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# THE IMPACT OF SERVICE QUALITY ON ORGANIZATIONAL PERFORMANCE IN THE MOBILE TELECOMMUNICATIONS SECTOR IN EGYPT

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A B S T R A C T

*The purpose of this paper is to empirically investigate the relationship between service quality (SQ) and organizational performance (OP) within the Egyptian mobile telecommunications setting. A valid research instrument was utilized to conduct a survey of 384 top- middle- and supervisory level managers from 3 Egyptian mobile telecommunications companies. The results indicate that SQ has a significant positive impact on OP. the results also show that Egyptian mobile telecommunications companies have mostly emphasized the responsiveness, reliability and convenience of their services to boost their OP. The findings reveal that SQ is a true driver of OP in an intensive knowledge-based industry as telecommunication. This is one of few researches to study the relationship of SQ and OP and the first to investigate this relationship in Egypt within the mobile telecommunications setting. This is an empirical research applied in the Egyptian telecommunications setting. Its relationships need further investigation in other settings and countries. Also, traditional limitations of a cross-sectional study apply with respect to the attribution of causality and the time lag effects.*

## 1. INTRODUCTION

Over the past several decades, in the industrialized nations, the service sector has become the leading section of the economy and the subject of SQ has come to the forefront of services marketing research. The researches revealed that SQ is a requirement for success and survival in today's competitive environment (Yuen et al., 2018; Sim et al., 2015). The interest in SQ has increased noticeably (Abd-Elrahman, 2012). Yee et al. (2010)

proposed that satisfaction with SQ has a positive impact on customer loyalty to the organization, which in turn enhances organizational profits. Research also shows that SQ results in customer loyalty and attraction of new customers, employee satisfaction and commitment, reduced costs, positive word-of-mouth, improved corporate image and enhanced business performance (Berry et al., 1989). The results of Ramayah et al. (2011) showed that SQ partially mediates the impact of market orientation on OP. Also, Yuen et al. (2018) examined the

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interaction effects of corporate social responsibility and SQ on job satisfaction, customer satisfaction, and financial performance in the context of shipping. Considerable research has been conducted to understand SQ and such causal relationships across a variety of service settings. Despite the extant literature, few researches (Wang et al. 2019; Almutawa et al, 2018; Negi, 2009) have focused on the communications industry in general.

One of the most important questions in business has been why some organizations succeeded while others failed. OP has been the most important concern for all organizations, whether for profit or non-for profit ones. It has been very significant for managers to know which elements affect the performance of an organization in order for them to take suitable steps to initiate them. Nevertheless, defining, conceptualizing, and measuring performance have always been a difficult task. Researchers have different definitions and opinions of performance, and this remains to be a contentious dispute among organizational researchers (Barney, 1991). The main concern is the suitability of numerous approaches to the concept utilization and measurement of OP (Venkatraman & Ramanuiam, 1986).

The aim of this research is to examine the influence of SQ elements on OP in order to see if this link can explain SQ activity within the Egyptian mobile telecommunications setting. It is considered the first research in Egypt that tries to measure these constructs and investigate their relationship in this very important setting.

Based on its objectives, this paper is structured as follows: first, a literature review is presented about SQ and OP. Next, hypotheses are defined, and the research framework is established. After that, a research methodology that includes questionnaire design, measures, population, sample, validity and reliability. Then, results, discussion, practical implications and conclusion are provided. Finally, limitations of the study and directions for future research finalize the paper.

