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Research Article

Effects of ISO 22000 Food Safety Certification on Customer and Employee Satisfaction in Turkish Resort Hotels

Dr. Feridun DUMAN
Batman University
feridun.duman@batman.edu.tr
https://orcid.org/0000-0002-0524-638X

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Abstract

This study aims to find out the effects of ISO 22000 food safety management certification on customer and employee satisfaction in Turkish resort hotels. A questionnaire survey is used to collect data from 241 resort hotels. The variation between the ISO 22000 certified and non-22000 certified resort hotels is determined by *t*-test in order to test the two hypotheses. The findings show a significant relationship between the ISO 22000 food safety certification and customer satisfaction, but a negative one. However, the study does not show any significant relationship between the ISO 22000 food safety certification and employee satisfaction. Finally, this study provides theoretical and practical implications with suggestions for potential future studies.

1. INTRODUCTION

Customer satisfaction is an influential factor for firms to sustain their business and profitability over time. This requires a specific attention to customer needs and wants in a continuously changing markets. In particular, the hotel firms+ should focus upon tourists' food and beverage experiences, which may cause either satisfaction or dissatisfaction. Thus, Nield, Kozak and LeGrys (2000) state that good food service encourages tourists to spend more on food and beverages, and insufficient food service causes serious financial loses. This signals that food quality becomes an essential element in customer and employee satisfaction.

Food safety further plays an important role for satisfaction of tourists as they would like to have new experiences on ethnic food. Therefore, food safety plays a background factor for food consumption and it might not seem important for tourists when they consume local food in tourist destinations. However, any food-borne disease or illness may cause a great dissatisfaction for tourists and it may negatively affect brand awareness of hotels in question and any incidents like food-borne diseases could cause a long lasting effect leading to a serious financial loss for firms (Tarlow, 2008).

Therefore, this study aims to find out the effects of ISO 22000 food safety standards certification upon customer and employee satisfaction. Following this, the study hypotheses are formulated. Then, research methods are explained including questionnaire development, sampling and data collection and analysis. Afterwards, results of the study are presented. Finally, discussion and conclusion are presented along with future study opportunities.

1.2. Literature Review: ISO 22000 Food Safety Standards

Quality food and service delivery in a dynamic and changing environment, resort hotels in this case, produced by employees differentiate hotels from each other. This should be also paralleled with a proper consideration of customers' needs and wants (Kucukaltan, 2007). This situation shows how important tourist products and their delivery are to satisfy customers. The combination of food production and service delivery defines the quality of the hotel operations leading to the potential repeat business, meaning that tourists choose to have their holidays in the same hotels year after year.

Having mentioned the importance of food production and service delivery, the safety of food production and service delivery is provided by employees creating customer satisfaction should also be ensured by resort hotels. This safety is essential for resort hotels in terms of legal requirements as well as creating satisfied customers. The first issue of the safety requirements is legally binding resort hotels regarding necessary measures to be taken against food poisoning to create a reliable image of resort hotels. Moreover, the emphasis given to food safety could provide benefits in increasing sales and reducing cost of production. With this understanding in hand, ISO 22000 Food Safety Management System ensures employees and customers regarding the food safety. This food safety management system approaches food production holistically. The safety system specifically sets business objectives, production processes, distribution of responsibilities, standardization and continuous control of operation in resort hotels (Kocak, 2007). This in turn creates effectiveness and efficiency leading to customer and employee satisfaction. The effectiveness and efficiency should be in place with a system that provides consistency in food production and service quality. Therefore, resort hotels strategically choose to implement ISO 22000 food safety management system to achieve better operational performance i.e. customer and employee satisfaction in comparison with their competitors.

