
INVESTIGATING THE EFFECT OF FOOD SAFETY PRACTICES ON HOTELS PERFORMANCE: DRIVERS, PERCEIVED BENEFITS AND CHALLENGES

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ABSTRACT

The increasing number of food poisoning outbreaks and food-related scares has led to calls for better food safety practices. Food poisoning outbreaks of salmonella, listeria, and E-coli have made the public more skeptical of the food they consume and the effect on the hotel performance. The purpose of this paper is to identify drivers, benefits, and challenges coming out of food safety practices and the effect of these practices on hotel performance in four and five-star hotels in Luxor and Aswan. For this purpose, the questionnaires were designed to gather all the necessary information related to food and beverage managers during food safety practices, understand the Drivers, perceived benefits, and challenges of food safety practices in the selected hotels (17 hotels). The total number of participants was 68 of top management in the food and beverage department in the selected hotels.

Findings show that although there are some crucial difficulties that seem to be quite difficult for hotels, benefits derived from it are greater and let the hotels fulfill the legal or market requirements. The major benefits and challenges of food safety practices were associated with financial, infrastructural, and people related issues. It is obvious that most of the difficulties are more directly or indirectly related to costs involved with the food safety practices that could not be recouped in the short term. However, these costs and investments should be seen in the long term as the return of the investment by for example decrease of contaminated food products, improvement in the area of food safety and quality, increase in reliability, and fewer complaints from consumers as well as reduction of operational costs.

KEYWORDS: Food safety practices, Drivers, Perceived Benefits, Challenges, Hotel Performance

INTRODUCTION

Food safety concerns have existed for a long time, as millions of people across the globe suffer from foodborne diseases every year. Contamination of food owing to limited knowledge of food safety practices primarily increases the risk of foodborne illnesses. Food safety Practices drivers, benefits, and challenges should be clearly defined, their importance assessed, and their impact evaluated over the hotel performance.

Baş et al, (2007) stated that food safety is the foundation of trust in the food business. Entrepreneurs can establish a good reputation built on food safety and quality and derive profit. Small and medium-sized businesses very often do not realize that not applying food safety and quality improvement measures turn out to be more expensive than applying them. In this regard, while hindsight may be good, foresight is better. This means not leaving this important element to chance, or ignoring it, but to actively and alertly plan, implement and pursue food safety from the initial stage of food production, inputs, and processing, packaging, storing, distribution.

LITERATURE REVIEW

United States Department of Agriculture (2010) reported that food safety is the state of acceptable and tolerable risks of illness, disease, or injury from the consumption of foods. It is achieved through policies, regulation, standards, research, engineering designs and technology surveillance and monitoring and other applicable measures to reduce the risk or control hazard in the food supply chain.

Yiannas (2009) stated that practicing a positive food safety culture may have the potential to reduce the global burden of foodborne illness. Creating a positive food safety culture can support this process by actually changing the thoughts, behaviors, and beliefs of individuals within a group. Therefore, it appears that by investigating the beliefs and knowledge of catering employees, specific factors which contribute to poor practices may be identified and may further suggest what management can implement in the workplace to help develop a more positive food safety culture.

The safe practices are vital in food safety. Practice according to Cho et al., (2012) is the actual doing of something to do or engage frequently to make the habit of or to perform repeated to proficient. by not practicing appropriate attitudes in food handling, it creates unpleasant consequences such as foodborne illness and injury or at worst a fatal case. Food safety practice is an important Public Health issue to prevent or control food-borne illnesses. Evidence shows that 10 to 20% of food-borne diseases outbreaks are because of contamination by food handlers in restaurants, butcher shops, markets, etc.

HACCP, as defined by Motarjemi (2000), is an internationally recognized and recommended system of food safety management. It focuses on identifying “critical points” in the process where food safety problems (or hazards) could arise, and putting steps in place to prevent things going wrong.