## 2. LITERATURE REVIEW

### 2.1 Service Quality

In the past few decades, researchers and practitioners directed a lot of attention to SQ due to its strong effect on customer satisfaction, customer loyalty, business performance and profitability. SQ is usually defined as a measure of how well the delivered services level matches customer's expectations (Santos, 2003). As an example, Gronroos (1984) outlined perceived SQ, as "the outcome of an evaluation process, where the consumer compares his expectations with the service he perceives he has received". Furthermore, Parasuraman et al. (1988) defined SQ as the total evaluation of a specific service firm that comes from comparing the performance of that firm with the customers' general expectations of the firms performance in that industry.
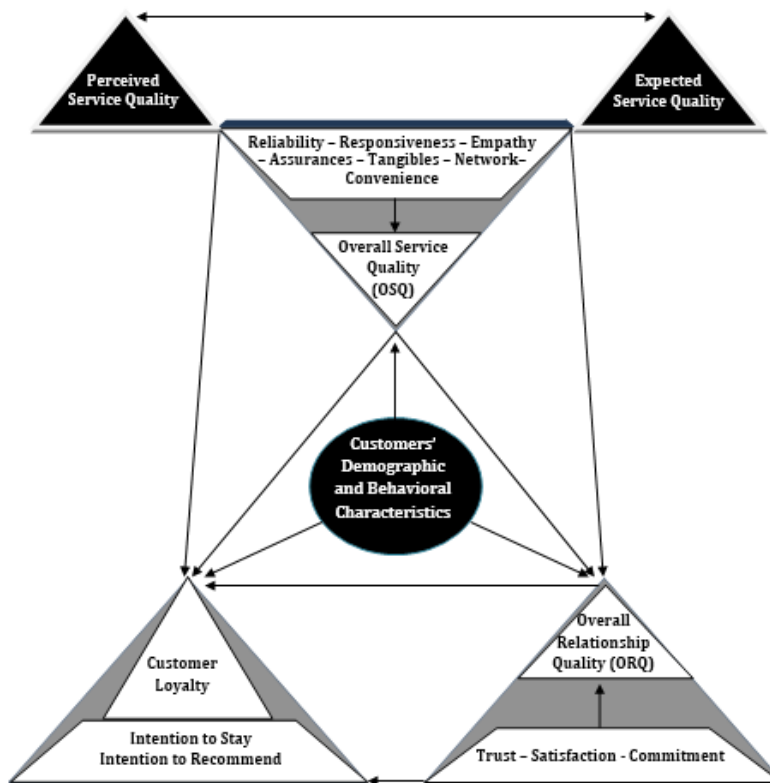


**Figure 1.** The impact of service quality on relationship quality and customer loyalty

(Abd-Elrahman, 2012)

The usage of the SERVQUAL scale, presented by Parasuraman et al. (1988), pre-dominated the conceptualization and measurement of the SQ construct. Their measurement of SQ suggests a gap-based comparison of the performance perceptions and expectations of consumers. Grönroos (1984) proposed the first SQ model, and later other important researchers presented their own conceptualizations (e.g. Parasuraman et al., 1985, 1988, Cronin and Taylor, 1992; Dabholkar et al., 1996; Brady and Cronin, 2001). All these models share a joint feature: They propose a multidimensional SQ conceptualization that is essentially related to the measurement of consumer quality perceptions. Thus, SQ models introduce a framework for understanding the SQ concept, as well as how to measure SQ in each proposed conceptualization.

SQ plays a critical role in achieving a firm's competitive advantage (Storbacka et al., 1994; Roberts et al., 2003) and affects significantly relationship quality with the customer and customer loyalty (Abdel-Rahman, 2012) (see Figure 1). Zeithaml et al. (1996) suggested that satisfaction with SQ has a positive effect on customer loyalty to the organization, which leads to increased organizational profits. Research also shows that SQ leads to attraction of new customers and customer loyalty, positive word-of-mouth, employee satisfaction and commitment, reduced costs, enhanced corporate image, and increased business performance (Berry et al., 1989). Considerable research has been conducted to understand SQ and such causal relationships across various service settings. SQ is measured to assess service performance, manage service delivery, diagnose service problems, and as a basis for employee and corporate rewards (Parasuraman et al., 1988).

## 2.2 Organizational performance

The dissatisfaction of traditional backward looking accounting systems led to a performance measurement revolution in the late 1970s (Nudurupati et al., 2011). Each organization has its own reasons to measure performance. Businesses measure performance often to be capable of determining whether they meet the needs and wants of their customers, to reveal what they know about their activities and what they do not know, to ensure that the decisions are made based on real data not on emotional or assumptions, to reveal the problematic areas or to define those areas that could develop, to determine if they are generally successful or not, (Parker, 2000).

The basic concept of performance is doing today what will produce an outcome of measured value tomorrow (Neely, 2007). According to Neely et al. (1995, p. 1229), "performance measurement is defined as "The process of quantifying efficiency and effectiveness of actions". Therefore, performance can be defined as the ability of an organization to implement a chosen strategy and performance measurement system is "The set of metrics used to quantify both the efficiency and effectiveness of actions". According to Amaratunga and Baldry (2003, p. 174) a performance measurement system is:

"A process of assessing the progress towards realizing pre-determined goals, including information on the efficiency with which resources are transformed into goods and services, the quality of those outputs and outcomes, and the effectiveness of organizational operations in terms of their specific contributions to organizational objectives".

OP being criterion or dependent variable in the field of management has been one of the most examined variables to measure organizational success. According to Koohang et al. (2017), OP shows the development and progress of an organization. Ngah and Ibrahim (2010) defined OP as "comparing the expected results with the actual ones, investigating deviations from plans, assessing individual performance and examining progress made towards meeting the targeted objectives" (p. 503).

