



**MEASURING EXTENDED ROLES OF E-COMMERCE
INCLUSION FOR THE ACCOMPLISHMENT OF WEBSITE
SERVICE QUALITY FOR CUSTOMER SATISFACTION
USING WEBQUAL MODEL: AN EMPIRICAL STUDY OF
SAUDI ARABIAN AIRLINES**

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ABSTRACT

This research paper examines the role of the e-commerce service quality on Saudi airlines using a Webqual model. The Webqual model has been widely used to measure the perception of service quality. The study sample, with 317 respondents, uses a Likert scale and a questionnaire with 32 items on service quality about Saudi Arabian Airlines. Data on gender, age, income, education, Alfursan Saudi Airline members and jobs of respondents were used in the correlation of the study. To identify and analyze the significant differences of opinion between and within the groups, the popular statistical t-test, and ANOVA test were applied by using SPSS software highlighting more detailed study findings. The analysis of 317 respondents shows that gender, age, income, job education group and Alfursan members are not highly satisfied with the website service quality of Saudi Airlines. The analysis also shows the hypothesis is accepted in all respondents groups.

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1. INTRODUCTION

Since the Internet has become the main activity of commercial business focusing on to reach customers through world wide web. Loiacono (2000) evolve 12 core dimensions of website quality, they are: A. information, B. interactivity, C. trust, D. responsiveness, E. design, F. intuitiveness, G. visual appeal, H. innovativeness, I. website flow, J. integrated, K. business processes, L.viable substitute. Webqual has been used to measure business school sites, Internet bookstores etc, The

model of Webqual allows to compare organization website service quality. Website is important for marketing communication mix (Berthon et al., 1996). Goodhue (1995) found website quality instrument is important to calculate and point out quality aspects that make website useful to customers. Since studies on website service quality are very few for the Kingdom of Saudi Arabia (KSA), this study seeks to determine user perceptions of website service quality offered by Saudi airlines.

2. REVIEW OF LITERATURE

E-service research is a popular research (Sylvie & Ina, 2010). Hedvall and Paltschik (1989), Kettinger and Lee (1997), Parasuraman et al. (1988) evaluated the traditional brick-and-mortar the main service quality dimensions. (Ballantine, 2005; Kim and Stoel, 2005; Yen, 2005) identify service quality relationship with customer satisfaction online dimensions (Ducoffe, 1995; Eighmey, 1997, Raza et al., 2019) reflects expectations of web consumers' that information should be delivered in a good manner. The key determinant of service quality online success primarily based on two reasons (Zeithaml et al, 2000): First, customer intention and satisfaction depends on the online service quality for future shopping. Second, it is difficult to attract potential customers because what they need in service quality is critical. (Cai & Jun, 2003). The design of website of Airlines is to provide a one-stop service for information and booking flights online (Chu, 2001). To facilitate customers airlines uses role of e-commerce transactions. to reduce the cost of the ticket (Ariely et al. 2000) which gives many number of customers a reason to buy online (Vanitha et al. 1999). The website of an airline should be designed in way that should contain a lot of relevant information which customer to take a decision Bamford & Xystouri (2005) and Rhoades & Many studies prevails that service quality linked profitability (Bates, Bates & Johnston, 2003) and also quality of services in service industry. The success of website depends on certain criteria's like reliability, user friendly, correct information, privacy and security of transaction if these elements are not good organization loses customers (Bressolles, 2006). Cristobal (2007) found scale to measure service quality of which five dimensions are from e-service quality model they are web site, assurance, information provision, special analysis and customer service. According to Lee and Lin (2005) the layout of a website service quality promotes customers According to. Kassim and Abdullah (2010) found that there is a relationships between customers and dimensions of e-service quality, trust and satisfaction. Further Loiacono et al. (2002) results show that e-trust. positively effect customer satisfaction and developed service quality Webqual scale.

3. RESEARCH METHODOLOGY

The objective of this study is to measure the role of e-commerce service quality for Saudi airlines using the Webqual model. A structured questionnaire (Table 1) was taken to collect data for our research based on a five-point Likert scale.

Data for this study was gathered from respondents using the website of Saudi Airlines. The questionnaire was distributed to users in different cities of the Kingdom of Saudi Arabia during May-July 2018. Total of 317 useable questionnaires were returned, considered satisfactory for subsequent analysis.

