
Original Article

Effect of applying quality fundamentals on the performance of airline companies working in the Jordanian market: Field study

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ABSTRACT This study aims to understand the effect of applying quality fundamentals in the airline companies working in the Jordanian market, as well as to understand the most prominent obstacles to applying these basic elements of quality fundamentals. The study includes all airline companies working in Jordan, where (90) questionnaires were distributed to a study sample based on this universe. Of these, some 60 good questionnaires were received and analyzed. This study came to the following conclusions. Where the philosophy of service quality management was applied, this had a significant impact on (1) the profitability of airline companies, (2) the annual growth of sales of airline companies, and (3) reduction in quality costs in airline companies. This is additionally demonstrated by a positive correlation between the degree to which the philosophy of service quality management was applied and (4) the increase in profitability of airline companies (excluding 'work difference'), (5) the annual growth of sales in airline companies (excluding 'focusing on customer'), and (6) the decrease in quality costs in airline companies.

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INTRODUCTION

Public and private companies face great challenges in the form of decreasing productivity levels, increased operating costs, reduced financial resources, the adoption of ineffective strategies to deliver business objectives, and low levels of customer and employee satisfaction. They also face other

challenges, in particular, intense competition, which increases directly as consumers both express a desire for and begin actively looking for quality as a basic criterion in choosing what satisfies their requirements from services and commodities.

Facing and conquering these and other challenges is very important, enabling

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companies not simply to compete, but to survive. Therefore, modern companies tend to adopt management methods and philosophies that address market demands. They are increasingly interested in quality issues at every stage of service delivery.

This was welcomed by many companies, not just because of their own interest in quality, but because it is possible to instill quality principles at every step of the customer journey: from the basic concept of quality management through to a comprehensive vision of that management philosophy. The whole is then underpinned by an integral system of practices that focuses on:

- management commitment
- meeting customer needs
- reducing the need for re-delivery of service or product
- long-range strategic thinking
- increased participation by workers, either as individuals or teams
- the creation of partnership relations with supplier
- benchmarking their own quality achievement against that of other companies
- continual measurement of results

Adopting and applying these practices in an integral and purposeful manner towards the goals of the company is a key strategic shift on the part of companies, as this will, in the end, allow them to evaluate the effectiveness of quality management through its effect on their performance, both financial and non-financial.

A key factor impacting airline companies in Jordan is the small size of the market. Competitive difference may therefore be achieved by offering integrated services that satisfy customer needs. The comprehensive application of a quality management philosophy is thus an ideal recipe for success. With this in mind, this study collected data directly from managers of airline companies working in Jordan, in order to evaluate their

commitment to service quality and the effect of this commitment on the financial and non-financial performance of these companies.

GOALS OF THE STUDY

This study aims to analyze the effect of applying service quality fundamentals within the Jordanian airline market, with specific attention paid to the effect of these fundamentals on the performance of companies in the study: additional topics covered include the personal qualities of individuals sampled within the study, the organizational characteristics of companies from whom data were gathered, and the main obstacles to applying basic elements of quality management philosophy.

Specific aims within this study include the provision of answers to the following questions:

1. To what extent have airline companies working in Jordan implemented service quality management principles across their day-to-day operations (support and commitment of management, consumer focus, employee participation, training of workers, teamwork, relationship with suppliers, strategic planning, evidence-based management, retroactive comparison)?
2. Does application of these principles have a positive effect on the performance of airline companies working in Jordan?
3. Do specific corporate demographics (as represented by number of workers, age of company and the existence of a quality section) affect the level of service quality provided?
4. What difficulties do airline companies face in applying the philosophy of service quality management?

THEORETICAL SIDE OF THE STUDY

Introduction

Most measures that relate to organizational performance, in terms of jobs and basic

activities, were established in line with a traditional management approach. This means they were created in an era where there were no real quality fundamentals. Organizations now need to reconsider – sometimes consider for the first time – such measures in line with a radical transformation in respect of culture. They need to undergo a radical shift in their philosophy and culture – and this needs to be underpinned by a structured approach enabling them to improve their performance in respect of quality.

