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The Dimensions of Communication Service

Quality from Customer's Point of view

A Pilot Study of the views of A sample customers of The Two branches of Asiacell & Korek in Mosul

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Abstract

The objective of this study is to determine the dimension of the quality of the communication service in the branches of Asiacell and Korek in Mosul from the point of view of the customer. And diagnose the dimensions of the quality of telecommunication service for both telecommunication companies operating in the Iraqi environment. Besides identifying the relative importance of the dimensions of quality of service in telecommunications. The study adopted several functional dimensions, including: tangibility, reliability, responsiveness, assurance and empathy). In addition, the technical dimensions (network quality, communication quality, network coverage and SMS service). The questionnaire was used as the main tool for field data collection in the study. The questionnaire was distributed to a sample of customers of the both companies, which were included in the study. A number of findings were made, including: Both companies have indicators of

customer satisfaction with the quality of the services they provide. The sub-components of network quality have not been achieved regarding both two companies.

Keywords: Quality Dimensions, Communication Service Quality, Korek, Asiacell.

Introduction and literature review:

In the last few decades, there have been great developments taking place in the world in the field of internet communication technology (ICT) [1]. Which is characterized by rapid and dynamic growth [2]. The customer stands in front of too many companies that provide the same services, according to [3] the telecom companies need to achieve a competitive advantage in order to seize the market.

The changing paradigm of business considered the provision of service quality as top priority for organizations [4]. Customer-focused strategy has become a tool of competitive advantage and survival for organizations [5]. While in [6] that service quality is measured by the capability of the company to provide service for different application in the presence of user mobility. in [7] there were no proper scale to measure mobile service quality directly for a long time. It could have been considered as a lack because mobile services. [8] have found that, in Hong Kong, network coverage and call quality have significant influence on customers. A detailed research on the service quality was conducted by Parasuraman, Zeithaml and Berry (1988). They came up with the model of SERVQUAL used for measuring five dimensions of service quality, namely reliability, assurance, tangibility, responsiveness, and empathy. They came up with the model of SERVQUAL used for measuring five dimensions of service quality, namely reliability, assurance, tangibility, responsiveness, and empathy. These researchers afterwards examined the service quality through a 22 item scale made to measure customer perception based on five dimensions used for assessing the service quality [9]. Datta and Vardhan (2017) argued These areas most likely would categorize under one or more of the five service quality dimensions in Mobile, and hence are measurable through the SERVQUAL. [10]. Global System for Mobile Communication (GSM) Association identified a list of indicators for mobile phone quality of services (Purani 2016). These indicators included network access, service access, service integrity, and service retainability [11]. While ITU determine the service quality by Speed, Accuracy, Dependability, Availability, Reliability, Simplicity, Charging and billing [12].

Telecom Regulatory Authority India carried out quality of service survey of mobile operators based on users' satisfaction. The important dimensions of regulatory services

benchmark dimensions of service quality included billing, customer care, availability of network, value-added services and pre-sales and sales dimensions (Khan 2010) [13]. Rahhal (2015) argued that Customer perceived network quality It is an indicator of network performance in terms of voice quality, call drop rate, network coverage, and network congestion. [14]

Paulrajan and Rajkumar (2011) they give a more comprehensive rating To dimensions the quality of communication service include: 1. Communication, which include (Call Quality, Call Drop rate, Geographical coverage); 2. Call Service, which include (Call forwarding and, Waiting, Service Quality); 3. Facility, which includes (Short Message Service, Mobile Entertainment, New technology use); 4. Price, which includes (Calling rate, Promotional Offers, Product range); 5. Customer Care, which include (Complaint Redressal system, Complaint resolution); 6. Service Provider, which includes (Customer relations, Innovativeness, Restoration Capabilities, Reliability, Responsiveness)[15].

Akroush et al.(2018) compares service quality (SERVQUAL) dimensions from customers' perspectives and examines their impact on customer satisfaction in the mobile service markets of Jordan and Yemen, it was found that SERVQUAL dimensions in the studied countries are: reliability, interaction quality (empathy, assurance, and responsiveness), and tangibles in Jordan; and reliability, assurance-empathy, tangibles, and responsiveness in Yemen, the most important finding is reliability exerted the strongest effect, and it successfully measured service quality from customers' perspectives in both countries[16], Abd-Elrahman et al.2018 proposed Service Quality(SQ) scale contain of tangibles ,reliability, responsiveness ,assurance, empathy, network, customer service mobile device and convenience, One of the most important finding of this article is that from the beginning of this review in 2001 till 2019 the trials to develop and validate models to evaluate the SQ of this important and rapidly growing sector have not stopped and even the majority of these trials have been conducted recently with the recent boom in communication technology and The findings analysis of reviewed research studies revealed differences in identifying the most and least important dimensions that determine the SQ in the telecommunications context [17].

