



RESEARCH ARTICLE

HOW COULD SUDAN AIRWAYS IMPROVE ITS COMPETITIVENESS AND MARKET SHARE ? THE EFQM EXCELLENCE MODEL

*Fuad Saeed Yousif, Elsiddig Yousif Mohammed and Haron Mohammed Sayed

College of Administrative and Financial Science, King Khalid University, KSA

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ABSTRACT

This study examines the applicability and significance of adopting self-assessment EFQM excellence model in Sudan Airways company to improve its competitiveness and to increase its market share. Self-assessment has wide applicability to both small and large firms, public or private. Organizations often use the model as basis for operational project review. They are increasingly using results of self-assessment as part of their business planning process. The EFQM excellence model is a framework for assessing applications for European Quality Award. It is widely used in Europe and has become a basis for the majority of national and regional Quality Awards. The results of the study showed that the model enabler criteria could be adopted and implemented by Sudan Airways to increase its efficiency and market share as the study survey revealed that more than 74% of customer's satisfaction could be attributed to enabler criteria.

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INTRODUCTION

Recently, two approaches have become popular regarding assessment and auditing. The first one is the ISO 9000 series of quality management system standards; an international recognized system that monitors the effectiveness of:

- (i) the quality policy,
- (ii) standardization of procedures,
- (iii) defect identification and elimination,
- (iv) corrective and preventive action systems, and
- (v) management review of the quality management system.

The second approach is much boarder, and based on an excellence model – which has its foundations in Total Quality Management (TQM). The model and assessment instruments used differ slightly across the world, but the principals remain the same.

However, a rapid increase in air transport in Sudan is expected over the near future. The market share of any firm from this increase will depend on many factors, mainly :

- (i) transportation system,
- (ii) employees skills and experience,

- (iii) types of services provided by the firms,
- (iv) facilities available,
- (v) required infrastructure,
- (vi) firm's reputation, and finally
- (vii) costing and management.

This implies that challenges facing air transport – world-wide – are not only quantity, but also quality. Thus, the continuous development of globalization of air transport and business trade would result in an increasing pressure on air transport firms to reduce costs and increase efficiency. Sudan Airways – the national air carrier – has many weaknesses in both technical and management requirements. These weaknesses have negatively affected the firm efficiency, and is expected to become worse in the future if no actions have been taken to change the situation. Several researches were carried out to improve technical performance, but only few ones worked on management problems. It is believed that cultural differences are among the most important factors affecting quality management implementation. Few if no researches are available in this area. Whence, it is deemed important to adopt a method or a model which could act as a guide for cultural change which should enhance the performance, and lead the firm through globalization and high competition.

Objectives and Hypotheses

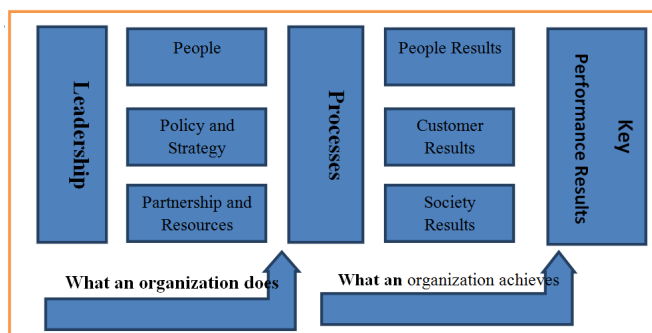
The reported study in this paper aims at identifying the causal relationship between poor quality of services in Sudan Airways

*Corresponding author: Fuad Saeed Yousif,
College of Administrative and Financial Science, King Khalid University,
KSA.

company and the continuous decline in the demand for its services. It also intends to identify the importance of adopting EFQM model to enhance Sudan Airways market share. The research hypothesized that the competitiveness of Sudan Airways company could be improved by using modern generic quality management methods.