Companies need to collect and analyze data relating to measures of performance on more than one level. This is because the fundamentals of quality management require that companies look beyond mere financial criteria to other measures that address issues of behavior: interactions between workers and between and with other significant groups.

This section looks at concepts of performance: measuring financial performance using measures such as profitability, year-on-year sales growth and quality costs; and measuring non-financial performance using measures such as customer satisfaction, market share, worker productivity and improvement of service quality. In all cases, companies may evaluate their performance by comparing it with other key performance indicators: what they have achieved against plan (strategic), against previous achievement (historic) or against other companies in the same field (competitive benchmarking).

Concept of performance

Concepts of performance are among the most important topics that concern senior management across the world, as any growth in real income and any increase in standard of living depends at base on an increase in performance efficiency. Such efficiency also tends to be correlated with the level of economic and civil development in any given country.

The concept of performance refers to those outcomes and objectives that a company seeks to achieve within a specific period.

Therefore, it is a concept that reflects both goals and the means necessary to achieve them; it acts as an explicit link between activities and goals.¹

Measuring performance provides companies with a snapshot of present activity, allowing them to evaluate progress, as well as refocus their strategic vision. This view should always be made in three significant ways.²

- versus past performance, successes recorded and achieved in the past (historic);
- versus goals/planned performance in future, as well as achieved goals versus aims and strategic objectives (strategic);
- versus other companies in the same field (competitive benchmarking).

Business organizations should put in place systems that will evaluate performance. Such systems should reveal points of strength and weakness: they should also monitor progress achieved against specific organizational objectives. Taken as a whole, such indicators provide a measure of the degree to which the organization is on track.³ In addition to generic performance indicators, every organization will tend to develop its own system according to internal circumstances and the focus for activity, as well as market and other issues germane to the environment in which it works and competes. This makes it difficult to identify absolutely the full range of measures in use – or likely to be.

In general, however, it is possible, by looking at how performance is measured within organizations, to classify the performance indicators used in this study as variables relating to two groups of measures:

- financial performance measures, including profitability, year-on-year sales growth, quality costs;

- non-financial performance measures, including measures of customer satisfaction, market share, worker productivity and improving service quality presented.

Financial performance measures

A large number of financial measures may be used to measure organizational performance. These may be presented at a number of different levels: those relating to the financial interpretation of the results of operational steps will be held and reported at higher levels than those relating to lower operational levels.⁴ Those relating directly to the present study are as follows.

Profitability

This reflects the ability of the organization to achieve profits at group level, and is distinct from individual service or product profitabilities.³ Profitability is the positive result achieved by the project compared with employed capital.⁵ Profit is an absolute necessity for the continued life of a business as it is the main fuel for the continuance of the organization, the basis of future stability and fuel for development.⁶

When talking about profitability, it is important to differentiate between this and profit. The latter is the difference between incomes and expenditures – effectively, net income – whereas profitability is a measure used to evaluate a project's overall performance through the percentage of net income to assets or investments.

Profitability can thus be maximized by improving the productivity of a project's investments, using modern technology, or by making use of resources in a better way.⁷

The four measures of profitability widely used as a means to measure an organization's use of assets, and efficient management of its operations, are as follows:

(a) *Profit margin:*

Profit Margin = Net profit/sales.

(b) *Return on assets:*

Return on assets = Net profit + interests / average of total assets.

(c) *Return on equity:*

Return on equity = net profit – profits shares distributed on excellent shares / average of equity.

(d) *Return on investment:*

Average of return on investment = (Profit/sales) × (Sales/invested capital).

Year-on-year sales growth

Sales are considered the basis in terms of income for most forms of profit (including operating profit, taxable profit, distributable net profit). They are also the focus for organizational activity, as they are a measure of product distributed and service delivered.⁸ Sales also underpin the computation of many financial percentages that organizations depend on for evaluating their performance, such as profit margin, return on investment, return on assets, net working capital, turning of stock and turning of fixed assets.

Growth in sales is generally expressed as:

Year-on-year Sales Growth = (sales of present year – sales of benchmarking year) / (sales of benchmarking year).

