The Correlation between Customer Satisfaction and Service Quality in Jordanian Uber & Careem

Sharefa Murad, Aisha Al-Kayem, Alanood Manasrah, Nancy Abu Halemah, Abdallah Qusef

Abstract: *Customer satisfaction is a great concern for all companies in all sectors, to measure customer satisfaction it is necessary to measure the service quality to examine the relationship among them. In this paper, SERVQUAL model is used to measure service quality and the effect of these dimensions (tangibles, responsiveness, empathy, assurance, reliability) in customer satisfaction on intelligent transport applications (Uber & Careem) in Jordan by conducting an online questionnaire. The archived results show that Reliability has a high degree of importance on the impact of customer satisfaction and 89.2 % of the sample prefer to use Uber & Careem smart app rather than traditional taxis.*

Index Terms: *Customer Satisfaction, Service Quality, SERVQUAL Model, Uber & Careem.*

I. INTRODUCTION

Transportation is a very important field in all countries. In recent year transportation methods have been evolved to be based on a mobile application. These methods make people take benefit of comfortable rides rather than using traditional taxis & public buses. These smart applications work to identify the location of passengers, move them to their destination with the shortest path of the ride, then calculate the total cost of the ride depends on the distance and the time.

The quality is a paramount factor in the business management field, there is no consensus on how to compose the expected accommodation quality [8]. Quality of the accommodation is a comparison between consumer prospect and their perception of the accommodation.

Improving the quality of the service is one of the most important points that must be considered in any organization which depends on how the customer service is good to the customers. The manager evaluates the employees during the work to provide efficient service to the customer to make them feel comfortable during receives the services.

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SERVQUAL model is a famous approach used to quantify the accommodation quality utilizing five dimensions. This model has been applied on several scopes, for example, Banking [9], Edification [10], Healthcare [11], E-Commerce [12], Conveyance [3], and many others. Conveyance is a great concern for the country and conveyance companies' management since it affects the reputation of these institutions. Several types of research have studied the accommodation quality in conveyance utilizing different techniques and approaches.

In this paper, SERVQUAL model is built to quantify the accommodation quality of keenly intellective convey applications (Uber & Careem) in Jordan depending on attributes that were expected to influence the accommodation quality and the relationship with customer contentment.

The paper is organized as follows: Section II explains the related work to customer satisfaction and the SERVQUAL model, Sections III and IV describe the research hypothesis and the methodology of this work. Section V discusses the achieved results. Finally, Section VI concludes the paper and highlights the future work directions.

II. LITERATURE REVIEW

A. Customer Satisfaction

Customer satisfaction is a great concern for all industries, it has a great attention for researchers to measure the customer satisfaction in different fields since the customer is a core element in any field and the customer satisfaction affects the reputation of the organization. Previous researchers have been studied and measure customer satisfaction using different approaches and techniques.

Lei and Zhang have been built a model to measure customer satisfaction with online bank information security and how it affects customers' intention to purchase products in the future [5]. Based on this model and analysis of the data they provided, they found that to reach customers satisfaction with the security of product information and characteristics, commercial banks should strive to achieve these characteristics and thus improve the quality of the services and products they provide in order to maintain their customers and their ability to stay in the competitive environment of the Internet market, which is in rapid progress.

Trialih et al. [6] examined the impact of the quality of the mobile banking service of bank ABC in Indonesia on the satisfaction of customers,

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conducted this study on two different generations and found that the quality of mobile banking service has a significant positive impact on customer satisfaction and preservation and the survival of the bank in a competitive environment, customer satisfaction is achieved by the ability of the bank to keep abreast of the technology and to have a reliable information technology capable of meeting all needs, using research model with three aspects (Reliability & Responsiveness ,Assurance & Security , Convenience) influence positively and significantly on customer satisfaction. Khan et al. [7] have been identified the main features that affect customer satisfaction from telecommunication services to help telecom service providers improve customer services, use specific tools to measure these features they have been used (ANOVA) test, and their impact on customer satisfaction. They found that the voice calls, network coverage, and the Internet that has been the highest impact and must be taken into account to satisfy customers and to remain competitive environment.

B. Customer Satisfaction in Transportation

Customer satisfaction is a great concern for transportation network companies since it affects the reputations of these companies. Several types of research have been studied the measurements of customer satisfaction using several techniques.