According to Griffin (2003), OP is defined as the extent to which the organization is capable of meeting the needs of its stakeholders and its own needs for success and survival. Accordingly, performance is not suitably equated with a high market share, a certain profit margin, or having the best products, although these things may result from entirely achieving description of performance. To him, OP is influenced by multitude elements that are combined in unique ways to both enhance and detract performance. Albadvi et al. (2007) define OP from the angle of customer results, people results, operational results and growth results. Mobile telecommunications characteristics include a special relationship with the customer, which implies that it is necessary to measure performance in a broader sense considering the consumer's perspective. OP is comparing the expected results with the actual ones, investigating deviations from plans, evaluating individual performance and examining progress made towards meeting the targeted objectives (Iqbal et al., 2018).

Nowadays, there is a great number of measurement systems and conceptual frameworks. According to Silvi et al. (2015), strategic performance measurement systems are characterized by: integration of financial and nonfinancial measures, integration of long-term and short-term horizons, inclusion of forward-looking perspectives (e.g. human resource management, innovation), combination of external and internal orientation of the measures including customer, supplier, and competitor perspectives, and identification of causal relationships between the different measures and perspectives. Many contributions examine the adoption and use of specific strategic performance measurement models. In this perspective, the balanced scorecard developed by Kaplan and Norton (1992), has received the

greatest level of attention with numerous studies investigating its characteristics and effectiveness in practice.

## 3. THE RESEARCH HYPOTHESES AND PROPOSED FRAMEWORK

### 3.1 Service quality and organizational performance

The SQ research highlights two key themes that are related to how SQ influences OP. First, the literature suggests that SQ directly enhances and affects OP (e.g. Sim et al., 2015; Ramayah et al., 2011) and indirectly through organizational commitment (Ko and Ko, 2012) or customer satisfaction (Al-Hawari and Ward, 2006). Second, the empirical literature suggests that the role of SQ in enhancing OP is better understood when SQ mediates the relationship between several organizational and managerial practices and OP. These practices include management process alignment (Sumardi and Fernandes, 2018) lean production (Agus and Hajinoor, 2012), market orientation (Ramayah et al., 2011), employee loyalty (Yee et al., 2010), and quality context and market orientation (Raju and Lonial, 2002). An interesting notice is that most of the literature focused on investigating the direct and indirect influence of SQ, which is abstract or intangible, on financial performance which is tangible (Sim et al., 2015; Al-Hawari and Ward, 2006). Therefore, it is hypothesized that the better SQ gives better OP:

*H1: SQ (tangibles, reliability, responsiveness, assurance, empathy, network aspect and convenience) is positively related to OP.*

*H1. a SQ (tangibles, reliability, responsiveness, assurance, empathy, network aspect and convenience) is positively related to financial performance.*

*H1. b SQ (tangibles, reliability, responsiveness, assurance, empathy, network aspect and convenience) is positively related to customer/market performance.*

*H1. c SQ (tangibles, reliability, responsiveness, assurance, empathy, network aspect and convenience) is positively related to learning and growth performance.*

*H1. d SQ (tangibles, reliability, responsiveness, assurance, empathy, network aspect and convenience) is positively related to business process performance.*

Based on the above literature and hypotheses developed, the research framework can be graphically presented as shown in Figure 2.
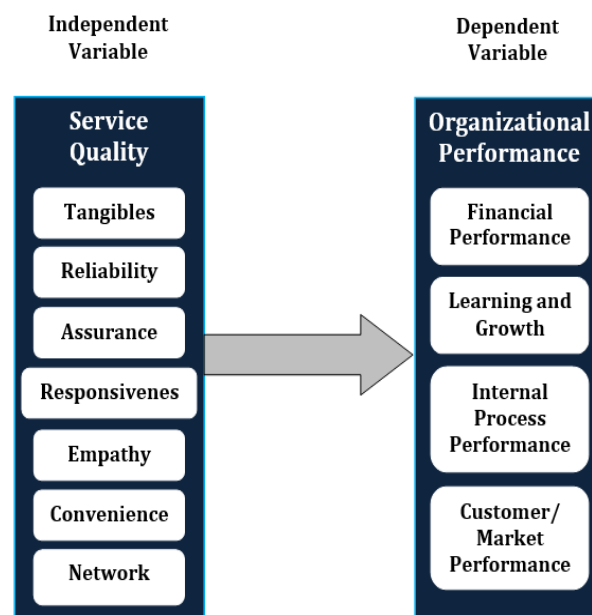


**Figure 2.** The research framework

## 4. RESEARCH METHODOLOGY

### 4.1 Questionnaire design and measures

In this research, the research tool used to collect needed data to test the research hypotheses is a questionnaire, which is designed to collect data related to the hypotheses variables and dimensions. The questionnaire is directed to the employees of the Egyptian mobile telecommunications companies (Vodafone, Orange and Etisalat) and consists of three parts.