Quality costs

Quality costs are the costs of preventing bad-quality events from occurring (in terms of poor product delivery, returns and so on) or costs that are incurred as a result of bad quality occurrence (Basily).⁹

In respect of quality management, these costs may be split into three broad groups.¹⁰

(a) *Preventive costs:*

Preventive costs are the costs that result from efforts and activities put in hand by an organization during planning and production stages, with the aim of preventing the occurrence of non-conforming products

and/or services relative to specifications defined for them. This group includes:

- Quality planning costs (expenditure oriented towards development and execution of quality management programs).
- Delivery planning costs (expenditure oriented towards achieving defect-free product or service delivery).
- Operation costs (costs related to actions intended to deliver defect-free product or service delivery).
- Support costs (costs of building systems relating to quality management, including training, reporting development and analysis).

(b) *Appraisal costs:*

These are the costs that result from operations focused on measuring and examining performance and service delivery in such a way as to verify that services delivered by airlines are conforming to specifications.

(c) *Poor quality cost:*

These are the costs that result from the actual incidence of poor quality, that is, the costs that result when services fail to meet specifications. This group includes:

1. Internal failure costs: the costs that result from production of commodities and services of poor quality, identified through internal monitoring, and represented in terms of costs incurred through work repetition, operation failure, stoppage of production and decreased sale price).
2. External failure costs: the costs incurred as a result of poor commodity or service delivery to the consumer. These include:
 - (a) Costs of consumers' challenge/the costs of answering such challenges.
 - (b) Costs of product return: these are the expenditures that follow product return, and are counted by airlines in terms of lost seat income when a customer returns their ticket and the airline is unable to resell it.

(c) Costs of legal call to account:

In the case of any product or service delivery – for example, when a plane fails to arrive at its scheduled time – the cost of meeting any damages claimed by a customer, whether in respect of the service or of consequences of that service, and upheld by legal process.

(d) Costs of lost sales: these are the

costs resulting from customer dissatisfaction, and their subsequent decision to buy from a competitor.

Non-financial performance measures

Non-financial performance measures are a basic means of strategic control. They provide intelligence in respect of an organization's progress towards achieving planned strategic goals. They are attempts to focus on the key elements of directing action towards problem resolution: a mechanism for highlighting or drawing attention to issues, but not necessarily resolving them.⁴ Typical examples of these measures are as follows:

Customer satisfaction

Customer satisfaction is an important element in quality programs, and in providing a product that is free from defects and of high quality. Such product remains profitable only so long as it provides customer satisfaction.

It is difficult to provide an exact measure of customer satisfaction. However, there are a range of measures from which companies may select, including costs of external failure, which is a financial measure, as well as non-financial measures, such as the number of consumer complaints, the time which the company needs to achieve the customer's request, and the number of defective products/ services as a proportion of the total provided to consumers.

Given the close and direct correlation between customer satisfaction and sales – the main source of future income flows for most companies – this indicator may be regarded as important enough to add to the traditional measures of economic performance: the data it provides are useful not simply for company management but also for shareholders, investors and buyers.

Productivity

Productivity is a measure of operational performance. A preference for productivity as a measure of performance emerges from its simplicity and ease of use throughout the company. It may also be used to compare performance between various sections of the company.

In general, high productivity is a good indicator of high profitability. Productivity may also be used as an indicator of efficiency, reflecting circumstances where a company uses its resources in an effective manner.

Inputs equal total value of commodities and services produced during a given period, whereas outputs equal the cost of materials required.¹¹

- Productivity helps in defining the success of the company as a whole and is a positive indicator for shareholders looking for a long-term investment.
- Productivity is also directly implicated in public criteria of individual living standards within a country. Increased productivity means improving means used, which raises the value of output, and lowers costs of inputs by:⁵
 - increasing outputs while inputs are kept fixed;
 - increasing outputs faster than inputs increase;
 - increasing outputs as inputs decrease;
 - decreasing inputs while keeping outputs fixed.
- Decreasing inputs more than outputs decrease.