Conceptual framework

Recognizing the importance of quality performance, 14 major European companies formed the European Foundation for Quality Management (EFQM) in 1988 with endorsement of the European Commission 2. By 1991 EFQM had developed the European Quality Award (EQA) program to honor outstanding businesses. Unlike other awards, the European Quality Award is a regional program. The award is similar to the Malcolm Baldrige National Quality Award (MBNQA), but the difference is that its criteria are comprised of enablers and results (Fig 1) (Kalout and Nar, 2003). The excellence models focus on improvement of all activities, and elimination of wastage. There is also a requirement of re-orientated activities and employees to focus on customers (internal and external) by understanding and meeting their needs and future expectations, and to involve, develop, and promote of all organization members. The models imply the use of a variety of instruments and organizational arrangements such as improvements teams and surveys, application of tools and techniques, and policy deployment to develop activities in the direction of excellence, and to bring relevance to the core concepts of Total Quality Management. The models also encourage the achievement of complete customer satisfaction by identifying and building on best practices in processes, products, and services. Reducing variation, continuous improvement of products and services to meet customers' needs, costs of quality or costs of poor quality, breakthrough projects, zero defects, cross functional management, systematic approach to quality, strategic focus to quality with respect to customer satisfaction, competitiveness, profitability, quality planning, and organization-wide commitment are the major concepts that were introduced by quality gurus like Deming. (Tummula and Tang, 1996)



Source: British Quality Foundation (1981)

Fig. 1. The Model of EFQM Excellence

Sudanese air transport sector and EFQM model

An initial survey was conducted in three different companies of air transport in Sudan : the national carrier (Sudan Airways), private local company (Tarco Air), and foreign company (Qatar Airways). The results of this survey showed a significant positive correlation between the five excellence model enabler criteria. They also revealed a significant correlation between the customer satisfaction and the five

enabler criteria. The excellence model had a value of 73.8% of the adjusted R^2 . This indicates that about three fourth of the variation in the consumer satisfaction – the dependent variable – were due to the five enabler criteria. The finding of the survey also showed that leadership, and policies and strategies were seemed to be the most criteria among the other criteria as they explained 67.5% of the changes in customer satisfaction compared with the five enabler criteria which accounted to 73.8% of the variation in customer satisfaction. Nevertheless, literature review indicated that leadership, and processes criteria were considered to be the most important enabler criteria. This is relatively close to the survey results. Finally, the survey showed that the excellence model is valid approach to be adopted by the companies of air transport sector in Sudan for improving their performance, and satisfying their external customers. Moreover, using of EFQM would, most probably, contribute in improving air transport sector performance. Accordingly, it appears quite important to investigate if the five excellence model enabler criteria would affect the competitiveness of the national carrier, i.e Sudan Airways. This demonstrated that EFQM is considered a valid approach to be used in improving Sudanese air transport sector. Nonetheless, the survey did not reflect the importance of the model for individual companies. It did not, also, show how could the model affect company's market share. Thus, three different air transport companies were selected to investigate the importance of EFQM excellence model. These were : Sudan Airways – the national carrier -, Qatar Airways – a foreign company -, and Tarco Air – a local private company. The investigation would help to emphasize the importance of adopting EFQM excellence model to competitive advantage of air transport companies in Sudan. In the coming section a detailed steps of the examinations are presented.

Sampling and Data collection

Five parties had been identified as Sudanese air transport sector customers. they were :

- (i) Travellers,
- (ii) Government organizations,
- (iii) Private organizations,
- (iv) Businessmen, and
- (v) Travelling agents.

Investigations of the requirements of these parties reflected that conflicts could exist between their requirements. it was also illustrated during the investigations that the communications between the first four parties and the air transport companies is done by special agents, i.e travelling agents. A travelling agent is an organization that connects air transport companies with the other four parties. It's objective is to arrange and facilitate the requirements of the customers of the companies according to the regulation and facilities of air transport companies and to maintain these relations. Thus, travelling agents are the air transport companies who are :

- (i) Responsible for facilitating and filling customers' needs and requirements,
- (ii) Deal with different air transport companies. Consequently, their options offer a variety options with respect to air transport firms,
- (iii) Deal with the rules and regulations of air transport companies, particularly that air transport firm does not usually communicate directly with its customers,

- (iv) Provide experiential knowledge about firms of air transport, and
- (v) Have specific and known offices, making communications with them more easier.

