

AN INNOVATIVE APPROACH OF INTEGRATING SERVICE QUALITY, EMPLOYEE LOYALTY AND PROFITABILITY WITH SERVICE PROFIT CHAIN IN TELECOM SERVICE INDUSTRY: AN EMPIRICAL VALIDATION

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Service Quality; Employee Loyalty; Profitability; Service Profit Chain; Telecom Industry.

ABSTRACT

A research project was commissioned to study the influence and importance of service quality, employee loyalty, and profitability with service profit chain (SPC) model in telecom service industry in Oman. A questionnaire-based survey was conducted to investigate the consequences of a company's internal assets in terms of employees' satisfaction and loyalty, operational efficiency, and its fallout on company's turnover in terms of revenue and profitability. The telecom service chain spans three entities with service flowing from original equipment manufacturers, to telecom service providers to end users. The findings indicate that the proposed "three-tier two-stage" model holds important lessons for service industry, with service quality and human capital standing out prominently. Next, the employees' loyalty should be seen as valuable assets in an organization in order to improve company's internal performance and develop better relationships with customers and suppliers. Therefore, service quality, employee loyalty and SPC attributes should be measured periodically.



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1. INTRODUCTION

This research was conducted in a telecom service industry in view of its importance in today's fast changing technology-driven world. Telecommunication services are being viewed as one of the essential and most sought after services by all ages in any society. It acts as a catalyst in supporting socio-economic development and possibly no society would progress or flourish in the absence of it. In this era, it goes without saying that it became an indispensable as perhaps water

and it has undoubtedly played a pivotal role behind socio-economic progress of many countries.

The Service Profit Chain (SPC) theory, conceived and conceptualized by Heskett et al. (1994), is widely accepted and acclaimed by researchers as it provides a diagnostic tool to measure relationships between many service-related attributes, such as employees' satisfaction, customers' attitude and profitability in service industries. These pioneers broke new ground by publishing a seminal paper, "Putting the Service-Profit Chain to Work", by integrating concepts from

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operations management and human resources management and analyzing their impact on profitability and growth of a firm. It provided a holistic framework for understanding how a company's operational investments are related to customers' perceptions and behaviors, and how these can translate into profits. A unique feature of SPC is that it can be viewed at once as a philosophy, theory, model, framework and a tool, all rolled into one! Such is its versatility and vitality! Prior to the SPC theory, researchers put substantial efforts in areas such as service quality (SQ), operation strategy, competency-based strategy, products and service strategy, process and technology, capacity and facilities, with only marginal or moderate success. Nevertheless, in this research some of the operation strategies are discussed in brief as it is still relevant, and the study was specifically aimed at testing the significance and importance of SQ, employee loyalty (EL) and SPC model in telecom service industry and learning whether the model gives any new insight and suggests profitable clues to service managers. The subsequent paragraphs discuss SQ, triangle and pyramid models, followed by SPC and its critique, and research goals of the present work.

2. LITERATURE REVIEW

According to (Nanjundeswaraswamy et al., 2019), leadership styles act as a significant partial mediator between Quality of Work Life (QWL) and employee commitment relationship. The QWL supported with technology would lead to improvement in service delivery system. In any service delivery system, "services" flow from one entity to another, somewhat similar to current flowing in an electrical circuit, "control" flowing in a software program or "information" flowing in an organization. On the other hand, Heskett et al. (1994) considered internal service quality as an important factor in improving the quality of work environment that contributes to EL. In the SPC model as employed in this work, the metaphor of "service flows" through various links runs as an undercurrent in the model

2.1 Service quality

Not surprisingly, quality is rapidly becoming the buzzword in deciding customer's choice of products and services. Especially in service industries, it is becoming a crucial and critical component. It means that service companies must take customers' expectation of SQ seriously, and should aim at meeting and even exceeding their current needs and aspirations. No wonder it is becoming an essential aspect of any business strategy. The quality of any service always depends on how well various service elements mesh together to serve customer's expectations in a competitive market. One key challenge in providing SQ lies in the very designing of service itself and working out its delivery processes to match customer's

aspiration. According to Ansari et al. (2016), in the fast changing environment, managers shall continuously monitor market situation to ensure that SQ is maintained at an optimal level.