Ellis et al. (2010) stated that a number of high-profile food safety system failures that occurred in developed countries during the 1990’s fueled a process of regulatory change around the world. The changes aimed at greater coordination of food safety management activities at all stages of the food chain, strengthening of the legal responsibility of food chain operators for the safety of food that they produce and market responsibility, improved transparency and accountability for public food safety decision-making. Parallel to these changes, there have also been significant changes to the structure of the global food market. findings revealed eight drivers (avoiding bacterial growth and cross-contamination; not harming customers; knowledge and training; required by law, regulations, and procedures; good practices/habits; rewards; culture of workplace; and satisfying customers)

Food safety practices are important and there are many benefits for it. Consumers have a right to expect that those who supply the food that they buy have taken every care to manufacture products that will not harm them. Those with a responsibility for the regulation of the global food industry recognize this principle and legislate accordingly. This confers a legal and a moral duty, as well as an economic incentive, on all food businesses to ensure that the food they supply is as free from hazards as is practically possible. The food business that tries to avoid its responsibilities in this regard will not remain in business for very long (Lawley; et al., 2008).

Pragle et al., (2007) asserted that food-service establishments were expected to address emerging issues of barriers to food safety practices to narrow the gap between food safety knowledge and practice. Consequently, they argued, food safety training could incorporate strategies that eliminated barriers to proper handling practice in order to improve compliance and reduce the incidence of food-borne related disease outbreak. The report further asserted that training was only valuable if its importance was translated into performance. Transfer of training was viewed as the core issue that linked individual change to an organization's requirements. To realize the difference on food handlers in the organizational performance.

Delios and Beamish, (2002) considered that in the following decade, the 1990s, organizational performance as heavily dependent on the employees’ performance quality. He believed that in order to ensure a high-quality organizational performance, it is vital to have regular exposure of the staff

of the company to new and up-to-date knowledge and skills, which would, in turn, help them keep up with the new changes happening in the market, and, ultimately, enhance the quality of organizational performance. In a "Note on Organizational Effectiveness confirmed that an effective organization with high standard of performance level is the one that keeps its stakeholders' (shareholders, customers, and its own) demands satisfied.

RESEARCH PROBLEM

Knowles (2002) indicated that Food safety is a permanent challenge in the hospitality industry up to final preparation and food consumption. Food producers at all levels of the production chain up to foodservice establishments have the responsibility that proper safety and sanitation practices are followed to ensure the health of their customers. The primary focus of food companies - establishing food safety management systems - is on implementing the required quality assurance guidelines and standards resulting in-process monitoring systems, preventive control measures, technological infrastructures (e.g., hygienic equipment design, zoning), and procedures to guide people in executing their safety tasks. However, existing systems have been unable to provide food safety guarantees and recent studies suggest that the food safety culture of an organization should be analyzed as it could have an influence on the performance of organizations. To ensure the availability of safe and hygienic food to consumers is a challenge for food service establishments and regulatory authorities. food establishments need to improve food safety practices to fulfill the gaps in implementation.

Although motivational factors and size of food producers have been examined, studies that focus on examining the organizational characteristics, motivational factors, and activities in implementing food safety and control remain lacking. This study intends to identify the food safety activities practiced in the food industry, the motives and the external factors that influence the decision for food safety adoption (Jay-Mudalige & Henson, 2007).

AIM AND OBJECTIVES OF THE STUDY

The aim of this study is to investigate the effect of food safety practices on hotels performance for the purposes of ensuring that food is produced under appropriate hygienic conditions to reduce the likelihood of hazards that may adversely affect the safety of food, or its suitability for consumption.

THE RESEARCH HYPOTHESES

To achieve the main aim of this study as well as to address the specific objectives, the research set out to answer these hypotheses:

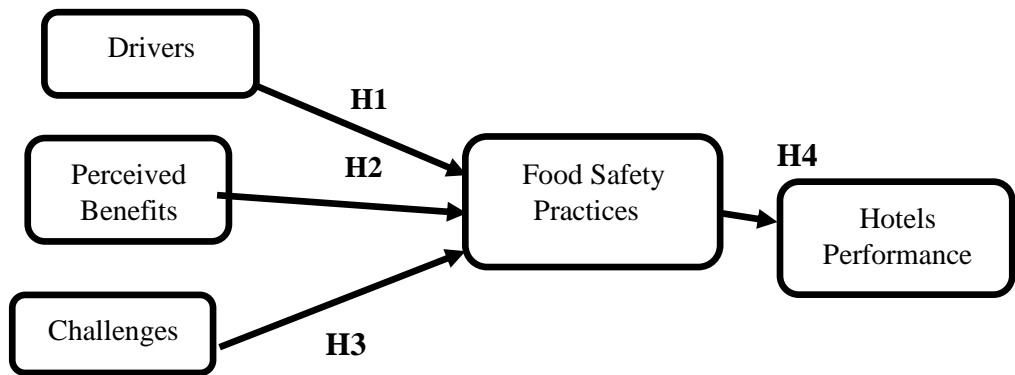
H1: Drivers of food safety practices positively impact influence on food safety practices.

