5	Environmental management	25	19	Promote investment opportunity	6
6	Storage management	137	20	local community	34
7	Licensing management	45	21	Customs department	47
8	Operation and Training management	7	22	Directorate of city service	792
9	Department of Studies and Planning	48	23	Investors services	57
10	Tourism management	20	24	Area affairs	35
11	Department of supervision and enforcement	92	25	Media	5
12	Department of administration	178	26	Institutional development	14
13	Finance department	80	27	Internal control	10
14	Department of engineering tender	14	28	legislation law	9
				Total	2253

5. Data analysis

In this section the researchers will describe the characteristics of the demographics variables of the study sample (Employees in ASEZA), which are (Gender, Age, Educational Qualification, Monthly Income). To describe these characteristics, the frequencies and percentages were calculated as follows:

1. Gender

The results obtained showed the frequency and percentages of males and females in the sample of the study. It is noted that the number of males reached (114) and formulated a percentage (59.40%) of the study sample, while the number of females reached (78) and constituted (40.60%) of the sample.

2. Age

The results indicate that the number of employees in (ASEZA) in the age group (31 to 40 years) reached 80 employee and they constituted 41.70% of the sample and came at first rank. The age group (20 to 30 years) reached 61 employee and constituted 31.70% of the sample and came at the second rank, while the age group (41 to 50 years) reached 47 employee and constituted (24.50%) of the sample and came at the third rank. Lastly the age group (more than 50 years) came at the last rank and reached 4 employees with percentage (2.1%) of the study sample. These results indicate that the majority of employees in the sample study have age less than 50 years.

3. Educational level

The results show that, the number of employees in the study sample who have a bachelor's degree reached 108, where they formed (56.30%) of the sample and ranked first. Also, the qualification (Diploma) came at the second rank and reached 50 employees with percentage (26%) of the sample. In the third place came, the qualification (High school) with 18 employee and constituted (9.40%) of the sample. Finally, in the last rank came the qualification (Doctorate degree) with 4 employees and constituted (8.30%) of the study sample. These results indicate that the highest percentage of employees in the sample study characterized by high university education and constituted 90.60%.

4. Income level

The results show that, the number of employees in the study sample who earned monthly income (500 – less than 800) Jordan Dinar reached 78, where they formed (40.60%) of the sample and ranked first. Also, the groups (less than 500) and (800 – less than 1100 JD) came at the second rank and reached 48 employees respectively with percentage (25%) of the sample. Finally, in the last rank came the group (more than 1100 JD) with 18 employees and constituted (9.40%) of the study sample. These results indicate that the highest percentage of employees in the sample study characterized by low income (less than 800 JD) and constituted 65.60%.

6.1 Test results of study hypotheses

H₁: Quality of telecommunications services and customer satisfaction impact customer loyalty of the Jordanian telecommunication companies positively and significantly.

In order to test the first main hypothesis, the Multiple linear regression has been used and Table 2 shows the results. The results of Table 2 indicate that the impact of the quality of telephone services and customer satisfaction combined on the dependent variable (customer loyalty) was statistically significant. The calculated value of F (49.47, Sig. = 0.000) which is larger than its tabulated value and statistically significant at ($\alpha \leq 0.05$). Also, the value of R² is (0.344), which confirms the significance of the regression and is considered a medium interpretation ratio, indicating that 34.40% of the variation in

(customer loyalty to the Jordanian telecommunication companies) can be explained by the variation in the independent variables (quality of telephone services and customer satisfaction) combined and the unexplained variation (0.656) refers to other variables have not been included in the regression model. Based on the above results, we accept the hypothesis H1 which states: “Quality of telecommunications services and customer satisfaction impact customer loyalty of the Jordanian telecommunication companies positively and significantly”.