Previous studies of ISO 22000 quality certification have not been academically published as much as the studies of ISO 9000 or ISO 9001 quality certification have been e.g. Feng *et al*. (2008); Jang and Lin (2008); Wu and Chen (2011); Al-Refaie *et al*. (2012); Psomas and Kafetzopoulus (2014); Chatzoglou *et al*. (2015) and Duman *et al*. (2019). Especially, to the author's best knowledge, there is not any study researching the effects of ISO 22000 certification upon customer and employee satisfaction. However, there are some ISO 22000 food safety management studies published on the themes of critical success factors of implementing ISO 22000 (Wang *et al*., 2011), implementation of ISO 22000 in the food supplement industry (Fernandez-Segovia, 2014), reasons and constraints to implementing 22000 food safety management system (Escanciano and Santos-Vijande, 2014), a general overview of implementing ISO 22000 with a case study (Neacsu, 2015), an evaluation of ISO 22000 food safety standards in Zimbabwean branded fast food outlets (Chivandi and Maziriri, 2017).

Therefore, two hypotheses (Hs) are developed for this study.

H1: ISO 22000 food safety certified resort hotels outperform the non-22000 certified resort hotels in terms of customer satisfaction.

H2: ISO 22000 food safety certified resort hotels outperform the non-22000 certified resort hotels in terms of employee satisfaction.

Next, the study looks at how the research method is formulated.

2. RESEARCH METHODS

The section first looks at the questionnaire development. Then, the data collection and analysis are presented.

2.1. Questionnaire Development

The study questionnaire was developed to measure the effects of ISO 22000 on customer and employee satisfaction. The literature review for the development of the study questionnaire specifically covered ISO 22000 articles published. Before the questionnaire was sent out to the general managers of the resort hotels, it was critically evaluated by other academics and 10 general managers

of the resort hotels in order to have a pilot test whether the study questionnaire was understood properly (Tabachnick and Fidell, 2007).

The questionnaire was comprised of two main sections. The first section gathered information about the resort hotels targeted for the study. The second section was aimed to see the effects of ISO 22000 certification on customer and employee satisfaction by categorizing the resort hotels as ISO 22000 certified and non-ISO 22000 certified resort hotels. This section specifically looked at the literature from the operational performance perspective in particular customer and employee satisfaction (Feng *et al*., 2008; Jang and Lin, 2008; Wu and Chen, 2011; Al-Refaie *et al*., 2012; Psomas *et al*., 2014; Chatzoglou *et al*., 2015). A five-point Likert scale comprising the customer and employee satisfaction performance dimensions was presented to the resort hotel general managers, where 1 represented "strongly disagree" and 5 represented "strongly agree".

2.2. Data Collection and Analysis

The study targeted the four and five star Turkish resort hotels as being its sample. The main reason behind this targeted population was that the resort hotels have been operating with all-inclusive system since the early 2000s. This has put a special emphasis upon the quality certifications including ISO certifications, EFQM, etc. for the operational and business performances of the resorts hotels. In this case, this study puts an emphasis on customer and employee satisfaction in relation to ISO 22000 certification.

The information about all the resort hotels in Turkey was needed to establish the study population. Thus, the study sample was formed with the list, in which all the hotels are officially registered with the Turkish Ministry of Culture and Tourism (2017). Bearing in mind that the hotels are not required to report their certification status. The targeted sample hotel list (1142 hotels) consisting of four (657) and five (485) star hotels was obtained for the study. Therefore, the main issue was access to ISO 22000 certified resort hotels. Then, the study was made sure that the 22000 certified and non-22000 certified resort hotel managers equally completed the questionnaires. Among 1142 hotels, 241 resort hotels (57 four stars and 184 five stars) participated in this study. Of these resort hotels, the ISO 22000 certified resort hotels were 101 and the remaining 140 were the non-22000 certified resort hotels. Five questionnaires were omitted due to missing information, and 241 questionnaires were included to be analysed for this study.

For the analysis, the study aimed to determine the effects of ISO 22000 quality certification on customer and employee satisfaction in the Turkish resort hotels. In order to find out this main objective of the study, *t* test analysis was used to see significant and meaningful differences regarding customer and employee satisfaction between the ISO 22000 certified and non-ISO 22000 certified resort hotels.

3. RESULTS

This section specifically looks at the profiles of the sample resort hotels and testing hypotheses for ISO 22000 certified and non-ISO 22000 certified resort hotels (*t* Test).