H2: The benefits of food safety practices positively impact influence on food safety practices.

H3: Challenges of food safety practices negatively impact influence on food safety practices

H4: Food safety practices positively impact influence on hotel performance

PROPOSED FRAMEWORK OF THE STUDY



MATERIALS AND METHODS

RESEARCH POPULATION

The aim of this study is to investigate the Effect of Food Safety Practices on Hotels Performance for the purposes of ensuring that food is produced under appropriately hygienic conditions in hotels of Luxor and Aswan hotels to examine the food safety practices Drivers, perceived benefits, and challenges that influenced on these hotels and to reduce the likelihood of hazards that may adversely affect the safety of food, or its suitability for consumption. To obtain results that achieve the desired purpose of this research, it was conducted on five and four star hotels in Luxor and Aswan.

THE SAMPLE

A sample of four and five-star hotels was chosen for this research as shown in table (1):

Table (1) Five-Star Hotels in Luxor and Aswan

Luxor	
Four-star	Five-star
Al Moudira Hotel	Achti Luxor Hotel & Resort
Eatabe Luxor Hotel	Hilton Luxor Hotel & Spa
Iberotel Luxor Hotel	Maritim Jolie Ville Kings Island Resort
Isis Luxor Hotel	Mercure Luxor Karnak Resort
	Sonesta ST.George Hotel Luxor
	Steigenberger Nile Palace Hotel
	Winter Palace Hotel
Aswan	
Four-star	Five-star
Basma Hotel Aswan	Tolip Hotel Aswan
	Movenpick Resort Aswan
	New Cataract Hotel
	Pyramisa Isis Island Hotel
	Sofitel Old Cataract Hotel

Source: Egyptian Hotel Association (2015-2016)

METHODS

QUESTIONNAIRE MANAGER

The questionnaire was designed to gather all the necessary information related to managers during food safety practices, understand the Drivers, perceived benefits, and challenges of food safety practices in the selected hotels and the managers' questionnaire distributed to most of the managers in the food and beverage department in the selected hotels. The managers' questionnaire was created based on the researcher's previous knowledge. A 5-point Likert-type rating scale, ranging from one (1) “Least important” to five (5) “Most important”, was used. Then it was developed based on the relevant review. The total number of participants was 68. The managers' questionnaire was divided into six sections as follows: (Demographics Data - Food safety practices - Drivers of Food safety practices - Benefits of

Food safety practices - Challenges of Food safety practices - Hotel Performance)

RESULTS AND DISCUSSION

This part includes the results and discussion of the different techniques and methods used to obtain the data, as mentioned in the third chapter (materials and methods).

DEMOGRAPHIC DATA ANALYSIS

This section was interested in the demographic data of the respondents including age, gender, years of operation and educational level as following:

Table 2: Respondent’s demographic data analysis

Demographics		4 star		5 star		Total	
		Freq.	%	Freq.	%	Freq.	%
Gender	Male	20	29.4	48	70.6	68	100
	Female	0	0	0	0	0	0
Age	Below 20	0	0	0	0	0	0
	20 to 30 years	2	2.9	3	4.4	5	7.4
	31 to 40 years	4	5.9	20	29.4	24	35.2
	41 to 50 years	11	16.2	21	30.9	32	47.1
	Over 50 years	3	4.4	4	5.9	7	10.3
Years of operations	Less than 5 years	0	0	1	1.5	1	1.5
	5-9 years	6	8.8	10	14.7	16	23.5
	10 – 14 years	8	11.8	21	30.9	29	42.6
	15 – 20 years	6	8.8	16	23.5	22	32.4
	More than 20 years	0	0	0	0	0	0
Educational level	Vocational or technical school	5	7.4	8	11.8	13	19.1
	University or higher institute education	8	11.8	29	42.6	37	54.4

	Postgraduate studies (Master or PhD)	7	10.3	11	16.2	18	26.5
	Others	0	0	0	0	0	0

As shown in the previous table, it can be observed that all the respondents (100%) were males. This means that all target managers at four and five star hotels at Luxor and Aswan were males.