Table 2
Results of multiple regressions (dependent variable customer loyalty)

Variables	Un- standardized Coefficients	Std. Error	Standardized Coefficients	t- Statistic	Prob.
C	0.177	0.375		0.473	0.637
Quality of service	0.410	0.096	0.267	4.259**	0.000
Satisfaction	0.539	0.077	0.439	7.008**	0.000

$R^2 = 0.344$ Adjusted R-Square = 0.3370 F-Statistics = 49.47** (0.000), Durbin-Watson = 1.756

** : significant at 1% level.

The results of Table 2 indicate that the regression coefficient β for the quality of telephone services reached (0.267), and indicates the positive relation with the loyalty of the customers to the Jordanian telecommunication companies, because of the value of t-statistics is (4.259, Sig. = 0.000) which means statistically significant at ($\alpha \leq 0.05$). We can conclude that the quality of telephone services had a positive impact in the dependent variable of customer loyalty. Also, the results indicate that, the regression coefficient β for the customer satisfaction reached (0.439), and indicates the positive relationship with the loyalty of the customers. We can conclude that the customer satisfaction had a positive impact in the dependent variable customer loyalty.

6.1.1 Test results of sub hypotheses

H₁₁: Quality of telecommunication services impact customer loyalty of the Jordanian telecommunication companies positively and significantly.

To test the sub hypotheses of the first main hypothesis, the simple linear regression has been used, Table 3 shows the results for (H₁₁).

Table 3
Results of simple regression (dependent variable customer loyalty)

Variables	Un- standardized Coefficients (B)	Std. Error	Standardized Coefficients (β)	t- Statistic	Prob.
C	1.353	0.375		3.608	0.000
Quality of service	0.639	0.101	0.416	6.306**	0.000

$R = 0.416$, $R^2 = 0.1730$, Adjusted R-Square = 0.1690, F-Statistics = 39.76** (0.000), Durbin-Watson = 1.796

** : significant at 1% level.

The results of Table 3 indicate that the impact of the quality of telephone services on the dependent variable (customer loyalty) is statistically significant. The calculated value of F (39.76, Sig. = 0.000) which is larger than its tabulated value and statistically significant at ($\alpha \leq 0.05$) and the correlation is (0.416) which indicates a positive relationship between quality of telephone services and customer loyalty. Also, the value of R^2 is (0.1730), which confirms the significance of the regression and is considered a medium explanation ratio, indicating that 17.30% of the variation in (customer loyalty to the Jordanian telecommunication companies) can be explained by the variation in the independent variable (quality of telephone services) and the unexplained variation (0.827) refers to other variables have not been included in the regression model. Also the results in table indicate that, the regression coefficient β for the quality of telephone services reached (0.416), and indicates the positive relationship with the loyalty of the customers of the Jordanian telecommunication companies which means statistically significant at ($\alpha \leq 0.05$). Based on the above results, we accept the hypothesis H₁₁ which states that: “Quality of telecommunication services impact customer loyalty of the Jordanian telecommunication companies positively and significantly”.

H₁₂: Customer satisfaction influences customer loyalty of the Jordanian telecommunication companies positively.

Table 4 shows the results for H₁₂.

Table 4
Results of simple regression (dependent variable customer loyalty)

Variables	Un- standardized Coefficients (B)	Std. Error	Standardized Coefficients (β)	t- Statistic	Prob.
C	1.268	0.286		4.437	0.000
Customer satisfaction	0.650	0.076	0.530	8.609**	0.000

$R = 0.530$, $R^2 = 0.2810$, Adjusted R-Square = 0.2770, F-Statistics = 74.11** (0.000), Durbin-Watson = 1.768

** : significant at 1% level.

The results of Table 4 indicate that the impact of the customer satisfaction on the dependent variable (customer loyalty) is statistically significant. The calculated value of F (74.11) which is larger than its tabulated value and statistically significant

at ($\alpha \leq 0.05$), and the correlation is (0.530) which indicates a positive relationship between customer satisfaction and customer loyalty. Also, the value of R^2 is (0.2810), which confirms the significance of the regression and is considered a medium explanation ratio, indicating that 28.10% of the variation in (customer loyalty to the Jordanian telecommunication companies) can be explained by the variation in the independent variable (customer satisfaction) and the unexplained variation (0.7190) refers to other variables which have not been included in the regression model. Also the results in Table 4 indicate that, the regression coefficient β for the customer satisfaction reached (0.530), and indicates the positive relation with the loyalty of the customers of the Jordanian telecommunication companies ($\alpha \leq 0.05$). Based on the above results, we accept the hypothesis H_{12} which states that: "Customer satisfaction impact customer loyalty of the Jordanian telecommunication companies positively and significantly".