Horsu et al. [1] have studied the influence of service quality on customer gratification in MINICAB TAXI services in Cape Coast, Ghana utilizing RESCA (service quality) model with six variable; reliability, perpetual accommodation, safety, comfort, affordability and drive comportment [1]. The authors found that comfort was the most highly correlated factor that impacts customer gratification as designated by their outcomes and the perpetual amendment and affordability were the least one on influence factors.

Lois et al. [2] studied multiple accommodation factors that affect on the general customer gratification with a convey interchange in Madrid, Spain; information, transfer condition, safety & security, emergency, design & image, environmental quality, and accommodations & comfort utilizing regression analysis and path analysis. The results show that the information and safety & security factors affect directly on general contentment. Additionally, they studied the correlation between these factors with another that does not affect general contentment directly.

Barabino et al. [3] measured the service quality on urban bus transport in Sardinia, Italy using modified SERVQUAL model, which include 15 attributes distributed throw four dimensions that comply with requirements that set by European Standards; tangibility, reliability, responsiveness, and assurance. The results show that cleanliness, bus reliability, and frequency have the highest gaps.

Rasheed et al. [4] have been studied the Taxi accommodations that predicated on mobile application and customer gratification in Lahore, Pakistan utilizing correlation and regression models predicated on six of accommodation quality factor; the service of mobile app, driver deportment ,time reliability , price affordability, safety, and conveyance condition. The Authors ameliorated that four of these factors have been a paramount impact on customer

contentment, and the results show that customer of Careem company is more satiated than another.

C. SERVQUAL Model

SERVQUAL model is a widely used approach that used to measure the service quality and customer satisfaction in several fields. SERVQUAL model was published at first time in 1988 by A.Parasuraman, Valarie A.Zeithaml [13]. Rezaei et al. [16] have been built SERVQUAL model to quantify the quality accommodation in airline concretely in bagging department. This study has been migrating between BWM method to find the paramount of different criteria and SERVQUAL model to quantification the perceived accommodation quality. It is found that reliability is the most paramount dimension then followed by responsiveness and empathy have a less impact.

Ibrahim and Ahmed [17] conducted a pilot study in Jordan to verify the validity and the reliability of patient satisfaction in Jordanian hospitals. Using the SERVQUAL model. After this study, the researchers recommended modifying the number of dimensions in SERVQUAL using a wider tool shorter. Researchers believe that SERVQUAL focuses on full delivery of patient-centered health care, but this requires good communication skills for health care personnel to communicate with patients, this dimension is equivalent to the empathy and assurance dimension of SERVQUAL. They found that the SERVQUAL model is fairly good, but each of the five dimensions it contains is treated as an independent and self-governing structure. This is the paradigm because elements must move between elements of these dimensions to ensure a relationship.

The SERVQUAL model analysis the key quality variables that have been recommended by the National Institute of Science and Technology (NIST) [14] in the Coalesced State of America to ascertain the quality of cloud computing applications and how to transmute the quality of the functional layer. Additionally, it plays a paramount role in the way that utilizer used to access any Internet accommodation, thus availing them to evaluate the quality of the experiment right from the point of utilizer view [15].

The SERVQUAL model is predicated on two sets of 22 elements grouped around the following five dimensions [3]:
● Tangibles: includes the physical installation of the accommodation, equipment, staff appearance, and so on.
● Reliability: the facility to perform the accommodation reliably and accurately.
● Responsiveness: provide accommodations to the customer at an opportune time.
● Assurance: the degree of erudition and courtesy held by the employee, and the facility to inspire trust among customers.
● Empathy: the faculty to give specialized attention to every customer.

Initially, the gap between Perceived quality (P) and Expected quality (E) is calculated for each element. This is an assessment of what has been done and the extent to which the company inspires. Many of the studies whose follow this model have been noticed that there is a gap between (P, E) due to the overall lack of customer expectations or the degree of satisfaction less than expected.

The results not surprising, given the user expectation of the services and the relationship between customer satisfactions, is not always linear. Therefore, each organization must reduce this gap between perception and expectation.

III. RESEARCH HYPOTHESIS

After conducted literature review about service quality and customer gratification from a divergent perspective. Some researchers have been measure accommodation quality and relationship with customer gratification utilizing the SERVQUAL model which consist of five dimensions (Tangibility, reliability, responsiveness, assurance, and empathy). Quantification of the accommodation quality include measures the customer prospect of the accommodation and the perception of the accommodation. Consequently, the research hypothesis and null hypothesis conducted as follow:

H1: Service Quality has a positive and consequential effect on Customer Contentment.