Quality improvement

Quality improvement means improving the specifications of product or service. This starts with the preparation of plans or projects dedicated to implementing specific improvements, establishing a team to lead work, analyzing the reasons that lead to poor quality or its improvement, and finally provision of a mechanism to manage the new operation.¹²

As prevention costs and failure are considered to include financial penalties for non-performance, most companies control the use of measures of both financial and non-financial quality.

Market share

Many companies depend on maximizing profit as a goal of its pricing operations. Such companies evaluate demand versus costs and pricing, and then select the price that will lead to greater profit, and cash flows, or returns on investment. This is likely to result in an instant financial result – but not long-term performance. An alternative strategy is to seek a position of leadership in terms of market share, on the grounds that the company with the larger market share will incur fewer costs and enjoy higher profit in the long term. Companies adopting such a strategy will often sell at low prices, irrespective of absolute cost–demand trade-offs.¹³

According to Al-Sumaidi and Yousef,¹⁴ market share is an important measure of performance, and is a good measure for differentiating between successful and failing organizations in their activities. Therefore, all organizations seek to achieve the biggest share of market as an end in itself, and they are supported in this effort by analyses of data about movement and customer churn between competitive organizations. Market share can be measured by three methods.¹⁵

Total market share

This is the company's sales expressed as a percentage of the total sales of the market.

Relative market share

This is a company's market share in relation to the largest competitive company (or possibly a basket of three competitive companies).

In this instance, market share is expressed as a percentage in the following way:

Market share = average of company's sales / average of biggest competitor's sales.

Served market share

This is the company's sales in relation to the total sales in the market that it serves; this market represents all buyers who can and wish to buy.

Previous studies

Quality has been a topic of interest for many researchers and practitioners of administrative operation. This interest is highlighted by the many field studies that seek to show the effect of applying quality management principles to a number of organizations across various activities.

This section looks at a number of studies that deal with the subject of quality.

Al-Traawneh¹⁶ study entitled 'Comprehensive quality and competitive ability: Applied study on sector of medicine industry in Jordan'

This study aimed to introduce the concept of comprehensive quality management as one of the modern administrative ways to face challenges and help organizations to stay continual in a time when competition is increasing, and when there is no route to support or protection except through self-dependence. In addition, this study looked at the relationship between the compressive quality management and competitive ability represented in terms of productivity, sales growth, export growth, market share and return on investments.

Results

1. Medical industry companies score at various different levels in terms of comprehensive quality. The average, however, is medium. Al-Traawneh believes that these levels of difference do match the importance of the topic and the competition requirements in the light of world trade specifications.
2. The study found no relationship between the dimensions of comprehensive quality management and the competitive ability outcomes mentioned earlier. It is understood from this that applying the comprehensive quality management was not matched to the achievement of specific goals, but was just a result from routine administrative practices.

The study recommended that companies raise interest and awareness of quality – particularly the fact that it is necessary to apply all dimensions of comprehensive quality – even where this would lead to changes or modification in business process or the addition of costs.

Al-Allaq¹⁷ study entitled 'Measuring quality of services provided by airline companies to passengers'

The study aimed to measure the quality of services provided by the airline companies to passengers, from the point of view of passengers themselves, in addition to measuring the effect of variables such as income, gender, job, age, class of trip and reasons for travel on the evaluation of passengers of quality of services provided. The study was based on 240 travelers chosen randomly from those departing and arriving from and to Jordan (Queen Alia' International Airport) across various nationalities and airlines.

The study measured the level of quality expected by these passengers relating to services provided. It further showed that differences exist between different measures

of service quality, between, for instance, the actual performance measure and the gap model measure, which represents the difference between expected quality and actual quality. The study also showed that variables of income, gender, job, age and class of travel had a direct effect on how passengers evaluated airline service quality.

The study recommended that airline administration should adopt programs of improvement and development of quality levels relating to service provided. This is especially important given that competition in the air travel market has increased, and the fact that good service is emerging as a competitive differentiator in this market.

Paswan¹⁸ study entitled 'Search quality in the financial services industry'

This study looked at means to determine the dimensions on which an individual relies when evaluating a banking service before becoming a customer, as well as at the reactions of the customer in terms of a sense of belonging. The study defined four dimensions (feeling sympathy with, security, tangible sides, cost of routine deal and cost of loans deal). These made up the field on which customers would evaluate quality in the financial services industry.