6.1.2 Second main hypothesis

H₁₂: Switching costs as moderating variable improves the relationship between quality of telecommunications services and customer satisfaction with customer loyalty to the Jordanian telecommunication companies positively and significantly.

To test this hypothesis, hierarchical regression was used, and Table 5 illustrates the results. From Table 5, the results of the first model based on the first step show a statistically significant impact of the independent variables (quality of services and customer satisfaction) combined in customer loyalty to the Jordanian telecommunication companies. The value of $F = 49.4467$ is significant at level 1% and the value of the coefficient of determination ($R^2 = 0.344$), indicates that the independent variables combined accounted for 34.40% of the variance in customer loyalty (Elrehail, 2018). In the second step the switching cost has been inserted to the regression model, the value of the coefficient of determination increased to ($\Delta R^2 = 1.60\%$). This is statistically significant, where the value of ($\Delta F = 4.766$) at the level of significance ($\text{Sig } \Delta F = 0.030$) is less than 0.05. Therefore, we accept the Second main hypothesis, which states: "Switching costs as moderating variable improves the relationship between quality of telecommunications services and customer satisfaction with customer loyalty positively and significantly". According to Table 5, the regression coefficient β for the independent variables in the two models are positive and significant at 1% level, and when we inserted the switching costs as a moderating variable to the second model, the regression coefficient β of this variable show up a positive and significant impact (0.131) at 5% level. Based in these results, we conclude that, the moderating variable (switching costs) improved the relationship between independent variables (quality of services and customer satisfaction) with customer loyalty positively and significantly.

Table 5
Results of hierarchical regression

Dependent variable	Independent variables	First step			Second step		
		β	t. statistic	Sig. t	β	t. statistic	Sig. t
Customer loyalty	Constant		0.473	0.637		-0.609	0.543
	Quality of services	0.267	4.259**	0.000	0.245	3.898**	0.000
	Customer satisfaction	0.439	7.008**	0.000	0.422	6.756**	0.000
	Moderate variable				0.131	2.183*	0.030
	Switching costs						
	R^2		0.344			0.360	
	ΔR^2		0.344			0.016	
	ΔF		49.467**			4.766*	
Sig ΔF		0.000			0.030		

*, **: significant at 5%, 1% respectively.

6.1.3 Third main hypothesis

H₃: There are statistically significant differences on customer loyalty of the Jordanian telecommunication companies, in terms of demographic variables (age, gender, level of scientific, income).

This hypothesis will be tested through the following sub hypotheses:

H₃₁: There is statistically significant difference in customer loyalty of the Jordanian telecommunication companies in terms of gender.

This hypothesis has been tested by using (Independent - Samples T Test), and Table 6 shows the test results.

Table 6
Independent samples t. test of difference in customer loyalty due to gender

Variable	Gender	Mean	S.d	Mean	T. statistic	Sig. t
Customer loyalty	Male	3.686	0.6625			
	Female	3.728	0.6487	- 0.0422	-0.438	0.662

It is noted from Table 6 that the average difference in customer loyalty to JTC due to gender is (-0.0422), which is in favor of females. However, this difference has insignificant effect and is supported by the value of t-statistics when the level of significance is five percent. Based on this finding, we reject hypothesis (H_{31}) and accept the null hypothesis which states: There are no statistically significant differences in the customer loyalty to Jordanian Telecommunication companies in terms of gender.

H₃₂: There is statistically significant difference in customer loyalty of the Jordanian telecommunication companies in terms of age.

In order to test the hypothesis, we used one-way ANOVA test (Analysis of variance) and Table 7 shows the results. From Table 7, it is observed that, the variation between groups of age is (1.137, df=3), also the calculated F is (0.880) with P- value (Sig. f = 0.453) which is greater than the significant level 5%. We conclude from the results that the age does not make any differences in customer loyalty. Based on this finding we reject hypothesis H₃₂ and accept the null hypothesis that state: There is no statistically significant difference in customer loyalty of the Jordanian telecommunication companies in terms of age.