This question was illustrated to present the respondent’s age. As shown in the previous table, 47.1% of all the respondents were fall in the age between 41 to 50 years; followed by the respondents whose were fall in the age between 31 to 40 years with a percentage of 35.2%. On the other hand, 10.3% of them were fall in the age of over 50 years. Only, 7.4% of all the respondents were fall in the age between 20-30 years.

This question was designed to describe the respondent’s experience level. As shown in Table 1, 42.6% of all the respondents have experience period between 10 to 14 years. Meanwhile, 32.4% of them have experience period between 15 to 20 years. On the other hand, 23.5% of all the respondents have experience period between 5 to 9 years. Only, 1.5% of all the respondents have experience period less than 5 years.

This question aims at showing the respondent’s educational level. Table 2 show that 54.4% of all the respondents were in university or higher institute education level; while, 26.5% of them were at postgraduate studies (Master or PhD) level. On the other hand, and 19.1% of all the respondents were in vocational or technical school level.

Table 3: Respondents’ opinions toward Participating in any food safety training courses before starting work

Participating in any food safety training courses	4 star		5 star		Total	
	Freq.	%	Freq.	%	Freq.	%
Yes	20	29.4	48	70.6	68	100
No	0	0	0	0	0	0

As shown in the previous table, it can be that all the respondents Participate in food safety training courses before starting work.

Table 4: Respondents’ opinions concerning how many food safety training programs they participated per year.

Number of courses	4 star		5 star		Total	
	Freq.	%	Freq.	%	Freq.	%
One program	2	2.9	0	0	2	2.9
Two programs	10	14.7	17	25	27	39.7
Three programs	8	11.8	31	45.6	39	57.4
None	0	0	0	0	0	0

The data showed in Table 4 illustrated that 57.4% of all the respondents participated in three food safety training programs per year; while, 39.7% of them participated in two food safety training programs per year. Just 2.9 % of all the respondents participated in one food safety training program per year. This means that most managers (97.1%) participated in food safety training programs for two and three times per year.

STUDY VARIABLES ANALYSIS

The following table shows the ranking of most important food safety practices at 4 and 5 star Luxor and Aswan hotels (Table 5).

Table 5: Respondents ranking concerning food safety practices

Food safety practices	Agreement level					Total	Weighted average %	Ranking
	1	2	3	4	5			
FSP1*	0	4	17	29	18	265	77.94	11
FSP2	0	0	11	39	18	279	82	5
FSP3	0	0	20	21	27	279	82	5
FSP4	0	0	20	26	22	274	80.59	8
FSP5	0	0	17	22	29	284	83.5	4
FSP6	0	0	8	39	21	285	83.8	3
FSP7	0	0	18	27	23	277	81.4	7
FSP8	0	0	19	24	25	278	81.76	6

FSP9	0	5	12	27	34	284	83.5	4
FSP10	0	5	7	39	17	272	80	10
FSP11	0	0	19	28	21	274	80.5	9
FSP12	0	0	10	33	25	287	84.4	1
FSP13	0	2	14	20	32	286	84.1	2
FSP14	0	0	12	32	24	284	83.5	4

* FSP1: food safety practice

From the previous table It can be showed that FSP12 (Facilities are of adequate quality to follow safe food handling practices.) was considered as the most important food safety practices by an average of 84.4%; followed by FSP13 (The number of staff scheduled at each shift is adequate for you to get your work done and handle food safely) by an average of 84.1% of all the respondents. FSP6 (There is good cooperation among employees to ensure that customers receive safely prepared food) came in the third order preference by an average of 83.8%, then FSP5(New employees and experienced employees work together to ensure food safety practices are in place.), FSP9(you follow food safety rules because you think they are important), and FSP14(you believe that written food safety policies and procedures are nothing more than a cover-up in case there is a lawsuit) came in the fourth order preference by an average of 83.5% of all the respondents. FSP2 and FSP3 came in the fifth order preference by an average of 82% of all the respondents. This is followed by other practices such as FSP8 and FSP7 (Table 5). Therefore, hotel managers should be fully aware regarding all these practices in order to meet the standard level of food safety