Table 1: Questionnaire on Website Service Quality

1. It's easy to use the internet for searching for information, interact fast, navigate easy, information is in appropriate format, information is reliable, information is relevant, information assist to make decision up to date, information detail is appropriate,
2. It Provides a wide range of information about airline services, acknowledged my previous visits, always recommend the website to my relatives, friends, colleagues, etc. meets my needs online
3. The design of the site exhibits creativity and uniqueness and the logo is memorable and feel confident about services promised online.
4. It's easy to make a ticket reservation, cancel reservation and refund online, Options for payments with safe transactions.
5. It's easy to get a boarding pass online
6. It's easy to become an Alfursan Saudi airlines member, access Alfursan Saudi airlines reward miles online
7. The service delivery is extremely efficient and accurate as promised
8. I got a good impression of the website through media ads
9. I read many good comments from other customers regarding the website
10. I feel happy to reuse the website for my future booking
11. My experience with the website was always great

3.1 HYPOTHESIS

The hypothesis statement is given as

- **H₀**: Significant difference does not exist for the quality of service provided by e-commerce.
- **H₁**: Significant difference exists between the quality of service by e-commerce.

Data were entered into SPSS. Thereafter the overall mean of various scores was taken using SPSS. To see a statistical significant difference, the popular Independent Samples t-tests and ANOVA were applied. If the p-value is greater than 0.05, this is to accept the Null Hypothesis (H₀). We tested it at a significance level of 5% in all cases. The descriptive analysis of users includes Gender, Age, Income, Education, Frequent Flyer Member, and Job Group.

4. RESULT

4.1 DESCRIPTIVE ANALYSIS FOR GENDER GROUP

Table 2 shows 178 male respondents with a mean value of 3.53 and 139 female respondents with a mean value of 3.61. The mean values of both male and female respondents show they are not highly satisfied with the website service quality of Saudi Airlines. To test the significance of the difference between male and female respondents, we applied an independent t-test, and the value of p=.237 shows no significant differences of opinion between gender respondents. Hypothesis H₀ is supported.

Table 2: Descriptive Statistics for Gender Groups.

Customer Gender	N	Mean	SD	Std. Error Mean
Male	178	3.53	.555	.041
Female	139	3.61	.515	.043

4.2 DESCRIPTIVE ANALYSIS FOR DIFFERENT AGE GROUP

Table 3 shows the perception of 317 respondents of different age groups, where for 18 respondents less than 20 years old the mean value is 3.81, for 118 respondents from 20-to-30 years

old the mean value is 3.51, for 124 respondents from 31-to-40 the mean value is 3.59, for 48 respondents from 41-to-50 the mean value is 3.56, for eight respondents from 51-to-60 the mean value is 3.33 and for one respondent above age 60 the mean value is 4.09. Thus none of the respondents below age 60 are highly satisfied, but the one above age 60 is highly satisfied. To test the significance of the difference among age groups and within age groups, we applied ANOVA and the value of $p=.194$ shows no significant difference of opinion between different age groups toward the website service quality of Saudi Airlines. Hypothesis H_0 is supported.

Table 3: Descriptive Statistics for Different Age Groups

Age	N	Mean	SD	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
<20	18	3.81	.526	.124	3.54	4.07	2.97	4.59
20>30	118	3.51	.587	.054	3.41	3.62	1.94	4.75
31>40	124	3.59	.514	.046	3.49	3.68	1.91	4.69
41>50	48	3.56	.479	.069	3.42	3.70	2.44	4.66
51>60	8	3.33	.393	.139	3.00	3.66	2.81	4.19
Above 60	1	4.09	4.09	4.09
Total	317	3.56	.539	.030	3.50	3.62	1.91	4.75

4.3 DESCRIPTIVE ANALYSIS FOR DIFFERENT JOB GROUPS

The perception of 317 respondents from different job groups is shown in Table 4, where 165 respondents who are government employees show a mean value of 3.51, 92 respondents with private-sector jobs show a mean value of 3.54, 11 respondents with their businesses have a mean value of 3.58, 49 respondents in the “other” category have a mean value of 3.77 and the total mean value of all 317 respondents is 3.56. No respondents are highly satisfied. To test the significance of the difference among age groups and within job groups, we applied ANOVA and the value of $p=.025$ shows there is a significant difference of opinion between different job groups of respondents toward the website service quality. Hypothesis H_0 is supported.