H2: Tangibles positively impacts customer gratification in the Jordanian Uber & Careem Accommodations.

H3: Reliability positively impacts customer contentment in the Uber & Careem Accommodations.

H4: Responsiveness positively impacts customer gratification in the Uber & Careem Accommodations.

H5: Assurance positively impacts customer gratification in the Uber & Careem Accommodations

H6: Empathy positively impacts customer contentment in the Uber & Careem Accommodations.

So we formulated the following Null Hypothesis:

H01: Service Quality does not have a positive consequential effect on Customer Contentment.

H02: Tangibles negatively impacts customer contentment in the Uber & Careem Accommodations.

H03: Reliability negatively impacts customer gratification in the Uber & Careem Accommodations.

H04: Responsiveness negatively impacts customer gratification in the Uber & Careem Accommodations.

H05: Assurance negatively impacts customer gratification in the Uber & Careem Accommodations

H06: Empathy negatively impacts customer gratification in the Uber & Careem Accommodations.

The main concepts and relationship hypothesized are illustrated in Fig. 1.
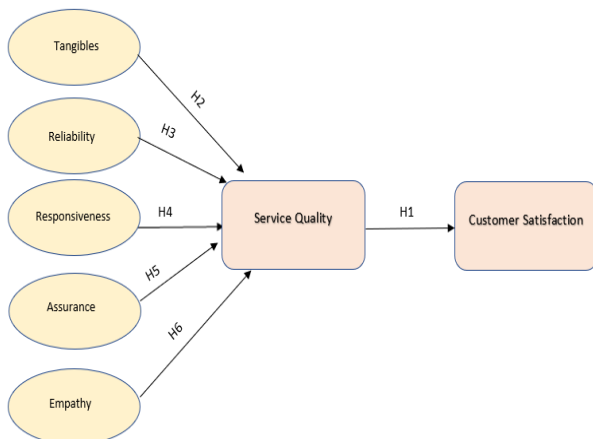

Fig. 1. The conceptual model

IV. METHODOLOGY

The proposed methodology utilizes the SERVQUAL model to quantify the accommodation quality provided by Uber & Careem. This methodology consists of several steps; starting from business and data understanding, then data preparation, modeling, evaluation and determinately, deployment.

There are many techniques used to accumulate data from customers, a survey is a primary one. To accumulate the required data about accommodation quality provided by Uber & Careem and customer contentment to these accommodations, an online questionnaire engendered utilizing Google forms, it was distributed on convivial media to different groups targeting Jordanian customers' recipient of Uber & Careem accommodations. The questionnaire was filled by 704 customers, which was considered a plausible dataset size to utilize in building the SERVQUAL model and for analysis. The questionnaire consists of three components; questions cognate to demographic data like age & gender is illustrated in Table I, a component of the dependent and independent variable, and a five-point likert scale with replications as follows: excellent=5, very good=4, good=3, acceptable=2, weak=1.

TABLE I. Full description of demographic data

Variable	Categories	Number Of Respondents	Percentage
Gender	Male	295	42.1 %
	Female	407	57.9 %
Age	18-25	411	58.5 %
	26-33	183	26.1 %
	34-41	70	10.0 %
	42-50	19	2.70%
	more than 50	19	2.70 %
Social Status	Student	253	36.0 %
	Employee	263	37.5 %
	Housewife	86	12.3 %
	other	100	14.2 %
Monthly Income	220-400	224	31.9 %
	400-600	89	12.7 %
	600-800	48	6.80 %
	more than	44	6.30 %
	There is no income	297	42.3 %
Has a driver's license	Yes	421	60.0 %
	No	281	40.0 %

Application Usage	Daily	176	25.1%
	Weekly	298	42.5%
	Monthly	86	12.3 %
	rarely	142	20.2 %
Cities where the application is used	Amman	547	77.9 %
	Irbid	131	18.7 %
	Al Zarqa	101	14.4 %
	Al-Salt	27	3.80 %
	others	16	2.10 %
Payment method	Cash	689	98.0 %
	Credit Card	14	2.0 %
Preferred mode of transport	Uber / Careem	627	89.2 %
	Traditional Taxi / Bus	76	10.8 %

Data that have been collected from the questionnaire about the quality of the service have been divided into five dimensions (Tangibles, Reliability, Responsiveness, Assurance, and Empathy). Each dimension has related questions to measure it and to measure which dimension has a significant impact on service quality and customer satisfaction. Each question has been calculated the expectation score by multiply the number of the sample with expectation maximum score for each question. After that, the perception score for each question has been calculated to calculate the gap between expectation score and perception. Then calculate the average gap for each dimension. The results illustrated in TABLE II.