SQ has been subject of extensive research in different fields of management and it has undoubtedly had a major impact on business and academic communities. Improved SQ enhances business in the form of repeat purchase, customer retention, and positive word-of-mouth to other potential customers. During the last three decades SQ has been meticulously studied by researchers. Parasuraman et al. (1985) developed a service quality measure, called SERVQUAL, which states that customer's assessment of overall service quality is determined by the degree and direction of the gap between their expectations and perceptions of actual performance levels. Innovators like Parasuraman, Zeithaml and Berry (PZB) have further developed and publicized the use of SERVQUAL in different forms through a series of publications (Parasuraman et al., 1985; 1988; 1991; 1993; 2000; 2002; 2004; 2010). To make it manageable and effective, these authors conveniently condensed the originally large number of SQ attributes to just five: Reliability, Assurance, Tangible, Empathy, and Responsiveness (RATER).

On the other hand, Shekarchizadeh (2011) selected five different factors of SQ *viz.* Professionalism, Reliability, Hospitality, Tangibles, and Commitment, of which reliability was identified as the most fundamental and effective. In the competitive market, customer's perception of SQ in what he/she receives is crucial. There is always a "mangled mesh" of relationships between SQ, customer's satisfaction (CS), customer's retention, customer's loyalty (CL), firm's revenue and growth. The cost incurred for quality is a major factor during service design and service delivery process. The optimal design process should ideally prevent recurring design of services. The purpose of the optimal service design is to maintain satisfied and loyal customers, and to gain in return the customers' recommendation.

2.2 Employee loyalty

The relationship of EL and its impact on SQ is still shrouded in uncertainties. It remains a cross-disciplinary subject straddling human resources, operation and strategic management domains. According to (Ansari et al., 2016), employees are valuable assets in a service industry, and growth of industry depends on employees' commitment and to maintain sustainable growth, industry shall take due care of employees, keep them satisfied, and make them remain loyal, which can be achieved through regular employees' engagement and involvement. The present study evaluated the impact of SQ, EL and SPC; they get later translated into SQ, which in turn undergoes transformation into Productivity. According to (Klopotan et al., 2018), several relevant parameters of employee satisfaction and

loyalty are dependent on education, age, professional qualification level and length of service. In a competitive market, service companies have to offer not only services at competitive price but also complete solutions to minimize churn. Service values have to be enhanced based on clear understanding of the customers' requirements, expectations, and perception of service with respect to its price. The EL and SQ, service values remain the key attributes of service performance and customers' repurchase behavior, which can only be achieved through satisfied and loyal employees. According to (Srinivas et al., 2019), top management commitment, employee involvement, training and development, customer focus, supplier quality management in a systematic way to enhance organizational performance.

2.3 Triangle and pyramid models

In today's environment companies are facing challenges in developing and implementing new technologies for meeting and exceeding customers' expectations. The triangle model of Kotlar (1994) suggests that in addition to external marketing activities pertaining to 4Ps (product, price, promotion, and place), the internal ones are also equally important. The effective marketing of service requires both internal and interactive marketing activities: internal marketing considers service employees as internal customers. They are to be provided with suitable training, support, motivation, and reward to inspire them to serve external customers. The interactive marketing, on the other hand, deals with making an excellent impression on customers preferably during their first encounters. However, in the said work above, the contribution of technology was not considered. Therefore, it was thought that triangle model falls short of completely connecting all linkages involved in a typical buyer-seller relationship.

Grewal (1996) proposed pyramid model with the purpose of capturing complexities due to the growing infusion of technology for serving end users (EUs). He came up with pyramid model of service marketing as an extension of Kotler's (1994) triangle model, in which technology was added as a third dimension, resulting in a pyramid model, thereby generating three additional linkages: Company-Technology, Technology-Employee, and Technology-Customer linkages. The pyramid model thus addresses the shortfall by adding technology dimension to two-dimensional triangle model and emphasizes the need for effectively managing these three additional linkages for gaining complete advantage and marketing effectiveness. The Quality Circle and Cause and Effect in the pyramid's structure (QC-CE-PYRAMID model) represent an excellent foundation for designing an efficient and effective quality information system.

Subsequently, Parasuraman et al. (2000) proposed that technology is likely to be a major force in shaping

buyer-seller interactions in future. According to pyramid's structure, the vertical and horizontal connections among the employees would result in better perceptions of SQ and service value leading to an ultimate gain in CL. According to (Demirkan, 2008), pyramid model contributed towards SQ and customer purchase behavior in SPC. It also opens up important avenues for scholarly inquiry into how technology might influence the quality-value-loyalty chain, which would lead to better SQ and enhanced service values. It can also achieve specified quality of work with an increased productivity, economy and employees' satisfaction.