*The first part* includes (5) items that identify the demographic characteristics of respondents like their gender, age, education, job grade and years of experience.

*The second part* measures the SQ of the Egyptian mobile companies from their employees' perspective. It is based on Negi's questionnaire which is based on the widely accepted and used SERVQUAL scale introduced by Parasuraman et al. (1988). Their measurement of SQ proposes a gap-based comparison of the expectations and performance perceptions of consumers. In the SERVQUAL instrument, 22 statements measure the performance across five dimensions of tangibles, reliability, responsiveness, assurance, and empathy, using a seven-point Likert type scale measuring both customer's expectations and perceptions. These dimensions were then modified and extended to seven dimensions with 27 statements by Negi (2009) to best fit in the context of the mobile communications setting by adding the network aspect and convenience dimensions, which the researcher similarly adds with some modifications. This part includes (31) close-ended statements for the SQ scale. Agreement with each statement is assessed on a five-point Likert-type scale

with end anchors 1 (strongly disagree) and 5 (strongly agree). These statements fall under seven dimensions of tangibles, reliability, responsiveness, assurance, empathy, network aspect and convenience. Of the (31) SQ items, (21) items were taken from the original SERVQUAL instrument and modified to fit the mobile telecommunications industry, deleting an item related to "giving personal attention" of "empathy" dimension, as found to be contradictory with the item "giving individual attention" and adding an item related to "safety of diseases when using the company services" of "assurance" dimension, and the remaining (9) items were added to the dimensions of measure, network quality and (service) convenience. (6) Of these (9) items were taken from Negi (2009) and the other (3) items, related to price schemes, value added services and easiness to subscribe and change services, were added by the researcher. Additionally negatively worded statements were converted into positive, and all the items were translated into local language (Arabic) before distributing the final questionnaire to respondents. However, unlike original SERVQUAL methodology of administering a two-part questionnaire with separate perception and expectation sections, the research measures only perceptions of the SQ.

***The third part*** measures the OP of the mobile companies, also from their employees' perspective. It is based on the four balanced scorecard dimensions; financial, customer/market, learning and growth and internal process. Its items are adapted from and based on the ten items of Sharabati et al. (2010) and Suraj and Bontis (2012) to fit within the four dimensions of the balanced scorecard of Kaplan and Norton (1992) and to best fit in the context of the mobile communications setting. It includes (16) close-ended statements under four sub-dimensions of financial performance, customer/market performance, learning and growth performance, and internal process performance, for measuring the dependent variable of OP. Each statement is assessed on a five-point Likert-type scale with end anchors 1 (bottom) and 5 (top).

## 4.2 Population and sample

The target population for this research comprised all employees of the Egyptian mobile telecommunications companies. In Egypt, there are four mobile networks; three of them are international investments and one is a public sector or national ownership. The researcher excluded the national network for some reasons:
1) Its public ownership is different from the other three networks.
2) Its management approach is different.
3) It launched its work in Egypt shortly and less than a year before the empirical study, which is a little period of time to assess its SQ or performance.

4) The number of its employees is much bigger than the other three companies, while the number of its subscribers is very few compared to the other companies.

Out of the sample frame of nearly thirty thousand employees of the three selected Egyptian mobile companies (Vodafone, Orange and Etisalat) and because of cost, effort and time constraints, a sample size of three hundred and eighty four (384) respondents were selected which can represent this very large population at a (95%) confidence level and a margin of error of (5%) (Sekaran, 2003, p. 294). In selecting the sample of 384 respondents, a simple random sampling was used. The sampling units are the managers and supervisors (top, middle and supervisory management) who are employees of the three Egyptian mobile telecommunications companies (Vodafone, Orange and Etisalat).

As shown in Table 1, there were more males than females. The majority of the respondents (64.3 %) were aged between 30 and 39 years. Most of the respondents (85.4 %) have attained at least a bachelor's degree. In terms of years of experience, about one half (49.5 %) of the total sample have from 6 to 10 years of experience and in terms of job grade, the majority (60.7 %) of respondents reported their job grade as a supervisor.