Alhkami et al. 2016, this paper is to empirically examine the affect of service quality dimensions on the customers' satisfaction in Telecommunication companies in Yemen. These dimensions are tangibility, reliability, responsiveness, assurance and empathy and found that Telecommunication companies should evaluate services quality continuously to create perceptions of uniqueness in minds of customers and to gain competitive advantage in market place[18], while ,harsof et al 2018,measure the quality of the service provided by the Syrian Telecommunications Company from customers' point of view. Tishreen Telephone Exchange in Lattakia was examined using the SERVQUAL, the results of the study indicate that there is a gap in all dimensions (Tangibility, reliability, responsiveness, assurance, empathy, network quality and communication) and that customers' expectations exceed what the company actually provide[19].

Based on the above, we can review the dimensions of service, quality of communication by Two dimensions, the first one deals with Quantitative aspects of the service or Technical dimensions. While the second refers to how the process of transferring the technical quality to the beneficiary of the service (customer), which means refers to the quality of the process or the functional dimension (Qualitative), so the dimensions are:

1. Functional dimensions, it includes: (tangibility, reliability, responsiveness, assurance, empathy), it is the most functional dimensions that can describe the service quality provided by telecom companies. The tangibility includes (building, interior design). Whereas reliability is the ability of the telecom company to provide service at certain level whenever it asked to, or Provide the correct service intact for the first time. As for responsiveness is employers desire to provide services and speed to the customer demand. While assurance is defined as the customer feeling safe and satisfied when he starts dealing with the company and the ability of the company employees to Transfer trust feelings to the customer. Finally, empathy is the ability of the telecommunications company to let the customer feels that he is the main focus of the company by Paying a personal attention from the staff to the customer.

2. Technical dimensions: It Including (network quality, call quality, network coverage, and short message service), are considered the most technical dimensions possible to describe the service quality provided by the companies. The network quality describes the quality of the

outgoing and incoming calls, the strength of the call and the extent of jamming in the call. While network coverage is intended to cover the network of the communication company throughout the reign and the strength of this coverage. As for the SMS service includes promotional messages, subscription, cancellation, chat and other services.

Research Methodology and Hypotheses:

1. The problem of the study tries to answer the following questions: What are the communication service quality functional and technical dimensions? What is the compatibility of the two companies (Asiacell and Korek) with the dimensions of the communication service quality from customer point of view? And if there is a difference between the two companies regarding

2. compatibility with the dimensions of the quality of the telecommunications service ?

3. The importance of this research came from the growth in the communication sector and the increase in number of companies and subscribers and the reasons that force the customer to choose one telecommunication network than the other, as well as know the customer behavior towards the perceived service as compared with the real service that reach the customer in order to developed it.

4. Research goal is to determine the dimensions of service quality in telecommunication companies that work in Iraqi region, and know its relative importance.

5. A Conceptual Framework provided that shows the mechanism which used to determine service quality and how it affects the customer satisfaction about the service provided by Asiacell and Korek, as shown in fig 1.

6. The research assumed the following main hypothesis: he two companies have some indicators of customer satisfaction about the service quality provide them. This hypothesis is divided into nine null hypotheses to achieve this dimension.
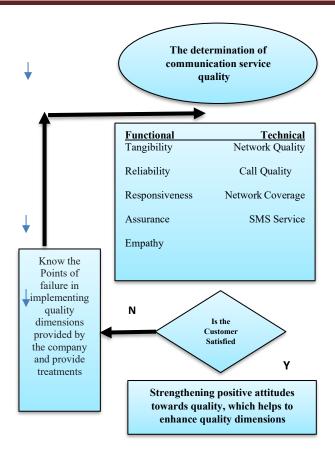
Figure 1: *A Conceptual Framework for the research*

Sample and Data Collection:

The questionnaire was used to obtain the required data, and it consisted of two parts. The first, deals with age, academic, and Profession. While The second part contains of 50 item scale that use to measure the customer satisfaction, service quality, 25 items for the functional dimensions and (25) items for the technical dimensions. A five-point scale was used to describe the level of customer satisfaction, by arranging indicators on a scale from (1 to 5), with 1 = fully agree and 5 = do not agree completely (Joshi et al. 2015). In **the** below table, we see the description for the answers of the sample

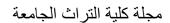| Dimn	Sub. Viable	Korek			Asiacell		
		Z.	S.D	μ	Z.	S.D	μ
Tangibility	X₁	4.38	1.094	3.46	2.92	1.046	3.3
	X₂	5.53	0.867	3.58	2.81	0.908	3.29
	X₃	7.92	0.833	3.85	4.9	0.943	3.51
	X₄	8.86	0.802	3.92	7.30	0.830	3.76
	X₅	6.26	0.791	3.65	2.81	2.078	3.5
	Average		0.8774	3.692		1.1594	3.472
Reliability	X₆	7.82	0.913	3.82	1.04	1.104	3.11
	X₇	5.73	0.8652	3.5978	1.25	1.0916	3.1304
	X₈	7.61	0.8192	3.7935	3.13	1.0803	3.3261
	X₉	5.84	0.9602	3.6087	4.27	0.8563	3.4457
	X₁₀	6.78	0.9203	3.7065	4.04	0.9285	3.4239
	Average		0.8956	3.705		1.0121	3.2871
Responsiveness	X₁₁	6.78	0.8192	3.7065	1.98	0.9893	3.2065
	X₁₂	7.40	0.7574	3.7717	1.77	0.9825	3.1848
	X₁₃	8.03	0.8157	3.837	3.65	0.8750	3.3804
	X₁₄	5.63	0.9157	3.587	0.63	1.0670	3.0652
	X₁₅	5.63	0.9961	3.587	2.29	1.0416	3.2391
	Average		0.8608	3.6978		0.9911	3.2152
Assurance	X₁₆	8.24	0.7199	3.8587	4.69	0.8707	3.4891
	X₁₇	8.44	0.8875	3.8804	0.52	1.1707	3.0543
	X₁₈	8.24	0.7925	3.8587	2.40	0.9791	3.25
	X₁₉	7.61	0.8585	3.7935	2.92	1.0135	3.3043
	X₂₀	7.30	0.8940	3.7609	1.15	0.9927	3.1196
	Average		0.8305	3.058		1.0053	3.2434
Empathy	X₂₁	4.90	0.9207	3.5109	1.67	1.0121	3.1739
	X₂₂	8.24	0.7498	3.8587	3.34	0.9190	3.3478
	X₂₃	9.28	0.6368	3.9674	5.42	0.8426	3.5652
	X₂₄	5.11	1.0736	3.5352	1.98	1.1342	2.7935
	X₂₅	8.03	0.7742	3.837	2.50	1.0469	3.2609
	Average		0.8308	3.7418		0.9909	3.2282
Network Quality	X₂₆	5.94	1.22	3.6196	2.50	1.2302	2.7391
	X₂₇	5.84	0.9602	3.6087	3.13	0.9845	3.3261
	X₂₈	5.21	1.0208	3.5435	0.42	1.0578	3.0435
	X₂₉	5.00	1.1042	3.521	0.10	1.1905	3.0109
	X₃₀	7.04	1.0917	3.4239	1.36	1.2005	2.8587
	X₃₁	5.84	1.0158	3.608	1.46	1.0370	3.1522
	Average	aver	1.069	3.553		1.1525	3.021
Call Quality	X₃₂	10.7	0.8875	4.1196	2.50	1.203	3.260
	X₃₃	9.90	0.8314	4.0326	1.25	1.140	3.130
	X₃₄	7.82	1.0047	3.8152	0.73	1.091	3.076

Table 1: Description of the sample answers

NOT: Sample volume N = 95　* indicates the value of non-significant Z, Z = 1.96 indicates the standard deviation. μ indicates the arithmetic mean.

By comparing the responses of the interviewed persons, the differences between the surveyed companies indicate that Korek has a precedence in achieving most dimensions, such as in Table 2, shows the differences between the two companies.