Hence, customers' component of pyramid model has one-to-one correspondence with the quality-value-loyalty chain. The technological contributions are remarkable and they bring in value by improving SQ and customers purchase behavior. Technology demanding customers are technology savvy, they are forward looking, young, and energetic, and are willing to face challenges. Such customers can be satisfied and will become loyal with innovative and technology driven companies. However, the effects of employee and customer attributes were not factored in and their impact on company profitability were not addressed in Triangle and Pyramid models. Based on the objective of the study and literature review, the research questions are raised, which are discusses below:

2.4 Research questions

The above discussion provided the motivation to examine the fundamental provisos and test the applicability of SQ and EL with SPC's theory. To be specific, it attempts to address the following questions:

- a. Does job satisfaction enhance employees' loyalty for Original Equipment Manufacturers (OEMs) and service providers (SPs)?
- b. Does EL improve CS and CL and lead to repurchase and positive word-of-mouth to potential customers?
- c. Does repurchase behavior of customers increase sales and profitability for OEMs and service providers?
- d. Is SQ and EL influence SPC' philosophy for service provided by OEMs to SPs and from SPs to EUs?

To accomplish this goal, the focus was placed entirely on individual side of value creation process, through face-to-face interactions with structured questionnaires.

3. PROPOSED MODEL

The original SPC model of Heskett et al. (1994) was proposed to connect SQ, EL, CS, CL and profitability of an organization. In this context the linkages among the three tiers i.e. internal assets, operational efficiency, and turnover in terms of revenue and profitability were

tested by analyzing data obtained from respective sources viz. from OEMs, SPs, and EUs. The conceptual model constructed for the present study appears in Figure 1, which shows all the relevant attributes and the way they influence each other. This way the classic

linear SPC model is extended to multiple players with many interconnections forming a two-dimensional view of ‘influence links’ connecting attribute nodes.

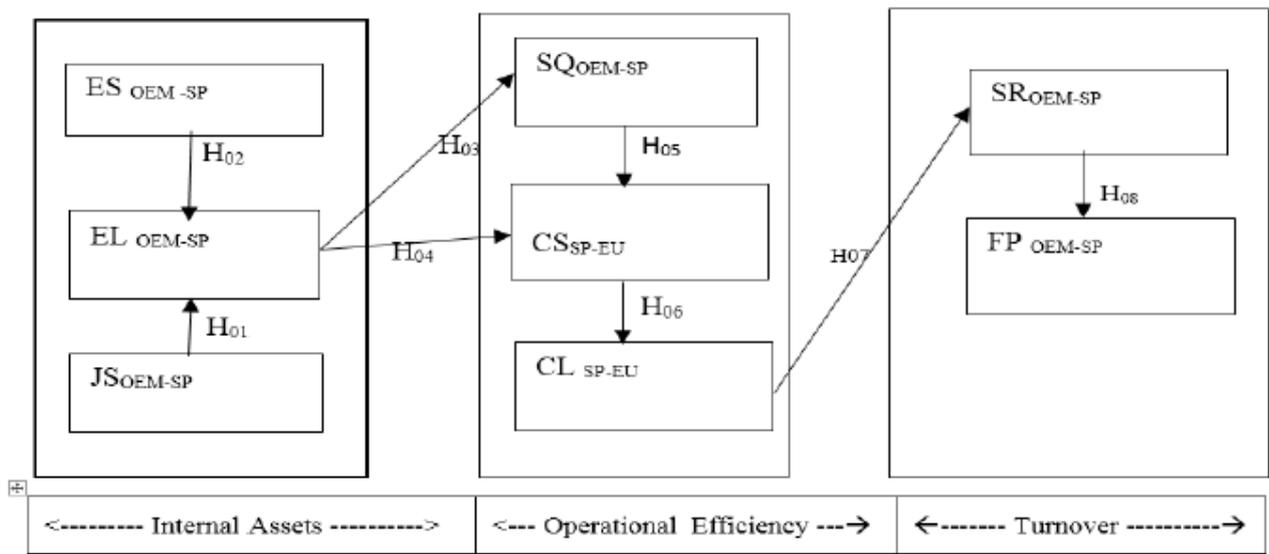


Figure 1. Influence Diagram

3.1 Hypotheses

The primary objective was to evaluate how SQ and EL affects service delivery system and it improves CS, CL and its impact on profitability of firms. Based on the proposed model and considering the present understanding of the model in the literature, the following research hypotheses were developed and tested with statistical tools:

- H₀₁ – Job satisfaction (JS) has a positive impact on employee loyalty (EL)
- H₀₂ – Employee satisfaction (ES) has a positive impact on employee loyalty
- H₀₃ - Employee loyalty has a positive impact on service quality (SQ)
- H₀₄ –Employee loyalty has a positive impact on customer satisfaction (CS)
- H₀₅ - Service quality has a positive impact on customer satisfaction
- H₀₆ – Customer satisfaction has a positive impact on customer loyalty (CL)
- H₀₇ - Customer loyalty has a positive impact on sales from repurchase and referrals (SR)
- H₀₈- Sales from repurchase has a positive impact on firms’ profitability (FP)

3.2 Data and Sample

All possible efforts were made to collect balanced samples representing all segments of the population. Prior consents were taken from OEMs and SPs for their participation. Following the conventional wisdom

existing in current literature, and was proposed to collect a minimum of 60 (Yee et al., 2011), 176 (Khatibi, 2002) and 600 (Homburg et al., 2009) samples from OEMs, SPs, and EUs respectively. Yee et al., (2011) found that sample sizes of 45 from agency services were considered adequate for their research. In this study, OEM’s functions were considered to be similar to agency services. Hence, it is acceptable to consider a minimum of 60 valid samples from OEMs. In a similar way, sample sizes for SPs and EUs were chosen based on earlier research. The primary sources of data originate from the three main players in this study. As a preliminary step to gathering data for statistical analysis, various relevant attributes associated with the model were first identified and tagged with suitable subscripts to identify the source of data.

3.3 Results

Correlations matrix of all 7 variables of SPC’s was considered for OEMs, service providers, and four variables for EUs were taken to determine the extent and significance of correlations with each other. The four variables of EUs are EUs perception of SQ (SQ_U), EUs satisfaction (CS_U), EUs loyalty (CL_U) and EUs willingness to repurchase and refer (SR_U). The sample sizes for correlation matrix of OEMs, SPs, and EUs are 66, 201 and 621 respectively. Following paragraph discusses the correlation matrixes.

3.3.1 Correlation analysis of SPC's variables for OEMs

Table 1 shows the results of the correlation test of variables computed using 66 collected questionnaires from SPs. The test result confirms that all 7 dimensions of SPC's variables are inter-related to each other and each variable is positively and significantly correlated at 0.01 levels, 2-tailed. The correlation co-efficient of OEMs' CL (CL_M) and OEMs' SR sales from repurchase

and referrals (SR_M) is 0.714, and OEMs' SQ (SQ_M) and OEMs CS (CS_M) is 0.674, which are in line with the assumptions that CL_M leads to SR_M, and SQ_M leads to CS_M. The result shows that OEMs are exploring all possibilities to keep the satisfaction and loyalty levels of customers by upholding SQ, EL, engaging all stakeholders for increase CS and CL. According to (Malik, et al 2012), Customer satisfaction has a positive impact on propensity.

Table 1. Correlation Analysis of S-PC's Variables for OEMs'

		ES _M	EL _M	SQ _M	CS _M	CL _M	SR _M	FP _M
ES _M	Pearson Correlation Sig (2-tailed) N	1 66	0.662 0.000 66	0.378 0.002 66	0.369 0.003 66	0.455 0.000 66	0.475 0.000 66	0.389 0.001 66
EL _M	Pearson Correlation Sig (2-tailed) N		1 66	0.609 0.000 66	0.598 0.000 66	0.611 0.000 66	0.480 0.000 66	0.396 0.001 66
SQ _M	Pearson Correlation Sig (2-tailed) N			1 66	0.674 0.000 66	0.541 0.000 66	0.348 0.004 66	0.369 0.002 66
CS _M	Pearson Correlation Sig (2-tailed) N				1 66	0.647 0.000 66	0.473 0.000 66	0.402 0.001 66
CL _M	Pearson Correlation Sig (2-tailed) N					1 66	0.714 0.000 66	0.606 0.000 66
SR	Pearson Correlation Sig (2-tailed) N						1 66	0.642 0.000 66
FP _M	Pearson Correlation Sig (2-tailed) N							1 66

Other strong correlation coefficients are found between OEMs ES (ES_M) and OEMs EL (EL_M), CS_M and CL_M, SR_M and OEMs FP (FP_M), which are in line with SPC's assumptions. The correlation coefficient for SR_M and FP_M is 0.642, showing that OEM's sales will have impact on profitability, although correlation coefficients are lower than those for other variables, which means that profitability is not linearly related to the sales. The lowest correlation 0.0609 was observed between EL_M and SQ_M, due to the fact that SQ_M feedback was taken from OEMs' customers who are SP's employees, i.e. how service providers' employees perceive OEMs' SQ. According to (Hasin et al., 2011), it establishes the fact of dependence of perception of quality on culture has been proved once again.

