

Raed A. AL-Husain

Wadie A. AL-Sayegh

Kuwait University
Kuwait

ANALYSIS OF THE EXPECTATION OF TQM PRACTICES IN COURIER SERVICE PROVIDERS IN KUWAIT: AN EMPIRICAL STUDY

Key Words

Total Quality Management; Courier Service; Hypothesis Testing; Mann-Whitney and Kruskal-Wallis non-parametric tests

Abstract

This is a preliminary study that aims to investigate the attitude of courier service companies in Kuwait toward the application of total quality management (TQM) approach and its effect on business performance and customer satisfaction. A questionnaire was designed and implemented using the Mail Preparation Total Quality Management (MPTQM) model. The questionnaire was particularly customized to match the courier service companies' standards and was distributed to a total of 23 courier service companies in Kuwait, which represent the population size and diversity under investigation. Results were then analyzed using the Mann-Whitney and Kruskal-Wallis non-parametric tests. It was found that the attitude of courier service companies in Kuwait toward the TQM practices neither affect business performance nor customer satisfaction. This unexpected finding led to further investigation with companies that have participated in the study. Results may shed light on a new research area that could help provide further insights regarding TQM implementation to different types of industries in Kuwait.

Introduction

In a race against time and each other with billions at stake, courier service companies around the globe strive to manage their businesses

more effectively and efficiently in order to operate faster, cheaper, smarter, and keep up with the competition. Courier service giants such as Federal

Express (FedEx) and United Parcel Service (UPS) have found that one way of winning such a race is through the adaptation of TQM (Li *et al.*, 2006). Therefore, in this preliminary research, the attitude of courier service companies in Kuwait toward the adaptation of total quality management (TQM) approach and its effect on business performance and customer satisfaction is investigated.

According to Accenture Research (2013), in order to improve their business performance, courier service companies need to employ more product innovation and offer a higher variety of services, adopt flexible pricing strategies, take advantage of current e-commerce trends, and be customer-focused. Also, customer satisfaction plays an important role in the courier service industry's business performance. It affects customer behavior, purchase intentions, referrals, and customer retention and loyalty (The Cicero Group, 2006). This was evident in a recent study conducted by Litifi (2012), where higher customer satisfaction of the Tunisian postal service lead to customer loyalty and better business performance than competitors, even in the presence of international giants such as FedEx, UPS, and TNT. One way to achieve better business performance and higher customer satisfaction in the courier service industry is through the use of

TQM approach. Moreover, in a study conducted by Abbas and Yaacob (2011), it was found that companies with higher intensity in quality management achieve higher customer satisfaction than companies with lower intensity on quality management. Therefore, the TQM approach could be a key factor in the courier service industry, for quality of service is a crucial part in achieving higher customer satisfaction, and therefore better business performance.

In order to better help courier service companies successfully adopt TQM practices, in 1995 the United States Postal Services (USPS) developed a certificate program referred to as the Mail Preparation Total Quality Management (MPTQM) certificate. The program contains a set of guidelines and standards that are specifically designed for courier service companies mailing operations. The MPTQM certificate program's idea was borrowed from the well-known standards such as ISO9000, the Malcolm Baldrige Performance Excellence criteria, and the Total Quality Management procedures. This means that in order for courier service companies to be MPTQM certified, they have to demonstrate to an independent expert panel and outstanding mailing operation in terms of efficiency and effectiveness. The MPTQM model creates a new and challenging management process

for the courier service industry. It applies to all phases of the mail preparation process, from the generation and barcoding of the mail piece to the final sorting and delivery (United States Postal Service, 2007).

This research aims to investigate the attitude of courier service companies in Kuwait toward adopting TQM practices into their business operations. In other words, the investigation focuses on whether or not courier service companies in Kuwait believe that the adaptation of TQM would enhance their business performance and customer satisfaction. The MPTQM model is used as a guideline for constructing a questionnaire that is distributed among major courier companies in Kuwait and results are then analyzed using non-parametric statistical methods, which fit the small sample size under investigation, such as Mann-Whitney and Kruskal-Wallis tests. This is a unique study that has not been conducted in Kuwait before and raises further research questions that are addressed later in the discussion section of the paper, which could be further investigated and applied to different industries as well.

Literature Review

The use of TQM has long been the focus of much research in both the manufacturing and service industries.

Nevertheless, with the increasing competition in providing customers with a better value added services, the application of TQM has become a critical success factor in service companies and non-profit organizations such as financial, educational, healthcare, and courier service institutions (Shahdadnejad and Alroaia, 2013; Lee *et al.*, 2012; Yaya *et al.*, 2011; Brah and Lim, 2006).

Researchers have been trying to define customer satisfaction in many different ways. The common denominator to all these definitions is that customer satisfaction simply is a function of the difference between perceived performance and expectation (Stahl, 1999). According to Munusamy, Chelliah and Mun (2010), the definition of customer satisfaction is much more complex than just expressing "happy customer". It is a business term, specifically used in the business and commerce industry, which explains the measurement of the different types of products and services that are provided by the company to meet its customers' expectations. Therefore, customer satisfaction has become a central differentiator and a key element of business strategy (Naik *et al.*, 2010).