**Table 1.** Sample profile

| Characteristic | Frequency | % |
|---|---|---|
| ***Gender*** | | |
| Male | 202 | 52.6 |
| Female | 182 | 47.4 |
| ***Age*** | | |
| < 30 | 83 | 21.6 |
| 30–39 | 247 | 64.3 |
| 40–49 | 50 | 13.0 |
| 50 and above | 4 | 1.0 |
| ***Education*** | | |
| PHD degree | 18 | 4.7 |
| Master degree | 37 | 9.6 |
| Bachelor degree | 328 | 85.4 |
| Above medium degree | 1 | 0.3 |
| Medium degree | - | - |
| ***Job grade*** | | |
| Supervisor | 233 | 60.7 |
| Department manager | 118 | 30.7 |
| General manager | 31 | 8.1 |
| Senior management | 2 | 0.5 |
| ***Years of experience*** | | |
| ≤ 5 years | 125 | 32.6 |
| 6 – 10 years | 190 | 49.5 |
| 11 - 15 years | 60 | 15.6 |
| 16 - 20 years | 7 | 1.8 |
| > 20 years | 2 | 0.5 |

## 4.3 Validity and Reliability

The research instrument (questionnaire) was developed after a thorough examination of relevant empirical and theoretical studies related to the main research constructs, i.e., SQ and OP dimensions. The initial measurement items were designed in English. However, in order to ensure full understanding of survey items and to enhance response rate, the items were translated to the respective language of the respondents, namely Arabic language. A draft of the questionnaire was then subjected to academic refereeing, which included five professors with fluency in both the Arabic as well as the English languages from the business management department in the University of

Ain Shams. Additionally, the opinions of four managers working in mobile telecommunications companies operating in Egypt were sought to assess whether the questionnaire items were relevant, clear and understandable. Based on the two aforementioned steps, a final copy of the questionnaire was prepared for primary data collection. Thus, both face and content validity were ascertained.

To assess the construct validity, Confirmatory Factor Analysis was used. The graphical model is illustrated in Figure 3. The results of the confirmatory factor analysis are shown in Table 2.
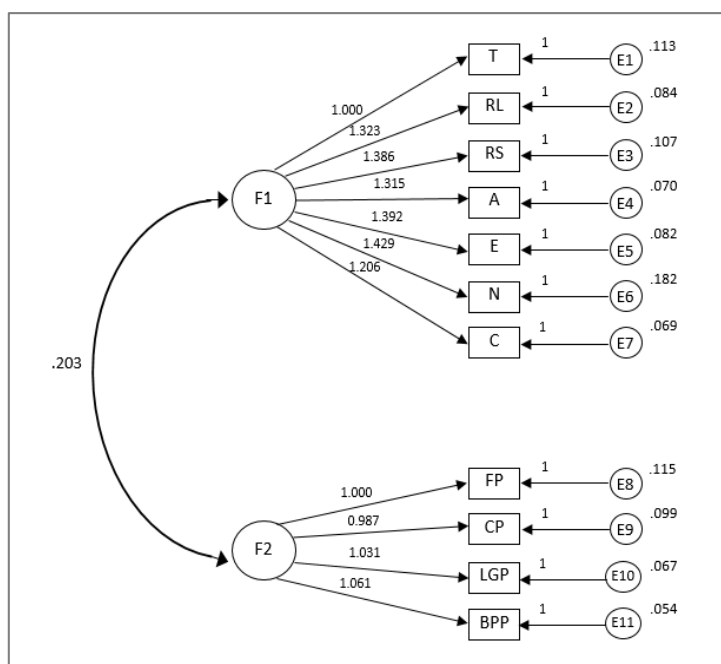


**Figure 3.** Constructs validity (F1: Service Quality, F2: Organizational Performance)

**Table 2.** Results of the confirmatory factor analysis

| Path | | | Coefficient | S.E. | C.R. | P-value |
|---|---|---|---|---|---|---|
| Tangibles | ← | SQ | 1.000 | ------- | ------- | ------- |
| Reliability | ← | SQ | 1.323 | 0.070 | 18.980 | 0.000 |
| Responsiveness | ← | SQ | 1.386 | 0.075 | 18.556 | 0.000 |
| Assurance | ← | SQ | 1.315 | 0.068 | 19.452 | 0.000 |
| Empathy | ← | SQ | 1.392 | 0.072 | 19.314 | 0.000 |
| Network | ← | SQ | 1.429 | 0.084 | 16.955 | 0.000 |
| Convenience | ← | SQ | 1.206 | 0.063 | 18.997 | 0.000 |
| | | | | | | |
| Financial Performance | ← | OP | 1.000 | ------- | ------- | ------- |
| Customer/Market Performance | ← | OP | 0.987 | 0.045 | 22.069 | 0.000 |
| Learning and Growth Performance | ← | OP | 1.031 | 0.042 | 24.288 | 0.000 |
| Internal Business Process Performance | ← | OP | 1.061 | 0.042 | 25.308 | 0.000 |

The above table shows that:
- All the relationships between the main dimension "SQ" and its sub-dimensions are significant at the 1% level.

- All the relationships between the main dimension "OP" and its sub-dimensions are significant at the 1% level.