3.1. Profiles of Sample Resort Hotels

The sample resort hotels were classified according to their size (*number of bedrooms*), quality rating (*number of stars*), and the affiliation of the hotels (*franchising, management contracts and independent hotels*). The sample resort hotels are tabled separately under the headings of ISO 22000 certified and non-ISO 22000 certified hotels at Table 1 below.

The sample resort hotels were first presented according to their size (number of bedrooms). The size of the sample hotels was categorized as "up to 200 bedroom", "between 201 and 400 bedroom" and "401 and over" resort hotels. The ISO 22000 certified resort hotels were equally distributed among the groups of "Between 201 and 400" and "401 and over". However, the ISO 22000 certified group of "Up to 200" bedrooms was not represented. As for the non-22000 certified resort hotels, 58.5 percent of the hotels was counted in the group of "Up to 200" bedrooms. The rest of "Between 201 and 400" and "401 and over" groups were represented as being 27.9 percent and 13.6 percent comparatively. These findings above signal that the larger hotels prefer to have ISO 22000

certification for their organisations as opposed to the smaller size of the non-22000 certified resort hotels.

The second characteristic of the sample hotels were classified for their quality starring. This study targeted four and five star resort hotels. The majority of the certified sample hotels consisted of the five star hotels with 94.1 percent. The rest of the certified hotels represented the four star hotels. As opposed to the certified resort hotels, the non-22000 certified resort hotels were almost equally distributed between four and five star hotels.

The last characteristic of the sample hotels was the types of affiliation. This characteristic was covered as being "franchising", "management contract" and "independent hotels". Both the certified and non-certified independent hotels represented the majority of the sample hotels. The groups of "franchising" and "management contract" hotels were represented equally for the certified and non-certified resort hotels (see Table 1).

Table 1: Profiles of Sample Resort Hotels (n=241)

Hotel Profiles	**ISO 22000 certified hotels (n_1=101)**		**Non-ISO 22000 certified hotels (n_2=140)**	
Number of Rooms	**F**	**%**	**F**	**%**
Up to 200	0	0.0	82	58.5
Between 201 and 400	46	45.5	39	27.9
401 and over	55	54.5	19	13.6
Total	**101**	**100**	**140**	**100**
Staring	**F**	**%**	**F**	**%**
4 star	6	5.9	51	36.4
5 star	95	94.1	89	63.6
Total	**101**	**100**	**140**	**100**
Types of Affiliation	**F**	**%**	**F**	**%**
Franchising	23	22.7	12	8.6
Management contract	18	17.8	38	27.1
Independent hotels	60	59.5	90	64.3
Total	**101**	**100**	**140**	**100**

3.2. Testing Hypotheses for ISO 22000 Certified and Non-ISO 22000 Certified Resort Hotels (t Test)

Having shown the characteristics of the sample resort hotels, the study now moves to test the two hypotheses developed by using t-test in order to see whether there is a difference between ISO 22000 certified resort hotels (101 hotels) and non-ISO 22000 certified resort hotels (140 hotels) on customer and employee satisfaction (see Table 2 below).

By examining Table 2, it is seen that *t*-test produced a statistically meaningful difference on customer satisfaction between the groups of ISO 22000 certified and non-22000 certified resort hotels (*p: 0.008; t: -2.661*). Even though there is a statistically meaningful difference, there is a negative difference between these two groups on customer satisfaction. On the other hand, *t*-test for employee satisfaction did not produce any statically meaningful difference (*p: 0.407*).

Table 2: t test for performance measures: ISO 22000 vs Non-ISO 22000 certified resort hotels (N=241)

Performance Factors	*Groups*	*N*	*Mean*	*Standard Deviation*	*T*	*df*	*p*
Customer Satisfaction	ISO 22000 Certified Hotels	101	4.7327	0.44477	-2,661	238,010	0.008
	Non-ISO 22000 Certified Hotels	140	4.5571	0.57865			
Employee Satisfaction	ISO 22000 Certified Hotels	101	4.3168	0.52784	0,831	238,939	0.407
	Non-ISO 22000 Certified Hotels	140	4.2500	0.72096			
Note: Statistically significant difference at p=0.008							