3.3.2 Correlation analysis of SPC's variables for service providers

Table 2 shows correlation results of 201 questionnaire responses that were received from service provider. The result indicated that all variables were positively and significantly correlated at 0.01 levels (2-tailed), which conforms to SPC's characteristics.

The highest correlation co-efficient was observed between CL_S and SR_S (=0.737), which was in accordance with the assumption that CL_S leads to SR_S. Similar results were found for OEMs, i.e. CL_M leads to SR_M. In general, SPs fulfill customers' expectations to retain their loyalty and to keep the competitors at bay. High correlation coefficients were found between ES_S and EL_S (=0.689), SQ_S and CS_S (=0.655), CS_S and CL_S (=0.658) that imply that once employees are satisfied they will remain loyal to the company. The employees' loyalty will improve SQ_S, which will in turn lead to better CS_S and CL_S. According to Fazlzadeh et al. (2012), as the levels of satisfaction, loyalty, and capability improve, so will grow the service quality of employees, customers' satisfaction and loyalty. The lowest correlation coefficient is observed between EL_S and SQ_S (=0.465). The reason for lower correlation is that the opinions of SPs' employees were taken on SQ_S delivered to the EUs. Results were correlated to each other and in line with assumptions and postulates of SPC. Highly satisfied customers drive growth and profitability in service businesses and to keep them profitable, one has to manage service-profit chain (Heskett et al. 1994).

Table 2. Correlation Analysis of S-PC’s Variable for Service providers

		ES _s	EL _s	SQ _s	CS _s	CL _s	SR _s	FP _s
ES _s	Pearson Correlation	1	0.689	0.294	0.245	0.314	0.361	0.232
	Sig (2-tailed)		0.000	0.000	0.000	0.000	0.000	0.001
	N	201	201	201	201	201	201	201
EL _s	Pearson Correlation		1	0.465	0.331	0.511	0.517	0.289
	Sig (2-tailed)			0.000	0.000	0.000	0.000	0.000
	N		201	201	201	201	201	201
SQ _s	Pearson Correlation			1	0.655	0.615	0.465	0.473
	Sig (2-tailed)				0.000	0.000	0.000	0.000
	N			201	201	201	201	201
CS _s	Pearson Correlation				1	0.658	0.514	0.395
	Sig (2-tailed)					0.000	0.000	0.000
	N				201	201	201	201
CL _s	Pearson Correlation					1	0.737	0.429
	Sig (2-tailed)						0.000	0.000
	N					201	201	201
SR _s	Pearson Correlation						1	0.533
	Sig (2-tailed)							0.000
	N						201	201
FP _s	Pearson Correlation							1
	Sig (2-tailed)							
	N							201

3.3.3 Correlation analysis of SPCs variables for end users

Table 3 depicts correlation results among SQ_U, CS_U, CL_U and SR_U variables and it was found that all the variables were positively and significantly correlated with each other at 0.01 levels (2 tailed). The highest

correlation was observed for CL_U and SR_U (= 0.728), which means that CL_U influences strongly SR_U. Similarly, higher correlation coefficient were observed between CL and SR for OEMs and Service Providers, which was in line with the assumptions and postulates of SPC, viz that CL leads to sales from repurchase and referrals.

Table 3. Correlation Analysis for S-PCs Variable for end users

		SQ _U	CS _U	CL _U	SR _U
SQ _U	Pearson Correlation	1	0.605**	0.596**	0.551**
	Sig (2-tailed)		0.000	0.000	0.000
	N	621	621	621	621
CS _U	Pearson Correlation		1	0.690**	0.614**
	Sig (2-tailed)			0.000	0.000
	N		621	621	621
CL _U	Pearson Correlation			1	0.728**
	Sig (2-tailed)				0.000
	N			621	621
SR _U	Pearson Correlation				1
	Sig (2-tailed)				
	N				621

High correlation values also exist between SQ_U and CS_U (=0.605) and CS_U and CL_U (=0.690), which signify that SQ leads to CS and CL. These findings show that all the links were interconnected to each other and were in agreement with the assumptions embodied in Heskett’s postulates. Therefore one can emphatically assert that SPC model truly captures the internal dynamics of the business operations by demonstrating that improvement in internal SQ, ES, EL certainly boosts external service value.