Furthermore, it has been confirmed that companies with a more satisfied customer have higher economic returns (Zeithaml, 2000). Accordingly, companies in the same market sector have to reevaluate the

quality of the different services that are offered to customers in order to gain better future financial benefits on the long-run (Munusamy, Chelliah & Mun, 2010). Furthermore, a study conducted by Dimitriadis (2006) demonstrated that “satisfied customers tend to be less influenced by competitors, less price sensitive, and stay loyal longer.”

It has become well known among researchers in academia that TQM practices and business performance are positively correlated (Brah & Lim, 2006). Firms that use TQM approach usually performed well in areas such as strategic and operational performance, supplier and customer relationship, process management, and policy deployment (Brah & Lim, 2006). Nevertheless, Powell (1995) pointed out that although TQM can add economic value to organizations, the true success of any organization relies heavily on top management support, open organization and employee empowerment. This emphasizes the need for efforts to focus on building a culture where TQM can thrive. In a study of service industries in Singapore conducted by Brah *et al.*, (2002), it was shown that a significant positive correlation between TQM constructs and financial and operating performance exist. Also, another study conducted on various Iranian manufacturing firms showed a posi-

tive correlation between TQM practices and organizational performance (Valmohammadi, 2011).

While the result of TQM practices on business performance and customer satisfaction has been widely investigated in both manufacturing and service industries, there are very few research papers that specifically discuss the impact of TQM on the courier service sector. Among the few researches that could be found is a study conducted by Varey and Hamblett (1997) on Royal Mail in the United Kingdom. A survey study was developed using the European Foundation for Quality Management (EFQM) model that was established in 1989 based on the Baldrige and Deming criteria. It was found that the adaptation of such a model by Royal Mail has greatly improved its business performance.

Another recent study regarding postal service quality was conducted in Iran by Azizzadeh, Khalili, and Soltani (2013). In this study, customer attitude toward postal service quality and a comparison of present and desirable quality conditions were investigated. They found that a significant difference exists between present and desirable conditions of service quality in postal services. Customers' expectations were not met in terms of six effective factors that include phy-

sical evidence, credibility, security, responsiveness, empathy, and costs. They suggested that service quality must be continually evaluated, and for organization's own survival could depend on it.

Although the MPTQM model, which was developed by USPS and introduced earlier, represents an effective tool for improving quality standards in courier service organizations, there is a lack in literature of studies that demonstrate its potentials. Accordingly, similar to the study conducted by Varey and Hamblett (1997), the European Foundation for Quality Management (EFQM) model was used in this for the development of a questionnaire. This paper intends to investigate the attitude of courier service companies in Kuwait toward the adaptation of TQM practices by using the MPTQM model as a guideline. In particular, it aims to answer the question of whether or not courier service companies in Kuwait believe that adapting TQM practices can enhance their business performance and customer satisfaction.

Methodology

The MPTQM model is a systematic approach to quality control measures and standardized audit procedures. It can improve business performance and lead to customer satisfaction. It is designed to help

companies prepare mailings that meet or exceed United State Postal Service (USPS) processing quality standards.

There are many internationally recognized quality methodologies such as ISO 9001:2000, the Malcolm Baldrige Performance Excellence criteria, and TQM principles, and they are all effective in improving business performance in courier services sector. However, the choice of specifically implementing the MPTQM model in this study is because it merges the principles of all of the three internationally recognized methodologies of TQM standards and is tailored for the courier service industry.

A questionnaire was used as a research instrument to collect data. We conducted a survey that measures the attitudes of 23 different courier companies in Kuwait about 11 different standards. Also, few general questions focused on the organizational openness to change and innovation. Out of the 23 companies investigated, only 14 companies responded to the survey, representing about 60% response rate.

The questionnaire is divided into 12 sections. The first section contains general questions. The 11 following sections are designed to measure the respondents' expectations and attitude toward the MPTQM model. The questionnaire used a five-point Likert scale questions ranging from one to five, where the choice of

a higher score indicates a more positive attitude and vice versa. A total of 62 attributes were categorized under 12 dimensions as follows:

General questions (6 attributes)

Covers the belief the person taking the questionnaire holds regarding the effect of applying quality management on the company's performance, cost, customer satisfaction, and the courier service industry in general.

Quality management standards (10 attributes)

Covers the importance of construction quality management manual in the organization. Also, the effect of applying quality assurance checks on business performance and customer satisfaction, and the effect of taking corrective and preventive action of customer satisfaction.

Organizational management standards (8 attributes)

Covers the importance of communication with customers on a personal level and getting their feedback regarding the service received, and covering the impact of setting goals and mission statement on business performance.

Human resources training standards (4 attributes)

Covers the importance of providing employees with updates regarding quality issues and improvements, and

the need to provide employees with a well written job description and its effect on business performance.

Program management standards (5 attributes)

Measuring the level to which preventive procedure is affecting business performance, and acknowledging the customer of the problems being faced during the process of providing the service.

Customer satisfaction standards (3 attributes)

Covers the effect of customer feedback and the way customer complaints are addressed on improving customer satisfaction.