Dimn	Sub. Viable	Korek			Asiacell		
		Z.	S.D	μ	Z.	S.D	μ
	X_{35}	10.5	0.8262	4.0978	4.17	1.008	3.434
	X_{36}	8.86	0.8015	3.9238	3.13	1.130	3.326
	X_{37}	7.30	0.9062	3.7609	1.77	0.948	3.184
	X_{38}	7.82	0.9367	3.8152	2.92	1.056	3.304
	Average		0.8849	3.9350		1.087	3.235
Coverage	X_{39}	5.42	1.1607	3.5652	1.77	1.118	2.815
	X_{40}	5.94	0.9703	3.6196	0.10	1.162	3.010
	X_{41}	12.0	0.739	4.2609	9.28	0.999	3.967
	X_{42}	7.40	0.9733	3.7717	2.81	1.094	3.293
	X_{43}	6.88	0.9296	3.7174	3.13	1.006	3.326
	Average		0.9546	3.786		1.075	3.282
SMS	X_{44}	9.70	0.7773	4.0109	5.73	1.027	3.597
	X_{45}	6.57	0.9713	3.6848	4.07	1.091	3.423
	X_{46}	6.88	0.9980	3.7174	0.83	1.095	2.913
	X_{47}	5.94	1.0674	3.6196	1.15	1.046	3.119
	X_{48}	5.53	0.8515	3.5761	2.19	0.839	3.228
	X_{49}	5.00	0.9196	3.5217	0.83	0.968	3.087
	X_{50}	0.31	1.3297	2.9674	5.53	1.344	2.423
	Average		0.8455	3.5846		1.058	3.110

Table 2: The differences between the two companies based on the percentage of agreement for the individuals under study in the questionnaire

Dimension	Korek	Asiacell
Tangibility	61.74	51.06
Reliability	63.7	48.02
Responsiveness	64.12	42.38
Assurance	70.64	44.56
Empathy	67.18	44.76
Network Quality	56.1	37.51
Call Quality	72.80	46
Network Coverage	68	48.48
SMS	58.53	40

Testing of Research Hypotheses:

Table 3 shows the percentage of verification of the main research hypotheses and the resultant sub-hypotheses for each quality dimension. In addition to it explains the agreement of each company with each dimension based on the results of the statistical Z test that described in the table (1), which calculated by the number of values Z for each variable divided by the number of dimension variables.

Table 3: The percentage of verification of the research hypothesis for each company with the dimensions of service quality.

dimension	Probability of Korek	Probability of Asiacell
Tangibility	100%	100%
Reliability	100%	60%
Responsiveness	100%	60%
Assurance	100%	60%
Empathy	100%	80%
Network Quality	100%	33.34%
Call Quality	100%	57%
Network Coverage	100%	60%
SMS	85%	57%
total percentage.	98%	63%

Table (3) shows that Asiacell has not been able to achieve the dimensions of the service quality by a large percentage, the proportion of compatibility with these dimensions is approximately (63%), when compared to Korek company, which has reached a rate of about 98% .

However, the main assumption has been made concerning customer satisfaction with the company's indicators, including (tangibility, reliability, responsiveness, assurance, empathy, call quality, network coverage and SMS). Korek company has obtained the main assumptions of customer satisfaction indicators, including (tangibility, reliability, responsiveness, assurance, empathy, network quality, call quality, network coverage and SMS) combined.

Conclusions and Recommendation :

The results show that the both companies differ in ordering the dimensions. For example, in Asiacell the dimensions were ordered as: tangibility, network coverage, reliability, call quality, empathy, assurance, responsiveness, SMS, and network quality. While the dimensions in Korek are arranged as follows: call quality, assurance, network coverage, empathy, responsiveness, reliability, tangibility, SMS, and network quality. Based on the previews, we see that SMS in the 8th place it gives an indication that the customer doesn't care for this service. The network quality in the last place reveals that the customer is not happy with the service that he gets from both companies. The companies should find some solutions to overcome this issue by increasing number of towers and increase the towers that provide 4G technology and also keeping pace with the development happening in the world, the towers have become providing internet service with 5G technology, and strength the network signal leading to maximize the data rate the customer activate service like internet bouquet. In other words, the companies would start finding an immediate solution to strength the weak signal at the base stations by contracting with companies that specialized in maintenance the base stations and deal with the users compliant, The need for the two companies to deal with the customer on the basis of the partnership principle, the customer determines the levels of quality according to his convictions through rewards and new service offers that suit the majority of customers, take into account the segments of society and the needs of each group, and target

the young group due to they deal with the Internet and telecommunications services, as well as businessmen with strong incentive offers that encourage the customer and increase his satisfaction with the service provided.

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