After the average for each dimension has been calculated, the weight for each dimension have (score of importance) been defined depends on the importance for each dimension to the customer, the Reliability has the highest weight 25% but empathy have the lowest weight 15%. Then, each dimension has been multiplied with the score of importance to produce results as a weighted score. The results are shown in TABLE III.

TABLE II: SERVQUAL dimensions and investigated attributes

SERVQUAL Dimension	Attribute Investigated	E's Score (E)	P's Score (P)	Gap
Tangibles	Select the correct current location	1408	1247	161
	Locate the destination correctly	1408	1321	87
	Quality of vehicles	3520	3188	332
	Feeling comfort	3520	3141	379
	The total cost of a journey	3520	2073	1447
	Total	13376	10970	2406
	Average			481.2
Reliability	Driver arrival time	3520	2740	780
	Identify the shortest path for a journey	1408	1140	268
	Driver ability	3520	2970	550
	Total	8448	6850	1598
	Average			532.7
Responsiveness	Total time for a journey	3520	2907	613
	Benefit from PromoCode	2112	1284	828
	Availability of vehicles at all times	1408	1260	148
	Total	7040	5451	1589
	Average			529.7
Assurance	Feeling safe	3520	3141	379
	Rating Driver at the end of the journey	3520	3318	202
	Total	7040	6459	581
	Average			290.5
Empathy	Cover the place of residence	1408	1348	2162

	Fairness of driver evaluation	1408	1365	2145
	Total	2816	2713	103
	Average			51.5

TABLE III: Unweighted SERVQUAL score and weighted score

SERVQUAL Dimensions	Unweighted SERVQUAL Score	Score of Importance	Weighted Score
Tangibility score	481.2	20	9624
Reliability score	532.7	25	13317.5
Responsibility score	529.7	20	10594
Assurance score	290.5	20	5810
Empathy score	51.5	15	772.5

Unweighted SERVQUAL scores discover that Tangibility, Reliability, Responsibility, Assurance, and Empathy have got scores of 481.2, 532.7, 529.7, 290.5, and 51.5 respectively. These results showed that there is a wider gap between expectation and perception of the customer in Reliability dimension. Tangibility and assurance have a moderate gap between expectation and perception of customers. Empathy and assurance have a less gap as illustrated in Fig. 2. Since there are different gaps these mean it has different importance from Uber & Careem view. Also, customers who used the service consider empathy, assurance, reliability, responsibility tangibility in varying important.

Weighted Average score was 8023.6. When comparing weighted average score with all other weighted scores, Uber & Careem companies can identify to which SERVQUAL dimension should be given more care and to make customers more satisfied with the provided services. The results show that Reliability and responsibility have to be focused more by Uber & Careem than another SERVQUAL dimension such as Empathy. The results illustrated in Fig. 3.
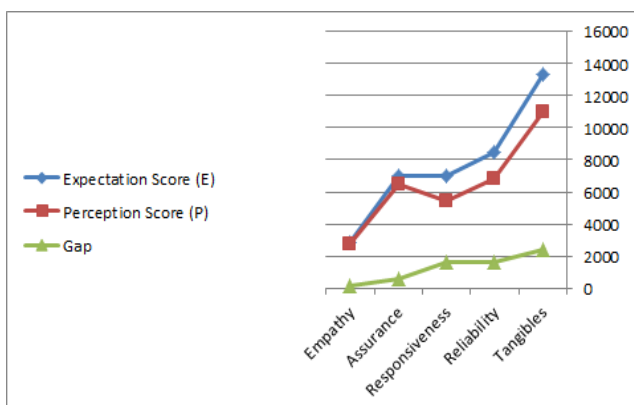
Fig. 2 Gap score of SERVQUAL dimensions
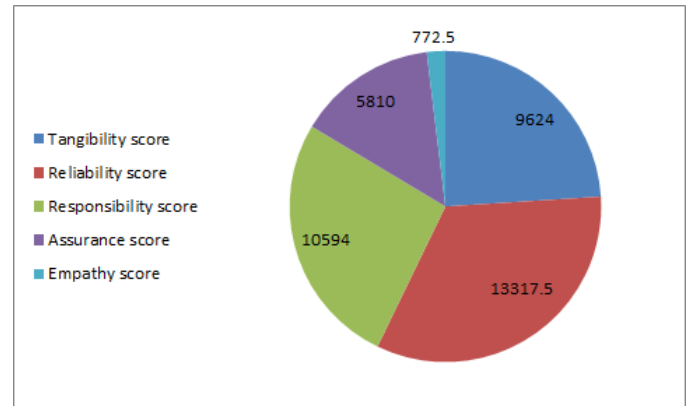
Fig. 3. Unweighted SERVQUAL dimensions score