Table 7

ANOVA test for differences in customer loyalty due to age

Variable	Groups of age / year	Mean	S.d	Sum of Squares	df	F statistic	Sig. f	
Customer loyalty	20 – 30	3.682	0.7370	Between Groups	1.137	3	0.880	0.453
	31 -40	3.660	0.6174					
	41 – 50	3.826	0.5921					
	more than 50	3.450	0.8386	Within Groups	80.078	188		
	Total	3.703	0.6555	Total	82.078	191		

H₃₃: There is statistically significant difference in customer loyalty of the Jordanian telecommunication companies in terms of educational level.

In order to test the hypothesis, we used one way ANOVA test (Analysis of variance) and Table 8 shows the results.

Table 8

ANOVA test for differences in customer loyalty due to educational level

Variable	Groups of educational level	Mean	S.d	Sum of Squares	df	F statistic	Sig. f	
Customer loyalty	High school	3.811	.4575	Between Groups	2.489	3	1.960	0.122
	Diploma	3.836	.6282					
	Bachelor	3.665	.6884					
	High studies	3.425	.6319	Within Groups	79.589	188		
	Total	3.703	.6555	Total	82.078	191		

From Table 8 it is observed that, the variation between groups of educational level is (2.489, df = 3), also the calculated F is (1.960, Sig. = 0.122) which is greater than the significant level 5%. We conclude from the results that the educational level does not make any differences in customer loyalty. Based on this finding we reject hypothesis H₃₃ and accept the null hypothesis that state: There is no statistically significant difference in customer loyalty of the Jordanian telecommunication companies due to educational level.

H₃₄: There is statistically significant difference in customer loyalty of the Jordanian telecommunication companies in terms of monthly income.

In order to test the hypothesis on the differences between more than two groups, we used one-way ANOVA test (Analysis of variance) and Table 9 shows the results.

Table 9

ANOVA test for differences in customer loyalty due to monthly income

Variable	Groups of Monthly income	Mean	S.d	Sum of Squares	df	F statistic	Sig. f	
Customer loyalty	Less than 500	3.738	.5764	Between Groups	0.502	3	0.386	0.763
	500 - less than 800	3.741	.7456					
	800 - less than 1100	3.625	.6114					
	More than 1100	3.656	.5731	Within Groups	81.576	188		
	Total	3.703	.6555	Total	82.078	191		

According to Table 9 it is observe that, the variation between groups of monthly income is (0.502, df = 3), also the calculated F is (0.386) with P- value (Sig. f = 0.763) which is greater than the significant level 5%. We conclude from the results that the monthly income does not make any differences in customer loyalty to the JTC. Based on this finding we reject hypothesis H₃₄ and accept the null hypothesis that state: There is no statistically significant difference in customer loyalty of the Jordanian telecommunication companies in terms of the monthly income. Table 10 summarizes the results of testing hypotheses study

7. Discussion and implication of the study

In this paper, the researchers have introduced an interactionist model among the study variables, namely quality of service, customers satisfaction, customers loyalty and the contingent role of switching cost. The novelty of this study comes from the moderating role played by the switching cost and the respondents of the study, since the nature of the participants and the

settings of the study comes from a non-western country which contributes to the study relying on the differences in culture and traditions and consumers behavior (Alzghoul et al., 2016; Bashar et al., 2013; Elrehail et al., 2016; Kacen & Lee, 2002).

Table 10

The results of testing hypotheses

#	Hypothesis	Test	Decision
H1	Quality of telecommunications services and customer satisfaction impact customer loyalty to the Jordanian telecommunication companies positively and significantly.	Multiple Linear Regression	Accepted
H1.1	Quality of telecommunication services impact customer loyalty to the Jordanian telecommunication companies positively and significantly.	Simple Linear Regression	Accepted
H1.2	Customer satisfaction impact customer loyalty to the Jordanian telecommunication companies positively and significantly.	Simple Linear Regression	Accepted
H2	Switching costs as moderating variable improves the relationship between quality of telecommunications services and customer satisfaction with customer loyalty to the Jordanian telecommunication companies positively and significantly.	Hierarchical Regression	Accepted
H3	There are statistically significant differences on customer loyalty to the Jordanian telecommunication companies, attributed to demographic variables (age, gender, level of scientific, income).		
H3.1	There is statistically significant difference in customer loyalty to the Jordanian telecommunication companies due to gender.	Independent Samples T. test	Rejected
H3.2	There is statistically significant difference in customer loyalty to the Jordanian telecommunication companies due to age.	ANOVA	Rejected
H3.3	There is statistically significant difference in customer loyalty to the Jordanian telecommunication companies due to educational level.	ANOVA	Rejected
H3.4	There is statistically significant difference in customer loyalty to the Jordanian telecommunication companies due to monthly income.	ANOVA	Rejected