Maintenance and calibration standards (3 attributes)

Covers the effect of proper postage payments and installing proper software on business performance, and the effect of preventive maintenance on customer satisfaction.

Mail piece elements standards (5 attributes)

Covering the effect of providing on-site assistance on customer satisfaction, and the importance of describing printing procedure and preventive procedure to avoid rework and therefore improve business performance.

Data preparation standards (5 attributes)

Covers the importance of proper mail preparation (regarding client data) and standardized communication process with clients and its effect on the quality of the service provided.

Collecting and receiving standards (3 attributes)

Covers the importance of mail or mailpiece components collected from other companies and mail/mailpiece components received. This ensures that nonconforming products are isolated and corrective action is taken.

Mail production standards (7 attributes)

Covers the effect of proper sorting of mail, ensuring a proper functioning of equipment being used, quality checks, and tracking mail items on business performance and customer satisfaction.

Presentation standards (3 attributes)

Covers the effect of handling mail items professionally on business performance and customer satisfaction.

The main focus of the survey is to assess the attitude of courier service companies in Kuwait toward implementing the MPTQM standards in their mail preparation processes, and whether or not it would enhance their business performance and customer satisfaction. The survey was distribu-

ted to all major courier service providers in Kuwait, which represents only 23 companies in total. A total of only 14 companies responded to the survey. This small sample size resulted in a type of data that is ranked and ordinal, which is non-parametric in nature and does not follow any type of distribution. Therefore, the Mann-Whitney test is used to analyze the results of the (yes/no) type questions, and Kruskal-Wallis analysis method is used to analyze the results of the five-ranking type of questions.

Results and Analysis

This section of the paper represents the interpretations of the results obtained after applying the MPTQM model's questionnaires on the courier service companies under investigation in Kuwait. The key purpose of the questionnaires is to uncover companies' attitude toward TQM practices and its effect on their business performance and customer satisfaction.

Validity and Reliability

To ensure the validity of the questionnaire in measuring the purpose of the study, three experts (2 from the industry and one from academia) reviewed the questionnaires' items for readability, clarity, and comprehensiveness. Moreover, the questionnaires results show a high reliability

score of 89%. This is a good indication of the consistency of the measures within the questionnaire to ensure that if the same process were to be repeated, relatively similar results would be found.

Descriptive Statistical Analysis

General Questions Category

Results show that 13 out of the 14 companies responded to the study do apply quality management standards. Only one company declared that no quality management standards are used in their organization. Results also show that only international courier service companies in Kuwait use well-known international quality management standards, where local courier service companies used an in-house quality management standards

developed from experience. Furthermore, the entire sample agreed that applying quality management standards would benefit the companies' performance and the courier industry as a whole. However, there was some disagreement between the companies about the impact of quality management practices on operational costs and customer satisfaction. Figure 1 shows a bar chart of the answers of the general questions.

In the general questions category, companies were also asked to choose from the given Likert scale an answer that reflects their approximate annual revenue, type of customers, and numbers of regular customers. Their answers to these three measures would be used later in the study to investigate the effect of applying TQM standards on their business performance and



Figure1: Answers to the General Questions Category

customer satisfaction. However, the results of this part of the questionnaire indicated that there was no significant correlation between the number of customers and approximate annual revenue at 95% significance. This is mainly because some companies that have government contracts also have a relatively low number of regular customers, but still have a high revenue. On the other hand, companies that have relatively a higher number of regular customers, yet relatively a lower revenue, is due to the fact that their customers are mainly individual customers. Hence, there was no significant correlation found between the number of regular customers and revenue.

Furthermore, no significant impact on quality management standards was found between different

types of customers (government, corporate, individual). This basically means that there were no significant differences on how the companies answered questions regarding attributes of the MPTQM model's questionnaire, even when they had different types of customers.

MPTQM Model's Categories Questions

According to the responses of the questionnaire, companies believe that the human resources and training standards are the most important attributes of the MPTQM model in order to improve business performance and increase customer satisfaction. The mean score of the questions answered in this category found to be 4.75, the highest amongst all other categories. Furthermore, collecting and receiving standards, as well as

Table 1
Means of Categories of the MPTQM Models Questionnaire

Category	N	Mean	Std. Deviation	Rank
Quality Management Standards	14	4.1	0.29612887	8
Organizational Management Standards	14	3.875	0.268543078	10
Human Resources and training Standards	14	4.75	0.353553391	1
Program Management Standards	14	4.485714	0.468807231	5
Customer Satisfaction Standards	14	4.285714	0.486697274	7
Maintenance and Calibration Standards	14	3.97619	0.561808522	9
Mail Piece Elements Standards	14	4.442857	0.47832124	6
Data Preparation Standards	14	4.542857	0.387723704	4
Collecting and Receiving Standards	14	4.714286	0.288145941	2
Mail Production Standards	14	4.581633	0.227361397	3
Presentation Standards	14	3.5	0.484812062	11