V. RESULTS AND DISCUSSION

A. Respondents' Demographic Characteristics

The analysis of the data has been gathered in term of gender, age, social status, monthly income, driver license, application usage, location, payment type, and preferred transport mode. Sample by genders shows that female represent 57.9 % of the sample of the 704 customers, while the ratio of male is 42.1 %. The results indicate that most of the customer in the age group 18-25 with a ratio of 58.5 %. Distribution by social status shows the most customer was employees with ratio 37.4 %, then students with ratio 35.9 %. The monthly income distribution shows that 42.3 % of the customer does not have static income and 32% between 220 and 400 JD. Also, most customers of Uber & Careem in Jordan have a driver license with a ratio of 59.1 % but 40.1 % does not have a driver license. Most Customers prefer to pay per cashed (98%) instead of a credit card with a ratio of 2 %. Amman is the capital of Jordan and most of the customer used the service in it with ratio 78% then Irbid (18.8%) and Al-Zarqa (14.3 %). The results show that most customers used the services weekly (42.6 %) but 25% used it daily, and 12.2 % monthly. Finally, the distribution shows 89.2 % preferred to use Uber & Careem services instead of traditional taxis.

B. Relationship between Service Quality and Customer Satisfaction

The relationship between service quality and customer satisfaction have been studied in the Jordanian Uber & Careem, using the SERVQUAL model. The results show that the service quality has a significant and positive impact on customer satisfaction which has been improved H1 and rejects H01.
Tangibility has a positive effect on customer satisfaction, the results show that tangibility is the third factor of service quality dimension that affects customer satisfaction and the customer satisfied with the quality of vehicle and others. This improves H2 and reject H02.
Reliability of the service has a positive and significant impact on customer satisfaction. Reliability is the most service quality dimension that affects customer satisfaction in Uber & Careem service which includes arrival time, driver ability and others. This means the H3 has been accepted and H03 rejected.

Responsiveness is the second dimension that affects customer satisfaction and has a significant impact on it. Which includes the availability of cars, select the shortest path and others. From the results, the H4 will be accepted and H04 will be rejected. Assurance and Empathy are the last two dimensions that impact positively on customer satisfaction but assurance more than empathy. From the results, H5 & H6 will be accepted and H05 & H06 will be rejected. The managers of Uber & Careem should be taken care about the dimension of the service quality that has a significant impact on customer satisfaction such as Reliability, Responsibility, Tangibles more than Assurance and Empathy, and take appropriate actions to improve the service quality from this perspective.

VI. CONCLUSION

This paper has focused on building the SERVQUAL model to measure the service quality in Jordanian Uber & Careem and its impact on customer satisfaction. Knowing this field would surely help the managers in transportation companies meet the challenges of improving the service quality in transportation. This study used five dimensions of service quality (tangibility, reliability, responsiveness, assurance, and empathy) to evaluate the service quality of Jordanian Uber & Careem. The results of this study indicate that the most important factor in evaluating the service quality was Reliability, followed by Responsibility, Tangibility, and Assurance. The findings of this study suggest that among five dimensions of service quality, Empathy is the best predictor for service quality in transportation in general. The questionnaire used in this study is used for customers used Uber & Careem in Jordan rapidly, that help us to identify the service areas of the service. The results help the managers and planners who put service policy to make customer satisfaction. Monitoring customer satisfaction has become an important concern for all managers to achieve customer loyalty after that. Customers may agree that the companies provide high levels of service quality but not essential agree that companies ensure high satisfaction. For future work, it is recommended to expand gathering data in all cities in Jordan to make the study more accurate and, and used new factors to improve the measurement of customer satisfaction in the transportation field in Jordan.

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