Table 6: Respondents ranking concerning drivers of food safety practices

Drivers of food safety practices	Agreement level					Total	Weighted average %	Ranking
	1	2	3	4	5			
DFS1*	0	0	6	29	33	299	87.94	2
DFS2	0	0	3	37	28	297	87.35	3
DFS3			4	37	27	295	86.76	6
DFS4	0	0	13	32	23	282	82.94	12
DFS5	0	0	15	30	23	280	82.35	13
DFS6	0	1	14	20	33	289	85	8
DFS7	0	1	14	24	29	285	83.82	9
DFS8	0	0	15	25	28	285	83.82	9
DFS9	0	0	17	23	28	283	83.23	11
DFS10	0	0	10	36	22	284	83.52	10
DFS11	0	0	1	9	36	283	83.23	11
DFS12	0	0	3	37	28	297	87.35	4
DFS13	0	0	4	36	28	296	87.05	5
DFS14	0	0	11	29	28	289	85	8
DFS15	0	0	13	21	34	293	86.17	7
DFS16	0	0	4	25	39	307	90.29	1

*DFS1: Driver of food safety practices

From the previous table It can be showed that DFS16 (Keeping customers satisfied) was considered as the most important Drivers of food safety practices by an average of 90.29%; followed by DFS1(Prevent food poisoning) by an average of 87.94 % of all the respondents. DFS2 (To improve product quality) came in the third order preference by an average of 87.35 %, then DFS12(Increased customer confidence), DFS13(Increased market share of the products), and DFS3 (To lower risk of compromising food safety) came in the fourth order preference by an average of 87.35 % of all the respondents. DFS15(Implementing basic hygiene procedure) and DFS14(Keeping customers safe from food-related diseases) came in the fifth order preference by an average of 85% of all the respondent

Table 7: Respondents ranking concerning benefit of food safety practices

Benefits of food safety practices	Agreement level					Total	Weighted average %	Ranking
	1	2	3	4	5			
BFS1*	0	0	13	25	30	289	85.00	10
BFS2	0	0	7	27	34	299	87.94	6
BFS3	0	0	10	34	24	286	84.12	11
BFS4	0	0	6	31	31	297	87.35	7
BFS5	0	0	16	31	21	277	81.47	14
BFS6	0	0	3	35	30	299	87.94	6
BFS7	0	0	16	36	16	272	80.00	15
BFS8	0	0	8	44	16	280	82.35	12
BFS9	0	0	17	27	24	279	82.06	13
BFS10	0	0	6	38	24	290	85.29	9
BFS11	0	0	8	30	30	294	86.47	8
BFS12	0	0	9	32	27	290	85.29	9
BFS13	0	0	7	21	40	305	89.71	2
BFS14	0	0	2	31	35	305	89.71	3
BFS15	0	0	9	14	45	308	90.59	1
BFS16	0	0	1	44	23	294	86.47	8
BFS17	0	0	8	27	33	297	87.35	7
BFS18	0	0	3	40	25	294	86.47	8
BFS19	0	0	7	25	36	301	88.53	4
BFS20	0	0	1	38	29	300	88.24	5
BFS21	0	0	4	32	32	300	88.24	5

* BFS1: Benefit No. 1 of food safety practices

It can be noticed from the data tabulated in Table 10 that BFS15 "Improved internal procedures" was considered by the majority of respondents as one of the most important Benefits of food safety practices by an average of 90.59%; followed by BFS13 (Increased product quality) and BFS14(Improved relations with communities) by an average of 89.71% of all the respondents. BFS19 (Cost reductions) came in the fourth order preference by an average of 88.53%; followed by BFS20 (Maintained/increased profit margin) and BFS21(Increased productivity) by an average of 88.24% of all the respondents. This is followed by other attributes such as BFS6 and BFS4 (Table 7). Therefore, hotel managers should be fully aware regarding all these attributes in order to achieve all benefits of Food safety practices.