4. TESTING OF HYPOTHESES

H₀₁ – Job satisfaction has positive impact on employee loyalty

H₀₂ – Employee satisfaction has a positive impact on employee loyalty

The OEM employees’ feedback was analyzed to find out the relationship job satisfaction attribute has with employees’ satisfaction and their loyalty. The null hypothesis was tested by using OLS regression to find out unknown parameters in the regression equation where the dependent variable EL_M measures “how

satisfaction of OEM's employees influences their loyalty". Here employee's satisfaction (ES_M) is the independent variable and one obtains:

$$EL_M = 0.338 + 0.895 * ES_M \quad (1)$$

On closer examination, it is found that the relationship between ES_M and EL_M was unbiased, with the value of adjusted $R^2 = 42.9\%$, and $ES_M (= 0.895)$, which implies that a unit change in ES_M will have an impact of 0.895 in EL_M . The path model between the ES_M and EL_M was well linked, having a global fit value (Adjusted $R^2 = 0.429$, $t = 0.793$, $F = 7.060$ at $p = 0.000$) which was significant and so the model acceptably fits with empirical data. The satisfaction of OEMs' employees may be due to employee motivation, job satisfaction, and organizational culture, all having a bearing on their loyalty. The result supports the hypothesis (H_{01}) that job satisfaction has positive impact on employee loyalty, which is in tune with the findings of other researchers such as (Kukanja et al., 2019), the results of this study indicate that, from managers' perspectives, only three quality attributes – Assurance, Empathy, and Tangibles, are important. Similarly, it also supports the hypothesis (H_{02}) that employee satisfaction has a positive impact on employee loyalty. **Accordingly, it is understood that job satisfaction has positive impact on employee satisfaction and loyalty**

H₀₃ - Employee Loyalty has a positive impact on Service Quality

Data collected from OEM's employees on the relationship between OEM's employees' loyalty and SP's perception of service quality were analyzed. The null hypothesis was tested to find "how OEM's employees' loyalty influences, service quality", and it takes OEM's service quality (SQ_M) as dependent variable and employee's loyalty (EL_M) as an independent variable, as in:

$$SQ_M = 2.578 + 0.383 * EL_M \quad (2)$$

The relationship between SQ_M and EL_M reveals an unbiased result, with adjusted $R^2 = 36.1\%$, $EL_M (= 0.383)$ and the path model for EL_M and SQ_M is well linked that includes global fit value (Adjusted $R^2 = 0.361$, $t = 12.107$, $F = 6.139$ at $p = 0.000$) which was significant and the model acceptably fits with empirical data. The result shows that an increase in OEMs' employees' loyalty will have positive impact of 0.383 on OEMs' service quality, which is in agreement with our assumption and SPC's postulates that EL leads to enhanced SQ. According to (Khan et al., 2020), Total quality management (TQM) practices such as performance appraisal, culture, communication, staffing, and training are determinants of operational performance. Therefore, SQ can be improved through employees' contribution, participation and involvement in a service delivery system, which is possible only with satisfied and loyal

employees. **Accordingly, it follows that employee loyalty has positive impact on service quality.**

H₀₄ - Employee Loyalty has a positive impact on Customer Satisfaction

This hypothesis focuses on the relationship between the loyalty of OEM's employees and their customer's satisfaction i.e. service provider's satisfaction with OEMs (i.e. customers of OEM are employees of SP). Data were collected from OEM's employees on EL and CS by considering OEM's view of their CS, i.e. how OEMs perceived Service Providers' satisfaction. The null hypothesis tested here is "how OEM's employee loyalty works as a stimulus on customer satisfaction". With CS_M as dependent variable and EL_M as an independent variable one derives the following:

$$CS_M = 2.031 + 0.441 * EL_M \quad (3)$$

The relationship reveals an unbiased result with adjusted $R^2 = 34.8\%$, and value of $EL_M (= 0.441)$. The path model for EL_M and CS_M was well linked that included global fit value (Adjusted $R^2 = 0.348$, $t = 8.061$, $F = 5.971$ at $p = 0.000$) which was significant and the model acceptably fits with empirical data. The result shows that an increase in OEMs' employees' loyalty will have positive impact of 0.441 in OEMs' customer satisfaction. According to Theoharakis (2009), satisfied and loyal employees were better in developing relationships with customers and strategic partners, which is borne out by the present result. **Accordingly, it is clear that employee loyalty has a positive impact on customer satisfaction.**