Table 2
Correlation between Categories of the MPTQM Models Questionnaire

Correlations											
	Quality Management Standards	Organizational Management Standards	Human Resources and Training Standards	Program Management Standards	Customer Satisfaction Standards	Maintenance and Calibration Standards	Mail piece Elements Standards	Data Preparation Standards	Collecting and Receiving Standards	Mail Production Standards	Presentation Standards
Quality Management Standards	1	.556*	.698**	.909**	.125	.416	.587*	.469	.751**	.441	-.750**
Organizational Management Standards		1	.709**	.794**	.687**	.531	.913**	.923**	.663**	.157	-.419
Human Resources and Training Standards			1	.835**	.298	.678**	.569*	.842**	.440	.239	-.636*
Program Management Standards				1	.311	.573*	.806**	.723**	.803**	.259	-.699**
Customer Satisfaction Standards					1	-.129	.450	.691**	.322	.468	-.254
Maintenance and Calibration Standards						1	.615*	.558*	.324	-.371	-.298

Correlations

*. Correlation is significant at the 0.05 level (2-tailed).
*. Correlation is significant at the 0.01 level (2-tailed).

mail production standards are also considered to be of major importance to companies with means of 4.71 and 4.58 respectively. On the other hand, presentation standards are considered to be the least important attribute of quality management with a mean score of 3.50. Other attributes that are also not considered to be of major importance to companies include organization management standards and maintenance and calibration standards. See Table 1 in the Appendix, which shows the mean score for each category of the MPTQM model's questionnaire.

Subsequently, the correlation between the different categories of the MPTQM model was also assessed, as shown in Table 2 in the Appendix. For the sake of brevity, an explanation of the first row of the table that shows the correlation between quality management standards category and the other categories of the MPTQM model is discussed only, and the same explanation applies to the rest of the table.

Results of Table 2 show a positive correlation at 95% significance between quality management standards, organization management standards, and the mail piece element standards. Moreover, a positive correlation at 99% significance is shown between quality management standards, human resource and training standards,

and collecting and receiving standards. This indicates that companies that strongly agree with the quality management standards felt the same toward the previously mentioned standards. However, a negative correlation at 99% significance is shown between quality management standards and presentation standards, indicating that companies that strongly agree with quality management standards strongly disagree with the proposed presentation standards of the MPTQM model.

Furthermore, the mail production standards category is the only category that has no significant positive correlation with the other categories in the MPTQM model. Instead, it is the only category that is negatively correlated to all other categories of the model. However, the other categories of the model show a correlation at either 95% or 99% significance indicating the level of agreement of respondents between the different categories of the MPTQM model.

Hypothesis Testing

The main focus of the study is to investigate whether or not the adaptation of TQM practices, based on the MPTQM model's standards, in courier service companies in Kuwait would affect business performance and customer satisfaction. Accordingly, company responses to the MPTQM

model's categories in the questionnaire are tested against their responses to the general questions category, which reflects their overall performance. The general question category of the questionnaire contains questions that reflect the following:

1. Companies' attitude toward the adaptation of TQM practices.
2. Annual revenue.
3. Number of regular customers.
4. Type of customers.

Therefore, in order to evaluate the effect of implementing TQM practices on business performance and customer satisfaction, the differences in companies responses to the rest of the 11 categories of the questionnaire (i.e., quality management standards, organizational management standards, human resources and training standards...etc.), which reflect the MPTQM model's standards, are tested to compare whether or not companies' attitude toward the adaptation of TQM practices is significantly different from the attributes of the general questions category. Our null and alternative hypotheses are the following:

H₀: The use of TQM practices does not have significant effect on business performance and customer satisfaction.

Ha: The use of TQM practices has significant effect on business performance and customer satisfaction.

In order to judge whether or not the null-hypothesis can be rejected, two types of tests are performed on our non-parametric sample data collected: The Wilcoxon Mann-Whitney and Kruskal-Wallis tests.

Wilcoxon Mann-Whitney Test

In the first 6 questions of the general questions category of the questionnaire, companies were asked to answer a (yes/no) type of questions on how they feel toward TQM practices. Therefore, the Wilcoxon Mann-Whitney test is performed to compare whether or not the differences in the companies' answers toward the MPTQM model's standard are significant between those companies that replied with a "yes" versus those that replied with a "no" answers. However, the test was not performed on the first four questions of the general questions category, as most of the companies answers are a "yes," as previously shown in Figure 1. Accordingly, the Wilcoxon Mann-Whitney Test was performed on questions 5 and 6 of the general questions category as companies' answers varied between a "yes" and a "no" answers. Table 3 in the Appendix shows the results of the test.