The model was evaluated by four fit measures: the chi-square statistic divided by its degrees of freedom ($\chi^2$/df), the normed fit index (NFI), the comparative fit index (CFI) and the root mean square error of approximation (RMSEA).

Results of all four fit indexes support the proposed model. The $\chi^2$/df had a value of 2.182 (between 1 and 5), indicating an acceptable match between the proposed model and the observed data. The NFI and CFI yielded values of 0.975 and 0.986, respectively (more than 0.950), indicting an acceptable fit of the model. The

RMSEA was 0.056 (less than 0.080), indicating a good fit.

To measure the reliability, Cronbach's Alpha Coefficient ($\alpha$) has been used as the most commonly used statistics to measure the internal consistency. Sekaran (2003) says that $\alpha$ variations from (0 – 1), and reliability will be acceptable if $\alpha$ is more than 0.60. All reliability coefficients are deemed acceptable, since each exceeds the benchmark of 0.60. Thus, it could be concluded that the research instrument is reliable. Table 3 shows reliability coefficients and descriptive statistics, i.e. the mean and standard deviation, for each research variable.

**Table 3.** Cronbach's $\alpha$ coefficients and descriptive statistics for research constructs

| Research constructs | No. of items | Cronbach's $\alpha$ | Mean | Std. Deviation |
|---|---|---|---|---|
| Tangibles | 4 | 0.80 | 4.50 | 0.521 |
| Reliability | 5 | 0.85 | 4.19 | 0.601 |
| Responsiveness | 4 | 0.87 | 4.01 | 0.641 |
| Assurance | 5 | 0.79 | 4.08 | 0.586 |
| Empathy | 4 | 0.82 | 4.12 | 0.623 |
| Network aspect | 3 | 0.78 | 3.72 | 0.711 |
| Convenience | 6 | 0.81 | 4.23 | 0.547 |
| **SQ** | **31** | **0.96** | **4.14** | **0.523** |
| Financial performance | 4 | 0.82 | 4.00 | 0.640 |
| Customer/market performance | 4 | 0.81 | 4.24 | 0.621 |
| Learning and growth performance | 4 | 0.78 | 4.17 | 0.616 |
| Internal business process performance | 4 | 0.85 | 4.17 | 0.621 |
| **OP** | **16** | **0.94** | **4.14** | **0.571** |

## 5. TESTING THE HYPOTHESES

A multiple regression analysis (using SPSS) was applied to define the impact of different SQ elements (tangibles, reliability, responsiveness, assurance, empathy, network aspect and convenience) on OP. Regression Analysis is used to test the effect of one or more independent variable(s) on a dependent variable. This analysis is done with many procedures:

- F-Test (from ANOVA table): to check the overall significance of the regression model.

- T-Test: to check the significance of each independent variable.
- R-Square: to measure the explanatory power of the regression model.
- Multiple correlation coefficient (R): to measure the strength of relationship between the dependent variable and all the independent variables.

The results of this analysis are shown in Table 4.

**Table 4.** Results of multiple regression analysis for testing the first three hypotheses

| Independent Variables | Dependent variable | B | Beta | T-Test | Sig. | R | $R^2$ | F | Sig. |
|---|---|---|---|---|---|---|---|---|---|
| Tangibles | | 0.148 | 0.135 | 4.001 | 0.000 | | | | |
| Reliability | | 0.162 | 0.170 | 3.879 | 0.000 | | | | |
| Responsiveness | | 0.237 | 0.266 | 6.575 | 0.000 | | | | |
| Assurance | OP | 0.128 | 0.131 | 2.800 | 0.005 | 0.899 | 0.808 | 226.612 | 0.000 |
| Empathy | | 0.052 | 0.057 | 1.232 | 0.219 | | | | |
| Network aspect | | 0.093 | 0.116 | 3.216 | 0.001 | | | | |
| Convenience | | 0.160 | 0.153 | 3.450 | 0.001 | | | | |
| Tangibles | | 0.021 | 0.017 | 0.368 | 0.713 | | | | |
| Reliability | | 0.143 | 0.134 | 2.245 | 0.025 | | | | |
| Responsiveness | | 0.233 | 0.233 | 4.253 | 0.000 | | | | |
| Assurance | Financial performance | 0.159 | 0.145 | 2.288 | 0.023 | 0.805 | 0.648 | 98.792 | 0.000 |
| Empathy | | 0.024 | 0.023 | 0.370 | 0.712 | | | | |
| Network aspect | | 0.118 | 0.131 | 2.687 | 0.008 | | | | |
| Convenience | | 0.262 | 0.223 | 3.717 | 0.000 | | | | |