Table 4: Descriptive Statistics for Different Job Groups

Job	N	Mean	SD	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Government	165	3.51	.591	.046	3.42	3.60	1.91	4.75
Private	92	3.54	.451	.047	3.45	3.63	2.44	4.66
own business	11	3.58	.614	.185	3.17	4.00	2.41	4.41
Others	49	3.77	.440	.062	3.65	3.90	2.97	4.59
Total	317	3.56	.539	.030	3.50	3.62	1.91	4.75

4.4 DESCRIPTIVE STATISTICS FOR DIFFERENT INCOME GROUP

Table 5 shows the mean results of 317 respondents of different income groups, where 182 respondents with income of less than 10000 have a mean value of 3.57, 114 respondents with income from 10000 to 20000 have a mean value of 3.60, 21 respondents with incomes above 20000 have a mean value of 3.33 and the total mean value of 3.56 shows that respondents with different income are also not highly satisfied. To test the significance of the difference between different income group respondents we applied ANOVA and the value of $p=.194$ shows no significant difference of opinion is there between any of the income groups toward website service quality. Hypothesis H_0 is supported.

Table 5: Descriptive Statistics for Different Income Groups

Income	N	Mean	SD	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
< 10000	182	3.57	.551	.041	3.48	3.65	1.94	4.75
10000>20000	114	3.60	.517	.048	3.51	3.70	1.91	4.69
Over 20000	21	3.33	.433	.094	3.13	3.53	2.78	4.38
Total	317	3.56	.539	.030	3.50	3.62	1.91	4.75

4.5 DESCRIPTIVE ANALYSIS FOR DIFFERENT EDUCATION GROUPS

Table 6 shows mean results for 317 respondents of different education groups, where 54 respondents representing high school graduates have a mean value 3.40, 152 respondents with bachelors degrees have a mean value of 3.58, 96 respondents with post-graduate education have a mean value of 3.61, 15 respondents in the “other” category have a mean value of 3.58 and the total mean value of 317 respondents with different education is 3.56. None are highly satisfied. To test the significance of the difference among different education group respondents we applied ANOVA and the value of $p=.117$ shows no significant difference of opinion between different education groups of respondents towards the website service quality of Saudi Airlines. Hypothesis H_0 is supported.

Table 6: Descriptive Statistics for Different Education Groups.

Education	N	Mean	SD	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
High school	54	3.40	.720	.098	3.21	3.60	1.91	4.75
Bachelor’s degree	152	3.58	.470	.038	3.51	3.66	2.41	4.63
Post graduate	96	3.61	.504	.051	3.51	3.71	2.44	4.69
Others	15	3.58	.597	.154	3.25	3.92	2.63	4.41
Total	317	3.56	.539	.030	3.50	3.62	1.91	4.75

4.6 DESCRIPTIVE ANALYSIS FOR ALFURSAN MEMBERS GROUP

Table 7 shows that the mean value of 138 respondents who are a member of Alfursan is 3.42 and the 179 respondents who are not a member of Alfursan have a mean value of 3.67. Neither members nor non-members are highly satisfied. To test the significance of the difference among the respondents and within respondents, we applied ANOVA and the value of $p=.000$ shows there a significant difference of opinion between respondents who are members and those who are not members toward the website service quality of Saudi Airlines. Hypothesis H_0 is supported.

Table 7: Descriptive Statistics for Alfursan* Members Group.

Membership	N	Mean	SD	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Yes	138	3.42	.565	.048	3.330	3.520	1.94	4.63
No	179	3.67	.491	.036	3.604	3.749	1.91	4.75
Total	317	3.56	.539	.030	3.507	3.626	1.91	4.75

*Note: Saudi Airlines Offers Alfursan membership program that rewards you with miles and other benefits (saudiairlines.com)

5. CONCLUSION

Respondents do not fully agree that the website service quality of Saudi Airlines was highly satisfactory in terms of

- searching for information, fast interaction, navigation, appearance, appropriate information, creativity, and uniqueness.
- making ticket reservations online, canceling ticket reservations online, refunding tickets online, getting boarding passes online, becoming an Alfursan member online, availing themselves of Alfursan reward miles online, options for payments, or having requests answered online,
- transaction safety, a wide range of information on airline services, assistance in making up-to-date decisions
- information as reliable, relevant, acknowledging a previous visit, reusing the website for future bookings and the last overall experience with the website being great.

Therefore we conclude there is a gap between the perception and expectation of services provided by the e-commerce website of Saudi Airlines which needs to be filled.

6. AVAILABILITY OF DATA AND MATERIAL

Data can be made available by contacting the corresponding authors.