Table 3
Wilcoxon Mann-Whitney Test on the Cost of Applying TQM Standards

5. Do you believe applying quality management will increase costs?		N	Mean Rank	Sum of Ranks	Mann-Whitney U	Asymp. Sig. (2tailed)
Quality Management Standards	yes	10	6.15	61.50	6.500	.048
	no	4	10.88	43.50		
Organizational Management Standards	yes	10	6.35	63.50	8.500	.096
	no	4	10.38	41.50		
Human Resources and training Standards	yes	10	6.50	65.00	10.000	.094
	no	4	10.00	40.00		
Program Management Standards	yes	10	6.00	60.00	5.000	.027
	no	4	11.25	45.00		
Customer Satisfaction Standards	yes	10	7.85	78.50	16.500	.604
	no	4	6.63	26.50		
Maintenance and Calibration Standards	yes	10	6.50	65.00	10.000	.142
	no	4	10.00	40.00		
Mail Piece Elements Standards	yes	10	6.05	60.50	5.500	.024
	no	4	11.13	44.50		
Data Preparation Standards	yes	10	6.75	67.50	12.500	.270
	no	4	9.38	37.50		
Collecting and Receiving Standards	yes	10	5.90	59.00	4.000	.016
	no	4	11.50	46.00		
Mail Production Standards	yes	10	8.30	83.00	12.000	.248
	no	4	5.50	22.00		
Presentation Standards	yes	10	7.80	78.00	17.000	.647
	no	4	6.75	27.00		

Question 5 in the general questions category regards how companies feel toward the effect of applying quality management standards on the cost of performing their services. Some companies feel that applying quality management standards increases their costs and others feel that it does not. The analysis of the results shows whether or not there is a significant difference between companies that

answered with a “yes” and those that answered with a “no” to question 5, and how they feel towards the rest of the 11 categories of the MPTQM model’s standards. It was found that significant difference exist at a 95% confidence level in how companies feel towards quality management standards, program management standards, mail piece element standards,

Table 4
Wilcoxon Mann-Whitney Test on the Effect of TQM on Customer Satisfaction

6. Will applying a standard quality management system increase customer satisfaction?		N	Mean Rank	Sum of Ranks	Mann-Whitney U	Asymp. Sig. (2tailed)
Quality Management Standards	yes	12	6.75	81.00	3.000	.088
	no	2	12.00	24.00		
Organizational Management Standards	yes	12	7.17	86.00	8.000	.455
	no	2	9.50	19.00		
Human Resources and training Standards	yes	12	7.08	85.00	7.000	.280
	no	2	10.00	20.00		
Program Management Standards	yes	12	6.75	81.00	3.000	.088
	no	2	12.00	24.00		
Customer Satisfaction Standards	yes	12	8.50	102.00	.000	.022
	no	2	1.50	3.00		
Maintenance and Calibration Standards	yes	12	6.50	78.00	.000	.023
	no	2	13.50	27.00		
Mail Piece Elements Standards	yes	12	6.75	81.00	3.000	.071
	no	2	12.00	24.00		
Data Preparation Standards	yes	12	7.58	91.00	11.000	.849
	no	2	7.00	14.00		
Collecting and Receiving Standards	yes	12	6.83	82.00	4.000	.119
	no	2	11.50	23.00		
Mail Production Standards	yes	12	8.33	100.00	2.000	.062
	no	2	2.50	5.00		
Presentation Standards	yes	12	7.58	91.00	11.000	.844
	no	2	7.00	14.00		

and collecting and receiving standards.

Similarly, question 6 in the general questions category concerns how companies feel toward the effect of applying quality management standards on customers' satisfaction. Some companies feel that applying quality management increases customers satisfaction and others feel that it does not. Table 4 in the Appendix

shows that a significant difference exists at a 95% confidence level in how companies feel toward customer satisfaction standards and maintenance and calibration standards.

Kruskal-Wallis Test

In questions 7 through 9, in the general questions category of the questionnaire, companies were asked to respond with a Likert scale answers to questions that reflects their annual

Table 5
Kruskal-Wallis Test on the Effect of TQM Standards on Companies Revenue

7. Average yearly Revenue in Kuwaiti Dinar		N	Mean Rank	Chi-Square	df	Asym p. Sig.
Quality Management Standards	200-400kd	4	7.13	4.235	4	.375
	400-600kd	3	5.67			
	600-800kd	2	4.25			
	800-1m illion	2	9.75			
	over 1 m illion	3	10.50			
Organizational Managem ent Standards	200-400kd	4	6.88	1.107	4	.893
	400-600kd	3	6.00			
	600-800kd	2	7.75			
	800-1m illion	2	9.50			
	over 1 m illion	3	8.33			
Hum an Resources and training Standards	200-400kd	4	6.25	4.500	4	.343
	400-600kd	3	5.00			
	600-800kd	2	7.50			
	800-1m illion	2	10.00			
	over 1 m illion	3	10.00			
Program Managem ent Stan- dards	200-400kd	4	7.00	3.808	4	.433
	400-600kd	3	6.33			
	600-800kd	2	4.00			
	800-1m illion	2	9.50			
	over 1 m illion	3	10.33			
Customer Satisfaction Stan- dards	200-400kd	4	8.63	6.038	4	.196
	400-600kd	3	8.00			
	600-800kd	2	8.00			
	800-1m illion	2	11.00			
	over 1 m illion	3	2.83			
Maintenance and Calibration Standards	200-400kd	4	4.50	8.508	4	.075
	400-600kd	3	4.33			
	600-800kd	2	9.75			
	800-1m illion	2	9.75			
	over 1 m illion	3	11.67			
Mail Piece Elem ents Standards	200-400kd	4	7.13	1.125	4	.890
	400-600kd	3	6.67			
	600-800kd	2	6.25			
	800-1m illion	2	8.00			
	over 1 m illion	3	9.33			