The study further looked at the relationship between quality factors employed in this research and the total evaluation of those who responded to the bank. Results suggested that higher levels of importance were applied to factors related to quality, especially cost of loans linked to an evaluation (good and poor) of the present bank. In addition to the quality factors, the study also used a number of personal variables such as gender, social status, age, income, job position, education and house ownership.

Study hypotheses

The current study is based on a group of general hypotheses and sub-hypotheses to study the nature of relation between the effect of applying quality fundamentals in the airline companies working in the Jordanian market and their performance. Below is a summary of these hypotheses, which is taken from the study form (Model No. 1).

First main hypothesis

Where the philosophy of service quality management was applied, this had a significant (positive) impact on profitability, annual sales growth and quality costs of airlines working in Jordan.

Sub-hypothesis

This is additionally demonstrated by a positive correlation between the degree to which the philosophy of service quality management was applied and

- the increase in profitability of airline companies;
- the annual growth of sales in airline companies;
- the decrease in quality costs in airline companies.

Second main hypothesis

Where the philosophy of service quality management was applied, this had a significant (positive) impact on customer satisfaction, improvement of service quality, increase in employee productivity and increase in market share of airlines working in Jordan.

Sub-hypothesis

This is additionally demonstrated by a positive correlation between the degree to which the philosophy of service quality management was applied and

- customer satisfaction;
- improvement of service quality;
- increase in employee productivity;
- increase in market share.

Study model

In the light of the aforementioned hypotheses, a simplified model of the study was planned that explained independent variables that represent principles of quality, secondary variables represented in financial and non-financial performance indicators, and the nature of relation between them, as explained in Figure 1.

Methodology of study

Universe and sample

The study universe consisted of all airlines working in Jordan: 90 questionnaires were distributed to the study sample that represent all airlines working in Jordan. Seventy-three questionnaires were returned from 33 airline companies: 13 were

excluded for incomplete data, leaving 60 to be analyzed.

Study distribution

The questionnaire was printed by the researcher and then distributed to managers of airlines in Jordan by hand. The questionnaire was accompanied by supporting documentation setting out the study aims and completion requirements. In addition, the questionnaire included an explanation of the concept of quality fundamentals, and an assurance that any data obtained would be kept confidential.

The entire process, from distribution to return, took a full month.

Statistical methods used

Data were first classified and then entered into a computer. The SPSS package was used,



Figure 1: Study model.

Table 1: Spearman correlation between quality principles and indicators of the financial performance

	Performance indicators		
	Profitability	Annual sales growth	Decrease of costs of quality
<i>Quality principle</i>			
Administration's obligation by quality	0.364**	0.314**	0.243**
Focus on customer	0.205*	0.100	0.200*
Workers participation	0.190*	0.204*	0.249**
Workers training	0.253**	0.175*	0.240**
Work groups	0.164	0.292**	0.305**
Relation with importer	0.231*	0.227*	0.343**
Quality strategically	0.245**	0.223*	0.369**
Administration by facts	0.236**	0.297**	0.333**
Benchmarking comparison	0.198*	0.360**	0.409**

*Correlation is significant at $\alpha \leq 0.05$.

**Correlation is significant at $\alpha \leq 0.01$.

to carry out data analysis and to identify/calculate basic criteria: repetitions, percentages, arithmetic means and the standard deviations relating to personal qualities of individuals in the study sample, as well as for organizational qualities of the study universe. Similar processes were applied to independent and secondary variables. In addition, the following tests were carried out:

- (a) Mann–Whitney
- (b) Kurskal–Wallis one-way ANOVA
- (c) Spearman correlation

Study determinants

Depending on study problem and goals, two main hypotheses were put forward with their branch hypotheses; the tests of these hypotheses are as follows.

First main hypothesis

As already stated, this hypothesis examined the proposition that where the philosophy of service quality management was applied, this had a significant (positive) impact on profitability, annual sales growth and quality costs of airlines working in Jordan.