H₀₅ - Service Quality has a positive impact on Customer Satisfaction

This hypothesis tests the relationship between SQ offered by the SPs to the EUs, and their level of satisfaction. The null hypothesis considered is "how SP's SQ influences end users' satisfaction", in which customers' satisfaction (CS_U) was considered as a dependent variable and service quality (SQ_S) as an independent variable. The SQ_S here stands for "self-assessment" of SQ as assessed by SP's employees. The relationship obtained is:

$$CS_U = 1.076 + 0.623 * SQ_S \quad (4)$$

The path model between SQ_U and CS_U was well linked with global fit value of adjusted $R^2 = 0.365$, $F = 18.904$, at $p = 0.000$, SQ_U which was significant and the model acceptably fits with empirical data. The test result showed that unit change in service quality will have positive impact of 0.623 on end users' satisfaction. The contribution by SQ was remarkable in satisfying the customers. The test result was, once again, in complete agreement with SPC's postulate viz. SQ leads to customers' satisfaction and improved SQ will promote

continuity of purchase and positive words of mouth. In telecom industry, customers are able to observe and evaluate SQ throughout the use of service, since it can be easily measured electronically or through air interface using mobile devices. According to (Gritsuk et al., 2020), managing the quality of products in the digital economy based on intellectual accounting. **Accordingly, it is noted that service quality has positive impact on customer satisfaction.**

H₀₆ – Customer Satisfaction has a positive impact on Customer Loyalty

Data collected from Service Providers, which gave exclusive views of Service providers’ employees on customers’ satisfaction and loyalty, were used to validate the relationship between customers’ satisfaction and loyalty. Since these employees’ were closely associated with EUs, they could easily gauge their perception. According to Towler et al. (2011), service climate is a concern for employees and for customers, which is important for a service delivery system. Null hypothesis tested by using OLS regression is: “how SP’s customer’s satisfaction lead to their loyalty”. Taking CL_S as dependent variable and CS_S as an independent variable, one arrives at:

$$CL_S = 1.500 + 0.599 * CS_S \quad (5)$$

The results obtained were unbiased and the path model between CS_S and CL_S is well linked with global fit value of value of adjusted R² =0.431, t=9.851, F=12.338, at p=0.000, CS_S =59.9 which was significant and the model acceptably fits with empirical data. The result shows that service providers’ assessment of customer’s satisfaction will have positive impact of 0.599 on customers’ loyalty. An increase in customer satisfaction will have favorable impact on EUs’ loyalty; however, their loyalty was not linearly proportional due to interference from other myriad factors such as changing market competition, service innovation, price, customers’ perception of service, word of mouth, service climate, and brand name etc. **Accordingly, it is posited that customer satisfaction has a positive impact on customer loyalty.**

H₀₇ - Customer Loyalty has a positive impact on Sales from Repurchase and Referrals

Data collected from SPs was used to test relationship between the customer loyalty and sales from repurchase and referrals, which exclusively reveals the SP’s insight on EU’s loyalty, their likely repurchase intentions, their likely future association, and their satisfaction level. The SPs shall not only work to satisfy customers but to win their hearts too to ensure loyalty by meeting their expectation and adding value to the existing services, so that customers remain satisfied, become loyal and feel contented. The null hypothesis, tested by using OLS regression, viz. “how SPs customer loyalty lead to sales

from repurchase and referrals”, takes SR_S as dependent variable and CL_S as an independent variable, thus arriving at:

$$SR_S = 0.558 + 0.848 * CL_S \quad (6)$$

The results obtained were unbiased and the path model between CL_S and SR_S was well linked with global fit value of adjusted R²=0.540, t=2.983, F=15.361, at p=0.000, CL_S = 84.8, which was significant and the model acceptably fits with the empirical data. The result shows that Service providers’ customer loyalty will have positive impact 0.848 on sales from repurchase and referrals. Increased sales from repurchase and referrals will have increased profit, and each sale will contribute to profit margin, lower operating cost, improvement in customers’ retention, and reduction in customers’ acquisition cost. The loyal customers will be repurchasing services and become a brand ambassador by recommending their experience to potential customers. **Accordingly, it is inferred that customer loyalty has a positive impact on sales from repurchase and referrals.**