Two methods of data collection were adopted, i.e interviews and structured questionnaire. At the beginning, an interview with thirty travelling agents was done. The objectives of these interviews were :

- (i) To obtain views about services provided by the travelling agents,
- (ii) To understand customers' needs and requirements, and
- (iii) To identify the main factors that customers concerned with, so as to prepare the questionnaire.

Next, a questionnaire was distributed to a randomly selected 50 travelling agents from a list of 500 authorized travelling agents, i.e a simple random sample of 10% of the population. The objectives of the questionnaire were :

- (i) Investigate the actual performance of the three selected companies, i.e Sudan Airways, Qatar Airways, and Tarco Air from the customers' view points,
- (ii) Identifying whether there are any differences between the services provided by Sudan Airways and the other two companies, and how this could affect the demand for Sudan Airways services, and
- (iii) Identifying if the five excellent model enabler criteria have an effect on Sudan Airways customers' satisfaction.

Sudan Airways had been chosen because it is the national carrier. Nevertheless, Qatar Airways had been chosen as a foreign company, and it is one of the leading companies in air transport world-wide. Tarko Air had been chosen as one of the private local companies. Furthermore, Qatar Airways and Tarco Air market share, as reported by many governmental and non-governmental sources, increase year by year, while there is a rapid decline in Sudan Airways market share.

RESULTS AND DISCUSSION

The questionnaire was distributed among the 50 selected travelling agents. The rate of respond was 100%. The analysis of the collected data was, thus, begun, having three objectives :

- (i) Describing the data statistically,
- (ii) Testing the integrity of the data, and
- (iii) Testing the hypotheses of the study.

To achieve the first objective, a descriptive analysis had been carried out. Table 1 shows that the median and truncated mean were close to the mean. This is an indication that the effect of the distorted data was very weak. the standard deviation (std) and the standard error (ER) had been adopted to measure the accuracy of the population mean using the sampled data. The analysis revealed that most respondents were close to the mean.

The Cronbach's Alpha test was used to check the integrity of the data (Table 2). The analysis showed that the data are fair enough to rely on it for testing the hypotheses, as all the Cronbach's Alpha values were over 0.6 (Sokaran, 2003).

Finally, a regression model was estimated to facilitate testing the hypotheses. This was done so as to examine how could the five enabler criteria affect customers' satisfaction in the three companies. The statistical output showed that the five excellence model enabler criteria succeeded in explaining customers' satisfaction in the three firms with a higher level of confidence ($P < 0.01$), as it explained about 74% of the variation in Sudan Airways company, 86% of the variation in Qatar Airways company, and 70% of the variation in Tarco Air company. This is given in table 3 below. It is clear from Figure 2 below that the five excellence model enabler criteria are important factors for customers' satisfaction. Improving the performance based on these enabler criteria would, thus, improve customers' satisfaction, which would in turn increase the demand for the company's services.

Table 1. Sudan Airways, Qatar Airways and Tarco Air Descriptive Analysis

Variable	Company	Mean(\bar{x})	Median(\tilde{x})	Tr Mean ^a std(s)	SE	
Leadership	Sudan Airways	2.3	2.2	2.1	1.2	0.3
	Qatar Airways	5.8	5.7	5.8	1.5	0.2
Tarco Air		5.4	5.5	5.3	1.5	0.3
	Policy					
Sudan Airways		3.1	3.3	3.1	1.1	0.5
	Qatar Airways	5.7	5.4	5.6	1.7	0.3
Tarco Air		5.6	5.7	5.5	1.3	0.2
People	Sudan Airways	2.5	2.1	2.3	1.3	0.4
	Management	Qatar Airways	5.6	5.7	5.6	1.4
Tarco Air		5.3	5.4	5.1	1.8	0.3
Process	Sudan Airways	2.2	2.1	2.1	0.8	0.4
	Qatar Airways	5.4	5.2	5.0	1.7	0.2
Tarco Air		5.2	5.0	4.9	1.8	0.1
Resources	Sudan Airways	2.3	2.1	2.2	1.5	0.4
	Qatar Airways	6.8	6.6	6.5	1.8	0.2
Tarco Air		5.7	6.0	6.5	1.6	0.4
Customer	Sudan Airways	3.3	3.2	3.1	1.5	0.4
	Results	Qatar Airways	5.9	5.8	5.7	1.6
Tarco Air		5.7	6.0	5.6	1.6	0.3