**Table 4.** Results of multiple regression analysis for testing the first three hypotheses (continued)

| Independent Variables | Dependent variable | B | Beta | T-Test | Sig. | R | R$^2$ | F | Sig. |
|---|---|---|---|---|---|---|---|---|---|
| Tangibles | Customer/market performance | 0.220 | 0.185 | 4.048 | 0.000 | 0.807 | 0.651 | 100.163 | 0.000 |
| Reliability | | 0.218 | 0.210 | 3.546 | 0.000 | | | | |
| Responsiveness | | 0.253 | 0.261 | 4.781 | 0.000 | | | | |
| Assurance | | 0.105 | 0.099 | 1.559 | 0.120 | | | | |
| Empathy | | 0.001 | 0.001 | 0.008 | 0.994 | | | | |
| Network aspect | | 0.063 | 0.072 | 1.489 | 0.137 | | | | |
| Convenience | | 0.108 | 0.095 | 1.589 | 0.113 | | | | |
| Tangibles | Learning and growth performance | 0.145 | 0.122 | 2.853 | 0.005 | 0.832 | 0.691 | 120.379 | 0.000 |
| Reliability | | 0.123 | 0.120 | 2.155 | 0.032 | | | | |
| Responsiveness | | 0.181 | 0.188 | 3.664 | 0.000 | | | | |
| Assurance | | 0.085 | 0.081 | 1.362 | 0.174 | | | | |
| Empathy | | 0.146 | 0.148 | 2.537 | 0.012 | | | | |
| Network aspect | | 0.125 | 0.144 | 3.143 | 0.002 | | | | |
| Convenience | | 0.170 | 0.151 | 2.679 | 0.008 | | | | |
| Tangibles | Internal business process performance | 0.207 | 0.174 | 4.352 | 0.000 | 0.856 | 0.732 | 146.762 | 0.000 |
| Reliability | | 0.165 | 0.160 | 3.070 | 0.002 | | | | |
| Responsiveness | | 0.281 | 0.290 | 6.062 | 0.000 | | | | |
| Assurance | | 0.163 | 0.154 | 2.774 | 0.006 | | | | |
| Empathy | | 0.037 | 0.037 | 0.684 | 0.495 | | | | |
| Network aspect | | 0.066 | 0.076 | 1.780 | 0.076 | | | | |
| Convenience | | 0.099 | 0.088 | 1.670 | 0.096 | | | | |

The results show that the overall SQ-OP regression model is significant (F=226.612, P-value < 0.05). It accounts for 80.8% of the variance related to OP (R$^2$ = 0.808). The value of multiple correlation coefficient (R) between all independent variables and the dependent variable (OP) is 0.899, indicating a strong correlation. Analysis of regression coefficients shows that OP is positively accounted for by six of the seven modified SERVQUAL dimensions; tangibles, reliability, responsiveness, assurance, network aspect and convenience (P-value < 0.05). They have significant positive effects on OP and the effect of (responsiveness) ranks first, followed by (reliability), (convenience), (tangibles), (assurance) and finally (network aspect) according to (Beta) values. On the other hand, there is no statistically significant relationship between "empathy" and "OP" (P-value > 0.05). *Accordingly, the main hypothesis is partially accepted.*

According to Table 4, there is a strong relationship between SQ variables and financial performance in that 64.8% of variance of the latter can be explained by those of the former (R$^2$ = 0.648). Among the seven modified SERVQUAL dimensions, five have statistically significant positive effect on financial performance and the effect of (responsiveness) ranks first, followed by (convenience), (assurance), (reliability) and finally (network aspect). On the other hand, there is a strong relationship between SQ variables and customer performance in that 65.1% of variance of the latter can be explained by those of the former (R$^2$ = 0.651). Among the seven modified SERVQUAL dimensions, three have statistically significant positive effect on customer performance and the effect of (responsiveness) ranks first, followed by (reliability) and finally (tangibles). The results indicate that there is a strong relationship between SQ variables and learning and growth performance in

that 69.1% of variance of the latter can be explained by those of the former (R$^2$ = 0.691). Among the seven modified SERVQUAL dimensions, six have statistically significant positive effect on learning and growth performance and the effect of (responsiveness) ranks first, followed by (convenience), (empathy), (network aspect), (tangibles), and finally (reliability). The results also show that there is a strong relationship between SQ variables and business process performance in that 73.2% of variance of the latter can be explained by those of the former (R$^2$ = 0.732). Among the seven modified SERVQUAL dimensions, four have statistically significant positive effect on business process performance and the effect of (responsiveness) ranks first, followed by (tangibles), (reliability) and finally (assurance). *Accordingly, the four sub-hypotheses (H1.a – H1.d) are partially accepted.*

## 6. DISCUSSION, PRACTICAL IMPLICATIONS AND CONCLUSION

Achieving and sustaining superior OP, especially in a rapidly changing and severely competing mobile telecommunications setting, has become an urgent necessity. The determinants of superior OP underlying SQ in the mobile telecommunications market are still unclear. The aim of this research was to investigate the impact of SQ on OP in the Egyptian mobile telecommunications setting.