Cont. Table 5

7. Average yearly Revenue in Kuwaiti Dinar		N	Mean Rank	Chi-Square	df	Asym p. Sig.
Data Preparation Standards	200-400kd	4	7.13	1.466	4	.833
	400-600kd	3	6.00			
	600-800kd	2	8.75			
	800-1m illion	2	10.00			
	over 1 m illion	3	7.00			
Collecting and Receiving Standards	200-400kd	4	9.00	4.409	4	.353
	400-600kd	3	6.83			
	600-800kd	2	2.50			
	800-1m illion	2	9.00			
	over 1 m illion	3	8.50			
Mail Production Standards	200-400kd	4	7.50	3.747	4	.441
	400-600kd	3	8.67			
	600-800kd	2	5.50			
	800-1m illion	2	11.50			
	over 1 m illion	3	5.00			
Presentation Standards	200-400kd	4	8.25	2.233	4	.693
	400-600kd	3	7.33			
	600-800kd	2	10.00			
	800-1m illion	2	4.50			
	over 1 m illion	3	7.00			

Table 6
Kruskal-Wallis Test on the Effect of TQM Standards on Type of Customers

8. Most of you revenue comes from		N	Mean Rank	Chi-Square	df	Asymp. Sig.
Quality Management Standards	Individual customers	5	6.00	1.964	2.000	.375
	Corporate Customers	5	7.20			
	Government Enterprises	4	9.75			
Organizational Management Standards	Individual customers	5	8.10	1.083	2.000	.582
	Corporate Customers	5	6.00			
	Government Enterprises	4	8.63			
Human Resources and training Standards	Individual customers	5	6.00	3.000	2.000	.223
	Corporate Customers	5	7.00			
	Government Enterprises	4	10.00			
Program Management Standards	Individual customers	5	6.40	2.168	2.000	.338
	Corporate Customers	5	6.60			
	Government Enterprises	4	10.00			

Cont. Table 6

8. Most of you revenue comes from		N	Mean Rank	Chi-Square	df	Asymp. Sig.
Customer Satisfaction Standards	Individual customers	5	9.50	3.168	2.000	.205
	Corporate Customers	5	7.70			
	Government Enterprises	4	4.75			
Maintenance and Calibration Standards	Individual customers	5	6.50	2.151	2.000	.341
	Corporate Customers	5	6.50			
	Government Enterprises	4	10.00			
Mail Piece Elements Standards	Individual customers	5	8.10	2.092	2.000	.351
	Corporate Customers	5	5.60			
	Government Enterprises	4	9.13			
Data Preparation Standards	Individual customers	5	8.30	.607	2.000	.738
	Corporate Customers	5	6.40			
	Government Enterprises	4	7.88			
Collecting and Receiving Standards	Individual customers	5	6.90	1.121	2.000	.571
	Corporate Customers	5	6.70			
	Government Enterprises	4	9.25			
Mail Production Standards	Individual customers	5	8.00	2.740	2.000	.254
	Corporate Customers	5	9.20			
	Government Enterprises	4	4.75			
Presentation Standards	Individual customers	5	7.40	.100	2.000	.951
	Corporate Customers	5	7.20			
	Government Enterprises	4	8.00			

Table 7
Kruskal-Wallis Test on the Effect of TQM Standards on Customer Satisfaction

9. Number of Regular customers		N	Mean Rank	Chi-Square	df	Asymp. Sig.
Quality Management Standards	Less than 30	3	10.50	2.482	4	.648
	30-60	3	5.50			
	60-90	2	7.25			
	90-120	1	7.50			
	over 120	5	7.00			
Organizational Management Standards	Less than 30	3	8.33	1.963	4	.743
	30-60	3	4.83			
	60-90	2	8.25			
	90-120	1	6.00			
	over 120	5	8.60			

Cont. Table 7

9. Number of Regular customers		N	Mean Rank	Chi-Square	df	Asym p. Sig.
Human Resources and training Standards	Less than 30	3	10.00	3.750	4	.441
	30-60	3	5.00			
	60-90	2	6.25			
	90-120	1	10.00			
	over 120	5	7.50			
Program Management Standards	Less than 30	3	10.33	2.430	4	.657
	30-60	3	5.33			
	60-90	2	7.75			
	90-120	1	7.00			
	over 120	5	7.10			
Customer Satisfaction Standards	Less than 30	3	2.83	5.906	4	.206
	30-60	3	7.17			
	60-90	2	9.25			
	90-120	1	9.00			
	over 120	5	9.50			
Maintenance and Calibration Standards	Less than 30	3	11.67	8.012	4	.091
	30-60	3	3.33			
	60-90	2	5.25			
	90-120	1	11.50			
	over 120	5	7.60			
Mail Piece Elements Standards	Less than 30	3	9.33	2.520	4	.641
	30-60	3	5.50			
	60-90	2	8.00			
	90-120	1	4.00			
	over 120	5	8.10			
Data Preparation Standards	Less than 30	3	7.00	1.975	4	.740
	30-60	3	5.17			
	60-90	2	7.75			
	90-120	1	7.00			
	over 120	5	9.20			
Collecting and Receiving Standards	Less than 30	3	8.50	1.276	4	.865
	30-60	3	8.17			
	60-90	2	9.00			
	90-120	1	6.50			
	over 120	5	6.10			