In order to test the hypothesis, it was divided into three sub hypotheses. Spearman correlation was applied in order to determine whether any relationship existed between quality principles (independent variables) and the financial performance indicators of the

airline companies (secondary variables), as explained in Table 1.

Application of quality management principles was represented by eight factors:

1. Management's commitment to service quality
2. Focusing on customer
3. Worker participation
4. Worker training
5. Work groups
6. Relation with importer
7. Strategic planning for quality
8. Administration by facts
9. Benchmarking comparison

First sub-hypothesis

There is a significant correlation ($\alpha \leq 0.05$) between applying quality principles and increase in profitability.

Based on the results shown in Table 1, we found that there is a positive correlation ranging between 19 and 36.4 per cent, which is significant ($\alpha > 0.05$) between principles of quality and profitability. The exception was principle of work difference, which obtained a positive correlation coefficient of (16.4 per cent) but was not significant at the same level.

Therefore, the first sub-hypothesis is rejected in respect of the principle of 'work difference' but is accepted on all other quality principles.

Second sub-hypothesis

There is a significant correlation ($a < = 0.05$) between applying quality principles and increase in annual sales.

From the results of Table 1 we find that there is a positive correlation ranging between 10 and 36 per cent, which is significant ($a < = 0.05$) between principles of quality and the annual growth of sales. The exception was the principle of focusing on customer, which had positive correlation coefficient, but was very weak with a percentage of 10 per cent.

Therefore, the second sub-hypothesis is rejected in respect of the principle of ‘focusing on customer’ but is accepted on all other quality principles.

Third sub-hypothesis

There is a significant correlation ($a < = 0.05$) between applying quality principles and the decrease in costs of quality.

Table 1 shows that there is a positive relation ranging between 20 and 40.9 per cent, which is significant ($a > = 0.05$) between principles of quality decrease and of costs of quality.

Based on that, the third sub hypothesis is accepted.

Second main hypothesis

Where the philosophy of service quality management was applied, this had a significant (positive) impact on customer satisfaction, improvement in service quality, increase in employee productivity, and increase in market share of airlines working in Jordan.

This hypothesis was divided into four sub-hypotheses, each of which was tested using Spearman correlation to find the relation between quality principles (independent variables) and indicators of non-financial performance of airline companies (secondary variables) as shown in Table 2.

First sub-hypothesis

There is a significant correlation ($a < = 0.05$) between applying quality principles and customer satisfaction.

Table 2 shows that there is a significant positive correlation ranging from 31.3 to 51.0 per cent ($a < = 0.05$) between applying the philosophy of service quality management and customer satisfaction.

The first hypothesis is accepted.

Second sub-hypothesis

There is a significant correlation ($a < = 0.05$) between applying quality principles and improving productivity.

Table 2: Spearman correlation transactions between principle of quality and indicators of non-financial performance

	Performance indicators			
	Customer satisfaction	Productivity	Improving quality	Market share
<i>Quality principle</i>				
Administration's obligation by quality	0.441**	0.436**	0.125	0.421**
Focusing on customer	0.313**	0.113	0.190*	0.248**
Worker's participation	0.357**	0.179*	0.110	0.386**
Worker's training	0.414**	0.310**	0.178	0.424**
Work groups	0.316**	0.196*	0.146*	0.287**
Relation with importer	0.422**	0.279**	0.131	0.470**
Strategic planning for quality	0.494**	0.466**	0.260**	0.530**
Administration by facts	0.493**	0.367**	0.223*	0.342**
Benchmarking comparison	0.510**	0.399**	0.330**	0.517**

*Correlation is significant at $a < = 0.05$.

**Correlation is significant at $a < = 0.01$.

Table 2 shows that there is a significant positive correlation ranging from 11.3 to 46.6 per cent ($a < = 0.05$) between applying the philosophy of service quality management and increase in productivity.

The exception was the second principle: focusing on customer. This had a positive correlation coefficient, but was very weak at 11.3 per cent, which was not significant.

The second sub-hypothesis is therefore rejected in respect of the second principle, 'focusing on the customer', but is accepted on the other principles of service quality management.