4. DISCUSSION and CONCLUSION

The study findings present the characteristics of the resort hotels and show that the ISO 22000 certified resort hotels are larger than the non-ISO 22000 certified resort hotels with the categories of "Between 201 and 400" and "401 and over rooms". These findings are consistent with the expectations that the ISO 22000 certified hotels should be larger as this is the case for the ISO 9001 certified manufacturing firms (Psomas *et al*., 2011; Psomas and Kafetzopoulos, 2014) as well as the resort hotels (Duman *et al*., 2019). The other characteristics of the resort hotels, quality-starring and types of affiliation, produced what was expected from the resort hotels, meaning that five-star resort hotels and the type of franchising affiliation are higher than those that are non-ISO 22000 certified resort hotels. Duman *et al*. (2019) suggest that the issues of being larger in size, higher in quality-starring, and franchising affiliation in service organizations, such as the resort hotels in this case, become more important in adopting the ISO 22000 quality certification for their service delivery consistency leading to increased customer and employee satisfaction.

Comparing ISO 22000 certified and non-22000 certified resort hotels based upon the customer and employee satisfaction shows that the sample of resort hotels produced statistically significant difference in customer satisfaction. The customer satisfaction measure used show that the implementation of the ISO 22000 certification results in a statistically significant, however negative relationship with customer satisfaction (t = -2.661; p = 0.008). Therefore, *H1* is partly accepted.

The *t*-test variation between the ISO 22000 certified and non-22000 certified resort hotels on employee satisfaction does not statically show a significant association with H2 (t = 0,831; p = 0.407). Therefore, *H2* is rejected.

To compare this study with the previous literature related to the ISO 22000 certification regarding customer satisfaction is not available as there are not any published in the literature. What is typically expected for the positive contribution from the ISO 22000 certification in resort hotels, this study did produce a significant, but negative association between the implementation of the ISO 22000 certification and customer satisfaction.

The present study further did not support the relationship between the ISO 22000 certification and employee satisfaction as mentioned above.

However, this study shows a statistically significant variance, but a negative one. Overall, these findings propose that the ISO 22000 certified resort hotels should have a clear objective when

implementing ISO 22000 food safety management system. Then, adopting ISO 22000 certification should be internalized from the top to the bottom of any resort hotel organisations. This would be realised by providing extensive staff training on implementation of the ISO 9001 quality standards as well as ISO 22000 safety standards (Brisco *et al*., 2005). To sum up, the staff training should be in place to develop the skills needed to effectively and efficiently implement ISO 22000 safety standards in question, and the staff training should be a part of the medium to long-term strategy for the ISO 22000 certified resort hotels.

4.1. Conclusion

The study presents that ISO 22000 food safety standards certification has statistically significant but a negative effect on customer satisfaction in the resort hotels. To a certain extent, the negative relationship between ISO 22000 certification and customer satisfaction for resort hotels is surprising as ISO 22000 focuses on the food safety processes and continuous improvement to manage food safety risks in advance in order to increase customer and employee satisfaction.

In short, one might conclude that the resort hotels should adopt ISO 22000 food safety management system for more internal motivations (continuous improvements for customer and employee satisfaction leading to better service offerings and increase in profitability) rather than external motivations (i.e. marketing advantages) (Duman et al., 2019).

An important implication for the resort hotel managers is the significant, but negative, relationship between ISO 22000 food safety certification and customer satisfaction. It is believed that when the ISO 22000 food safety management system is well-established and implemented from the top to down in the resort hotels, the significant but negative customer satisfaction relationship of ISO 22000 food safety certification would transform into a positive relationship with customer satisfaction. As a result, it would contribute to business performance positively in the hotels. Further, the resort hotels as being service-oriented companies should be consistent with their offerings to customers in order to maintain customer satisfaction and loyalty as being the main principle of their operations. In doing so, the resort hotels would be more competitive in the tourist market.

Further research would be suggested to cover both the city and resort hotel samples of ISO 22000 certified and non-22000 certified hotels in order to see differences in customer and employee satisfaction. A similar study could be carried out in countries like Egypt and Greece.

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