Cont. Table 7

9. Num ber of Regular cus tom ers		N	Mean Rank	Chi-Square	df	As ym p. Sig.
Mail Production Standards	Less than 30	3	5.00	3.125	4	.537
	30-60	3	5.67			
	60-90	2	9.75			
	90-120	1	10.00			
	over 120	5	8.70			
Presentation Standards	Less than 30	3	7.00	2.230	4	.694
	30-60	3	10.33			
	60-90	2	7.50			
	90-120	1	7.00			
	over 120	5	6.20			

revenue, types of customers, and the number of regular customers. Then, company responses to those questions are tested against their responses to the MPTQM model's questionnaire using the Kruskal-Wallis test in order to assess for any significant effect at 95% confidence level of applying TQM practices to their business performance and customer satisfaction. According to Tables 5, 6 and 7, results show no significant effect exists between companies' attitude towards applying TQM practices and the differences in their answers to questions 7 through 9 in the general questions category.

In other words, company attitudes toward applying TQM practices do not affect their annual revenue, types of customers, and customer satisfaction. For example, In Table 5, where companies' revenue is assessed against their

attitude toward the different categories of the MPTQM model's standards (quality management standards, organizational management standards, human resource and training standards, etc.), no significant effect is found at the 95% level. This means that no matter how companies feel toward the TQM practices, their attitude does not affect their revenue. Similarly, in Table 6, where companies' type of customers is assessed against their attitude toward the different categories of the MPTQM model's standards, no significant effect is found either. This means that companies' attitude toward the TQM practices does not affect their type of customers. The same argument and results are also found in Table 7, where companies' attitude toward the TQM practices does not affect their regular number of customers, hence their customer satisfaction. Accordingly, the null-hypothesis, which states that the

adaptation of TQM practices does not have an effect on business performance and customer satisfaction, cannot be rejected.

Discussion

As a result, from the different types of analysis and tests performed on the respondents' data, it was found that, in their opinion, none of the standards of MPTQM model has an impact on business performance or customer satisfaction (assessed through the number of regular customers). The answers of companies with a higher number of regular customers was not significantly different from those with a low number of regular customers. Consequently, the number of regular customers was not found to have an impact on business performance as some companies with a few customers were found to have a higher income than others with a large number of regular customers, as the size of contract and volume of mail from the low number of customers is high. Thus, the attitude of the companies investigated is such that to be MPTQM certified in courier service industry in Kuwait has no significant impact on business performance and customer satisfaction, resulting in an inability to reject the null-hypothesis.

Due to the contradicting results found regarding the effect of TQM practices on business performance

and customer satisfaction, further investigation was conducted with personnel who responded to the questionnaires. According to their testimony, companies that enjoy the benefits of governmental connections, and hence have a better chance of winning varied contracts, are guaranteed regular corporate-type customers with a steady governmental income regardless of whether or not these companies are MPTQM certified or adapt TQM practices. This unexpected finding could open a new door for further research and investigation, namely, the effect of governmental intervention on business performance.

Conclusion

The purpose of this study is to investigate the attitude of courier service companies in Kuwait toward the adaptation of TQM practices and its effect of on their business performance and customer satisfaction. The well-known MPTQM model is used to construct a questionnaire that covers all attributes related to the courier service industry operations. Out of the 23 courier service companies investigated in Kuwait, only 14 companies replied. The relatively small sample size and the type of data collected resulted in a non-parametric sample data that does not follow any

particular distribution. Accordingly, the Mann-Whitney and Kruskal-Wallis tests were used for the purpose of results analysis.

In our questionnaire, we used corporate revenue as an indication of business performance and the number of regular customers to indicate customer satisfaction. Results show that there is no correlation between improving quality management and the companies' revenue and number of regular customers, as opposed to what was expected. The reason behind such results is the fact that some companies with a small number of customers, yet a high revenue, are involved in governmental contracts. On the other hand, companies with a large number of customers, yet a low revenue, depend mainly on individuals. The findings of the study suggest that the courier service industry in Kuwait is mainly dependent on government in-

tervention and personal social networking rather than the actual quality of service provided.

Finally, we should clarify the importance of TQM practices in the success of the courier sector in Kuwait. This work should be complemented by increasing the sample size to involve more employees in every department in an organization rather than having the organization take the questionnaire as one entity. Also, another questionnaire should be conducted to measure the attitude of customers receiving the service, and use the results to compare the feedback of those customers with that of the service providers. Nevertheless, the unexpected findings of the study could represent a good starting point to take this investigation one step further to include the entire Gulf Cooperation Council (GCC) countries.