a/ 10% truncated mean

Table 2. Sudan Airways, Qatar Airways, and Tarco Air Reliability Analysis

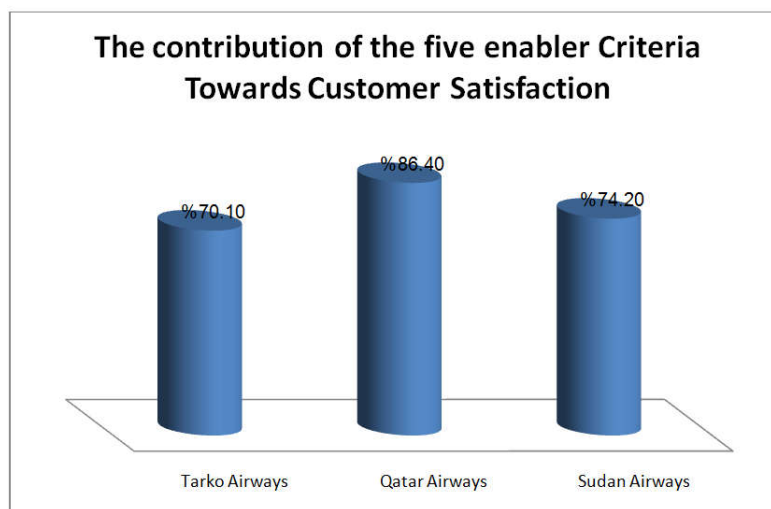
Company	Leadership	Policy	People Management	Process	Resources	Consumer Results	All Variables
Sudan Airways	0.73	0.87	0.78	0.87	0.67	0.69	0.88
Qatar Airways	0.77	0.92	0.79	0.89	0.70	0.73	0.95
Tarco Air	0.71	0.70	0.84	0.77	0.79	0.70	0.92

Table 3. Sudan Airways, Qatar Airways, and Tarco Air Results of Regression Analysis

Sudan Airways	Qatar Airways	Tarco Air	
Adjusted R-square	74.2%	86.4%	70.1%
Significance	P = 0.003	P = 0.001	P = 0.001

Table 4. Sudan Airways, Qatar Airways, and Tarco Air Actual Performance

Variable	Sudan Airways	Qatar Airways	Tarco Air	P
Leadership	Weak	Very good	Good	0.003
Policy	Weak	Excellent	Very good	0.001
People Management	Fair	Excellent	Very good	0.001
Process	Weak	Very good	Good	0.004
Resource	Weak	Excellent	Very good	0.002
Customers Results	Weak	Excellent	Very good	0.004

**Fig. 2. The Contribution of the Five Enabler Criteria towards Customers' Satisfaction among Three Air transport Companies in Sudan**

Next, an analysis of variance (ANOVA) was carried out to explore any differences between the three companies using the questionnaire feedback (Table 4). The results revealed that Qatar's and Tarco performances' are, according to the enabler criteria, better than Sudan Airways' performance. It showed, also, that Qatar Airways and Tarco Air are more customers focused. Their policies are clear, their services improvement rates are better, and their process management are better than Sudan Airways company. Based on the statistical analysis results of the questionnaire responses, we could infer that the poor performance reported for Sudan Airways company relative to the model criteria negatively affected customers' satisfaction, leading, thus, to a decreasing market share. While the good performance of Qatar Airways and Tarco Air companies led to a higher customers' satisfaction and, thus, to an increasing market share, though Sudan Airways has, theoretically, advantages over the other two companies with respect to the government support.

Conclusion

By the end of this study it could be concluded that :

- (i) The five business criteria have an effect on the competitive power of air transport companies in Sudan, as their effect were range between 86% and 70% of the influence on consumers' satisfaction based on the estimated regression model.
- (ii) The decline in Sudan Airways market share, and the corresponding increasing shares of both Qatar Airways and Tarco Air could be attributed to consumers' satisfaction, policies, people management and leadership.

It is recommended that Sudan Airways could adopt and implement the five excellence model enabler criteria to increase its efficiency, and market share, as they explained about 74% of the consumers' satisfaction.

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