First, hypothesis number one and its sub-hypotheses (H₁₁ and H₁₂) which state that “Quality of telecommunications services and customer satisfaction impact customer loyalty of the Jordanian telecommunication companies positively and significantly”, “Quality of telecommunication services impact customer loyalty of the Jordanian telecommunication companies positively and significantly” and “Customer satisfaction impact customer loyalty of the Jordanian telecommunication companies positively and significantly” respectively are supported by the dataset. The findings in this study are consistent with the prior studies conducted in the same area of research (e.g. Kheng et al., 2010; Kaura et al., 2015; Kiran & Diljit, 2011). This study emphasized on the role played by the quality of service provided and the satisfaction of the customers directly affect the reputation of the service provider and allows them to retain a high number of customers.

Second, The researcher proposed that “Switching costs as moderating variable improves the relationship between quality of telecommunications services and customer satisfaction with customer loyalty of the Jordanian telecommunication companies positively and significantly” in the telecommunication services providers sector. The dataset confirming our assumption about the moderating role was played by the switching cost and the results were consistent with previous studies related to the interplay between switching cost and customer loyalty (e.g. Aydin et al., 2005; Blut et al., 2015; El-Manstrly, 2016; Kacen & Lee, 2002; Kaura et al., 2015; Pick & Eisend, 2016). On another hand, the high cost of changing the service provider such as penalties and other charges are preventing customers from changing the service provider if the quality of service and the customers are satisfied, which will be reflected by the high-level customers loyalty.

The researchers also assessed the role of controlling variables (i.e. demographic), in hypotheses number three and its sub-hypothesis and tried to discover any significant differences played by the controlling variables. Contrary to the researchers' expectations the dataset did not support our claim that age, gender, level of education, income made any differences on the customers' loyalty. This result needs careful addressing when it comes to the generalization of the outcome of this study, precisely for hypothesis number three. A number of theoretical and practical implication reveals from this survey. For the theoretical part, some novel insights raised from this study. First, this study contributes to the existing consumers behavior theories, especially customers' loyalty. This study is needed as complement for western work life studies since the majority of studies came from western countries. In addition, customers' loyalty is playing a dominant role in giving the organization a competitive advantage among competitors and advance our knowledge for the state of customers' loyalty in the Arabian context. Second, this study contributes to switching cost literature, the result of our study needs a careful generalization in comparison to the existing literature, since our study shows remarkable results in comparison with other studies. For the practical part, the leaders of telecommunication companies should invest more in the adoption of abreast of the technologies. Moreover, the leaders of telecommunication sector should take into consideration the role of quality of service provided and the how the customers are satisfied with the level of loyalty from the customers perspective. In addition, establishing a reward system for loyal customers could be beneficial for the telecommunication companies. Training and development for the customers relationship staff with the new technology implemented by companies will reflect the importance of information technology for enhancing the level of satisfaction and finally the customer loyalty. Several key limitations and recommendation could be highlighted in this study; one, the cross-sectional design of this study limits our findings, to have more reliable results a longitudinal study over the time will be more reliable and gives this study more solid bases. Two, this study observed the perception of Aqaba Special Economic Zone Authority employees' only, maybe other employees in other cities have different perception to loyalty. Three, this study limited to one country and one sector, it will be more beneficial to replicate this study

in different sectors and countries (i.e. non-Arabic countries). Four, our study findings are limited to the methodology and data collection as theory-driven empirical approach, this leaves the door open for future research opportunities, more qualitative and quantitative studies can be conducted to fill the drawbacks of methods applied in this study and marketing studies more comprehensive.

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