References

- Abaas, Z., Yaacob, Z. 2011. The Effect of Intensity of Quality Management on Customer Satisfaction. *International Journal of Business and Society*, 12(2): 69-86.
- Accenture Research and Insights. 2013. Achieving High Performance In the Postal Industry.[Online]. *Accenture*. Available http://www.accenture.com/SiteCollectionDocuments/PDF/Accenture_Achieving-High-Performance-in-the-Postal-Industry-2013-Research-and-Insights.pdf [Cited 23 February 2014].
- Azizzadeh, F., Khalili, K., and Soltani, I. 2013. Service Quality Measurement in the Public Sector (Ilam Province Post Office Case Studies). *International Journal of Economics, Finance and Management*, 2(1): 114- 121.
- Brah, S., and Lim, H. 2006. The Effects of Technology and TQM on Perfor-

- mance of Logistics Companies. *International Journal of Physical Distribution & Logistics Management*, 36(3): 192-209.
- Brah, S.A., Tee, S.S.L. and Rao, B.M. 2002. Relationship between TQM and performance of Singapore companies. *International Journal of Quality & Reliability Management*, 19(4): 356-379.
- Dimitriadis, A.S. 2006. Customer satisfaction, loyalty and commitment in service organizations: some evidence from Greece. *Management Research News*, 29(12): 782-800.
- Lee, S., Lee, D., and Kang, C. 2012. The impact of high-performance work systems in the health-care industry: employee reactions, service quality, customer satisfaction, and customer loyalty. *The Service Industries Journal*, 32(1): 17-36.
- Li, B., Riley, M., Lin, B., and Qi, E. 2006. A comparison study of customer satisfaction between the UPS and FedEx. *Industrial Management and Data Systems*, 106(2): 182 - 189.
- Litifi, M. Gharbi, J. 2012. Satisfaction and loyalty with the Tunisian Postal Service. *International Journal of Humanities and Social Sciences*, 2(7): 178-191.
- Munusamy, J., Chelliah, S., and Mun, H. 2010. Service Quality Delivery and Its Impact on Customer Satisfaction in the Banking Sector in Malaysia. *International Journal of Innovation, Management and Technology*, 1(4): 398-404.
- Naik, K., Gantasala, S., and Prabhakar, G. 2010. Service Quality (Servqual) and its Effect on Customer Satisfaction in Retailing. *European Journal of Social Sciences*, 16(2): 231-243.
- Powell, T.C. 1995. Total quality management as competitive advantage: a review and empirical study. *Strategic Management Journal*, 16(1): pp. 15-37.
- Shahdadnejad, R., and Alroaia, Y. 2013. The effect of TQM on customer satisfaction in higher education. *Management Science Letters*, 3(3): 891-896.
- Stahl, M.J. 1999. Perspectives in Total Quality: Wiley-Blackwell Press.
- The Cicero Group*. 2006. Quantifying the Impact of Customer Satisfaction on Business Performance. (whitepaper) [Online]. Available from: http://www.cicergroup.com/about-us/publications-newsroom/Customer_Satisfaction_and_Business_Performance.pdf [Cited 24 February 2014].
- United States Postal Service*. 2007. Mail Preparation Total Quality Management Technical Guide, version 7.3.1. [Online]. Available from: https://www.usps.com/mptqm/_pdf/MPTQM_Technical_Guide.pdf [Cited 11 December 2013].
- Valmohammadi, C. 2011. The impact of TQM implementation on the organizational performance of Iranian manufacturing SMEs. *The TQM Journal*, 23(5): 496-509.
- Varey, R., and Hamblett, R. 1997. Business excellence review at Royal Mail (NW/NW): a case of strategic communication management. *Managing Service Quality* 7(6): 281-289.

- Yaya, L.H.P., Marumon, F. and Casadesus, M. 2011. Customer's loyalty and perception of ISO 9001 in on-line Banking. *Industrial Management & Data Systems*, 111(8): 1194-213.
- Zeithaml, V. 2000. Service Quality, Profitability, and the Economic Worth of Customers: What We Know and What We Need to Learn. *Journal of the Academy of Marketing Science*, 28(1): 67-85.

Raed A. Al-Husain received his Bachelor of Science in Electrical Engineering and his Master of Science in Operations Research Engineering, from the University of Southern California, Los Angeles, in 1999 and 2002 respectively. He received his Doctor of Philosophy degree in Business Operation Management from the University of Houston, Texas, in 2005. Currently, he works as an Assistant Professor in the Department of Quantitative Methods and Information Systems, College of Business Administration, Kuwait University. His research interests include: Logistics and supply chain management, specifically in the petroleum and health care industries, production planning and scheduling, inventory management, and simulation and quality management.

Wadie A. Al-Sayegh received his Bachelor of Science in Fire and Explosives Engineering and his Master's degree in Engineering Project Management from the University of Leeds, United Kingdom in 2008 and 2009 respectively. He received his Master's in Business Administration from the College of Business Administration, Kuwait University, 2014. At the time of the research he was the General Manager of a local courier service company. Currently he is the Vice President of Business development in an Educational Company (Al-Ekhlis International Holding). His research interests include Quality management and supply chain management specifically in the service and educational industry as well as the application of theories in the real business environment.