The results of the study demonstrate that respondents' evaluation of the research variables on average was quite high. For SQ and consistent with the findings of (Lupo and Delbari 2018; Johnson and Sirikit, 2002), the highest evaluation was given to the "tangibles" dimension. After "tangibles", come "convenience", "reliability",

"empathy", "assurance" and "responsiveness". The dimension of network aspect (mean = 3.72 and std. deviation = 0.711) was perceived to be the lowest by respondents (this agrees with the results of Negi, 2009; Peng et al. 2014). This indicates that the mobile companies need to improve their network coverage and connection quality. For OP, the highest evaluation was given to the "customer performance" dimension, followed by "learning and growth performance", "business process performance" and finally "financial performance".

The empirical findings indicated that there is a strong relationship between SQ variables and OP in that 80.8% of variance of the latter can be explained by those of the former ($R^2$ = 0.808). Among the seven modified SERVQUAL dimensions, six have statistically significant positive effect on OP and the effect of (responsiveness) ranks first, followed by (reliability), (convenience), (tangibles), (assurance) and finally (network aspect). On the other hand, there is no statistically significant relationship between (empathy) and OP.

The optimal procedure for the Egyptian mobile telecommunications companies is to focus their efforts and plans on improving all seven dimensions of SQ in order to enhance their OP. Managers should pay extra attention to relationships with customers and other stakeholders so as to improve both mutual trust and institutional reputation and develop a strong market force. This can be achieved through training employees to have a deep knowledge of the different market segments, establish a closer relationship with customers and provide them with a better service; and implementing practices that support and promote an open innovation climate for communication and collaboration among various business actors whose competence may increase the scope of possible innovation, thus satisfying a wider customer base. Also, the companies should train employees systematically; enhance their self-efficacy, hope, optimism, resilience, work engagement and morale; enrich their work experience; and develop their innovation and creation capabilities to improve human capital. They should constantly study and identify the needs, wants and expectations of customers and work on satisfying or even exceeding them. Moreover, they should periodically assess the levels of their SQ and customers' satisfaction with it.

In conclusion, the current study contributes to the SQ literature by highlighting the key SQ dimensions that determine the OP and its dimensions. The findings reveal that SQ is a true driver of OP in an intensive knowledge-based industry as telecommunication. Further, it is a vital to know that current and future sustainable competitive performance is based on the firm's SQ. As a result, this can promote managers to improve SQ and accordingly

OP by studying well the customers' needs, wants and expectations and working on meeting or exceeding them. Given the rapid technological changes, increasingly sophisticated and indiscriminate customers coupled with fierce competition, timely information and SQ are perceived as tools for business success (Abd-Elrahman, 2012). To succeed in today's global and interconnected economy, management of the mobile telecommunications companies need to enhance and improve the levels of their services quality, because sustainable and competitive OP is rooted in satisfying customers' needs, wants and expectations.

# 7. LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

Despite the importance of this research, it has some limitations. First, the current research employ cross-sectional data survey research design. A longitudinal research may reveal further insights on how people perceive IC components and SQ over time. It may also demonstrate other relationships among variables at different points of testing. Second, this research was empirically applied in Egypt which is considered to be a developing country. The findings may not generalize to other developed countries. Third, this research was applied on the Egyptian mobile telecommunications sector and its findings may not generalize to other sectors. Fourth, despite the fact that the current research has adequate sample size, the convenient sampling of the research hinders the generalization of findings. Due to these limitations in the current research and the knowledge obtained from it, some directions for future research are suggested:

- The application of the research models should be tested in other settings, such as banks and other knowledge-intensive industries (e.g. software development, consulting, and retail).
- A comparison between service and non-service companies (e.g. manufacturing), and private and public sectors, could be undertaken in order to see their relative SQ and OP.
- Researchers can also examine if our results can be generalized to developed countries in the same industry or different one. This will enrich our knowledge on the effect of SQ globally, besides cultural differences shall be identified.
- A longitudinal research is needed to examine the dynamic effect of variables over time.

This particular research was directed towards the managers of the Egyptian mobile telecommunications companies and as such, data was collected from a specific levels of the organizational hierarchy. To test the robustness of the findings, it would be wise to consider surveying front-line employees as well boards of directors.

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