H₀₈- Sales from Repurchase has a positive impact on Firm’s Profitability

OEMs’ data were used to test the relationship between sales from repurchase and referrals and its impact on profitability. The null hypothesis was tested by considering FP_M as dependent variable and SR_M as independent variable as shown in:

$$FP_M = 0.996 + 0.732 * SR_M \quad (7)$$

It was observed that the path model for SR_M and FP_M was significant and well linked with global fit value (Adjusted R²=0.403, t= 2.580, F= 6.701, at p=0.000). The model was found to acceptably fit with the empirical data. The result indicated that OEMs’ sales from repurchase and referrals will have positive impact of 0.732 on OEMs’ profitability, and to maintain and grow profitability, OEMs need to embrace the SPC concept. Sales from repurchase and referrals are important factors in determining profitability. It can only grow once service provider takes care of customer and keep them satisfied and loyal. **Accordingly, it stands to reason that sales from repurchase have a positive impact on firm’s profitability.**

5. DISCUSSIONS, RESEARCH FINDINGS AND LIMITATIONS

The present study may be characterized as an attempt to empirically validate the assumptions and postulates on SQ, EL and SPC, which is based by extending the core architectural features of the original prototypical model to make it applicable to a reasonably complex service industry viz. telecom sector. The present research concentrated on services flowing throughout the entire

chain from OEMs to SPs to EUs, thereby constituting a three-tier model of services chain consisting of internal assets, operational efficiency, and turnover. This “three-tier, two-stage” model, under rubric nodes has interlinked by a mesh of service flows. The chain is formed by considering multiple paths through various attributes of OEMs, SPs and EUs. As a chain is only as strong as its weakest link, the present analysis suggests that the attribute SQ, EL might be that most important link crucial for the corporate success. Therefore the employees contribute extensively and significantly in enhancing SQ and productivity by adding value to products/services for obtaining competitive advantages. It remains as one of the most critical components of business success. In this way, the present research has made a comprehensive study by evaluating the influence SQ, EL and SPC’s attributes in telecom service industry.

5.1 Research findings

The present work clearly suggests that telecom service industry should view SQ, EL and SPCs’ attributes as its strategic and tactical asset. It was earlier observed that SQ and employees engagement are valuable assets in a service industry, and the growth of industry depends on employees’ commitment. SPs should continuously monitor SQ to maintain EUs’ satisfaction, which can be achieved through employee training, retraining and skills development. The service organizations should pursue EL in earnest, as loyal employees are likely to develop better relationships and forge friendly rapport with customers. It would lead to improved SQ for SPs and OEMs as well. To maintain sustainable growth, industry shall take due care of employees by keeping them satisfied by regularly engaging and involving them in corporate activities and programs.

Another aspect of these findings was that service organization must work on EL, because loyal employees are highly likely to build better relationship with EUs. Satisfied and loyal employees are in a position to deliver high SQ and improved productivity. Higher productivity would improve efficiency that will definitely have a bearing on higher revenue and profitability. The increased profitability can be shared with shareholders, employees, and customers by way of better promotion schemes. Higher efficiency would also satisfy shareholders, would increase ES and EL, and would bring in captive customers. A recent study by Ansari et al. (2018) shows that telecom service industry should view all of SPCs’ attributes as its strategic and tactical asset.

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Therefore, the main take-away of this work or the principal lesson a service manager has to learn to improve SQ, EL, and practice and manage SPC attributes. And these attributes should be measured frequently on a regular basis with appropriate follow-up action put in place. The results of all hypotheses broadly agree with the assumptions and postulates. The present study thus confirms and reiterates the conclusion that SQ and EL drive growth and profitability in service businesses, and to keep them profitable, it is necessary to embrace (wholeheartedly) the philosophy and keep a close eye on the health of each link in the service model so that the firm stands on a firm financial footing!

5.2 Limitations and future research

A couple of limitations are in order now. As this survey was conducted in an Arabic country, the questionnaires were written deliberately in simple English so that the respondents don’t feel intimidated by a foreign language. Therefore, it is likely that a few of the questions might have not been cleared to EUs or not been explained well, resulting in possible mismatch or discrepancy between the recorded response and their true intent. Secondly, feedbacks on questionnaires were collected using convenience sample from entire population, so possibly a small number of elements might have been left out in the survey.

Future research can explore the impact of SQ, EL and SPC in industries with a mix of product and service, where customers obtain product and service through a single window or a single point of contact. The present work can be seen as a step towards encouraging research in that direction and to constructing more detailed or refined SQ, EL and SPC linkages in more complex product-cum-service oriented industries.

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