Third sub-hypothesis

There is a significant correlation ($a < = 0.05$) between applying quality principles and improving quality.

Table 2 shows that there is a significant positive correlation ranging from 19 to 33 per cent ($a < = 0.05$) between applying the philosophy of service quality management and increase in productivity.

The third sub-hypothesis is therefore rejected in respect of four principles – obligation of higher administration, employee participation, relation with importer, workers training – as although there are positive correlations for each of these, they are very weak, ranging from 11.0 to 17.8 per cent, and were not statistically significant.

The hypothesis is accepted on all other grounds.

Fourth sub-hypothesis

There is a significant correlation ($a < = 0.05$) between applying quality principles and increase in the market share.

Table 2 shows that there is a significant positive correlation ranging from 24.8 to 53.0 per cent ($a < = 0.05$) between applying the philosophy of service quality management and increase in the market share.

Therefore, the fourth sub-hypothesis is accepted based.

RESULTS

On the basis of discussion and analysis of results reached through responses of study sample individuals, we can forward the following conclusions:

Airline companies working in Jordan are applying the philosophy of service quality management, but levels of application vary. The degree to which each principle is applied can be summarized as follows.

	<i>Mean</i>
A- Administration's obligation by quality	4.41
B- Focusing on customer	4.46
C- Workers participation	3.98
D- Relation with supplier	3.97
E- Administration on basis of facts	3.86
F- Benchmarking comparison	3.88
G- Strategic planning for quality	4.30
	<i>Median</i>
H- Workers training	2.98
I- Teamwork	3.47

Results further showed that the general level at which the philosophy of service quality management was applied was high (mean = 3.92, SD = 0.32), and that individuals in the study sample had a high level of agreement around that level.

Further discussion

Applying the philosophy of service quality management had a positive effect on the performance of airline companies working in Jordan. The study has reached the following conclusions.

Airline companies' financial performance

A sub-set of the questionnaires were directed at measuring the effects of the quality management philosophy on the financial performance of the airline companies through financial indicators represented in terms of profitability, annual sales growth and costs of quality. The results suggest that each of the

following three factors was affected to a high degree:

- effect on profitability (mean = 3.55)
- annual sales growth (mean = 4.53)
- costs of quality (mean = 3.89)

Non-financial performance of airline companies

A sub-set of the questionnaires were directed at measuring the effects of the quality management philosophy on the non-financial performance of the airline companies through non-financial indicators represented in terms of customer satisfaction, improving quality and market share. The results suggest that each of these three factors was affected to a high degree:

- customer satisfaction (mean = 4.15)
- improvement of quality of services (mean = 4.1)
- the increase in the market share (mean = 3.89)

However, the study also concluded that there was no significant difference in company demographic relative to the degree to which the company applied principles of quality management. No significant difference ($a < = 0.05$) was found for:

- the number of employees working in the airline
- the age of the company
- existence of a unit specialized in quality management

Finally, the greatest obstacles to applying the philosophy of service quality management in airlines are, in order:

- fear
- worry among employees
- average of workers leaving job
- lack of systems to evaluate the performance of collective work
- lack of strategy to develop skills of human resources
- lack of resources.

CONCLUSION

The study included two main hypotheses, each of which was divided into a number of sub-hypotheses according to performance indicators. The study found:

Where the philosophy of service quality management was applied, this had a significant impact on:

1. the profitability of airline companies;
2. the annual growth of sales of airline companies;
3. reduction in quality costs in airline companies.

This is additionally demonstrated by a positive correlation between the degree to which the philosophy of service quality management was applied and financial factors:

4. the increase in profitability of airline companies (excluding 'work difference');
5. the annual growth of sales in airline companies (excluding 'focusing on customer');
6. the decrease in quality costs in airline companies.

Positive correlations were also identified between the degree to which the philosophy of service quality management was applied and non-financial factors:

1. customer satisfaction
2. increase of productivity (excluding the principle of 'focusing on customer')
3. quality improvement (excluding the principles of management's commitment to service quality, worker participation, worker training, and relation with supplier)
4. increase of market share

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