7. REFERENCES:

- Ariely, D. 2000. Controlling the information flow: Effects on consumers' decision making and preferences. *Journal of Consumer Research*, 27(2), 233-248.
- Ballantine, P. (2005), "Effects of interactivity and product information on consumer satisfaction in an online retail setting", *International Journal of Retail & Distribution*, 33(6/7), 461-71.
- Bamford, D. & Xystouri, T. 2005. A case study of service failure and recovery within an international airline. *Managing Service Quality*, 15(3): 306-322.
- Berthon, P.R., Leyland, L.F., and Watson, R.T. "Re-surfing the web: research perspectives on marketing communication and buyer behavior on the W3," *Academy of Marketing Science*, 1996.
- Bressolles, G. 2006. Electronic service quality: NetQual – Proposition of a measurement scale to commercial websites and moderating effects. *Research and Applications in Marketing*, 21(3): 19-45.
- Cai, S. & Jun, M. 2003. Internet users perceptions of online service quality: A comparison of online buyers and information searchers. *Managing Service Quality*, 13(6): 504-519.
- Chu, R. 2001. What online Hong Kong travelers look for airline/travel websites? *International Journal of Hospitality Management*, 20(1): 95-100.
- Cristobal, E., Flavian, C. and Guinaliu, M. (2007). Perceived eservice quality: Measurement validity and effects on consumer satisfaction and website loyalty. *Managing Service Quality*, 17(3), 317-340.
- Ducoffe, R. (1995). How consumers assess the value of advertising. *Journal of Current Issues and Research in Advertising*. 17(1), 1-18.
- Eighmey, J. (1997). Profiling user responses to commercial Websites. *Journal of Advertising Research* (37:3), 59-66.

- Goodhue, D.L., Loiacono E. T. (2002). Randomizing survey question order vs. grouping questions by construct: an empirical test of the impact on apparent reliabilities and links to related constructs.. Proceedings of the thirty-fifth Hawaii International Conference on Systems Sciences (HICSS35),.
- Hedvall, M. and Paltschik, M. (1989), “An investigation in and the generation of service quality concepts”, in Avlonitis, G., Papavasiliou, K. and Kouremenos, A.G. (Eds), Marketing Thought and Practices in the 1990s, European Marketing Academy, Athens, 473-83.
- Kassim, N. and N. Abdullah. (2010). The effect of perceived service quality dimensions on customer satisfaction, trust, and loyalty in e-commerce settings. *Asia Pacific Journal of Marketing and Logistics*, 22(3), 351-371.
- Kettinger, W. and Lee, C. (1997), “Pragmatic perspectives on the measurement of information systems service quality”, *MIS Quarterly*, 21, 223-40.
- Kim, M. and Stoel, L. (2005), “Salesperson roles: area online retailers meeting customer expectations?”, *International Journal of Retail & Distribution Management*, 33(4), 284-97.
- Lee, GG and Lin, HF. (2005). Customer perceptions of eservice quality in online shopping. *International Journal of Retail & Distribution Management*, 33(2), 161-176.
- Loiacono, E.T.,(2000), .Webqual: a measure of Website quality.. Unpublished Doctoral Dissertation, University of Georgia.
- Loiacono, E.T., Watson, R.T. and Goodhue, D.L. (2002). Webqual(TM): a website quality instrument. Paper presented at Winter Marketing Educators’ Conference, Austin, Texas: American Marketing Association.
- Parasuraman, A., Zeithaml, V. and Berry, L. (1988), “SERVQUAL: a multiple-item scale for measuring consumer perceptions for service quality”, *Journal of Retailing*, 64(1), 12-40.
- Raza, M. U., Adeel, A., Nazam, M., Akash, R.S.I., Hashim, M., Ahmad, J., Khan, M.I. (2019). Impact of Individual and Professional Aspects of Employee Behavior on Customer Satisfaction: Empirical Evidences from Pakistani Banking Sector. DOI: 10.14456/ITJEMAST.2019.47
- Sylvie, R. and Ina, F. (2010). A new measure of e-service quality in France, *International Journal of Retail & Distribution Management*, 38(7), 497-517.
- Vanitha, S., Lepkowska, E. & Rao, B.P. 1999. Browsers or buyers in cyberspace? An investigation of factors influencing electronic exchange. *Journal of Computer-Mediated Communication*, 5(2): unpagged.
- Zeithaml, V.A., Parasuraman, A. & Malhorta, A. 2002. An empirical examination of the service quality-value-loyalty chain in an electronic channel. Working paper, University of North Carolina. Chapel Hill, NC: University of North Carolina.



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