Table 8: Respondents ranking concerning challenges of food safety practices

Challenges of food safety practices	Agreement level					Total	Weighted average %	Ranking
	1	2	3	4	5			
CHFS1*	6	7	38	17	0	202	59.41	1
CHFS2	5	29	20	12	2	181	53.24	9
CHFS3	9	16	23	20	0	190	55.88	5
CHFS4	9	19	22	13	5	190	55.88	5
CHFS5	8	15	27	13	4	191	56.18	4
CHFS6	7	12	35	13	1	193	56.76	3
CHFS7	9	17	16	26	0	195	57.35	2
CHFS8	16	11	23	18	0	179	52.65	10
CHFS9	17	16	17	15	3	175	51.47	12
CHFS10	15	17	25	7	4	172	50.59	13
CHFS11	13	16	17	22	0	184	54.12	7
CHFS12	8	20	31	4	5	182	53.53	8
CHFS13	18	13	21	15	1	172	50.59	13
CHFS14	13	16	19	18	2	184	54.12	7
CHFS15	11	18	24	13	2	181	53.24	9
CHFS16	14	19	18	13	4	178	52.35	11
CHFS17	9	18	24	15	2	187	55.00	6

*CHFS1: Challenge No. 1 of food safety practices

From the previous table It can be showed that CHFS1(Lack of prerequisite programs) was considered as the most important food safety practices by an average of 59.41%; followed by CHFS7(Lack of facilities) by an average of 57.35% of all the respondents. CHFS6 (Inadequate equipment) came in the third order preference by an average of 56.76%, then CHFS5 (Lack of financial) came in the fourth order preference by an average of 56.18% of all the respondents. CHFS3(Lack of management) and CHFS4(Lack of personnel training) came in the fifth order preference by an average of 55.88% of all the respondents. This is followed by other challenge such as CHFS17(Lack of good habits), CHFS11(Lack of set standards in the Institution) and CHFS14 (The work pace Too busy) Therefore, hotel managers should be fully aware of all these attributes in order to avoid all challenges of food safety practices.

Table 9: Respondents ranking concerning hotel performance

* HP: Hotel performance

From the previous table it can be showed that HP12 (Profitability) was

Hotel performance (HP*)	Agreement level					Total	Weighted average %	Ranking
	1	2	3	4	5			
HP1	0	1	15	45	7	262	77.06	10
HP2	0	1	8	40	19	281	82.65	6
HP3	0	1	7	34	26	289	85.00	4
HP4	0	0	8	31	29	293	86.18	3
HP5	0	0	7	47	14	279	82.06	7
HP6	0	0	24	21	23	271	79.71	9
HP7	0	0	9	41	18	281	82.65	6
HP8	0	1	18	28	21	273	80.29	8
HP9	0	0	9	41	18	281	82.65	6
HP10	0	0	11	22	35	296	87.06	2
HP11	0	1	12	32	23	281	82.65	6
HP12	0	0	9	25	34	297	87.35	1
HP13	0	0	8	36	24	288	84.71	5
HP14	0	0	17	28	23	278	81.76	8
HP15	0	0	5	42	21	288	84.71	5
HP16	0	0	12	23	33	293	86.18	3

considered as the most important Hotel performance by an average of 87.35%; followed by HP10 (Market share) by an average of 87.06% of all the respondents. HP4 (Efficiency of the processes) and HP16 (Commitment of the employees to the organization) came in the third order preference by an average of 86.18%, then HP3 (Process coordination) came in the fourth order preference by an average of 85.00% of all the respondents. HP13(Workers' motivation) and HP15 (Personal and work relationships among employees) came in the fifth order preference by an average of 84.71% of all the respondents. This is followed by other Hotel performance such as HP7(Image of company and its products), HP9 (Occupancy rate) and HP5 (Customer satisfaction). Therefore, hotel managers should be fully aware of all these attributes in order to achieve the best hotel performance. This finding is supported by Ansari, et al (2013) who declared that Food Safety Practices help to improve the overall profitability of hotels. Food Safety Practices can serve as an effective quality management tool in providing cost-cutting incentives

STRUCTURAL MODELS AND HYPOTHESES TESTING

The researcher adopts linear regression coefficient to test H_1 that drivers of food safety practices have a significant positive influence on food safety practices as follows:

Table (10): Linear regression coefficients for the influence of drivers of food safety practices on food safety practices

Model	ANOVA	Beta	T	Sig.
(constant) Drivers of food safety practices	0.000	-.015- .965	-.039- 11.131	.000

a. Dependent variable: food safety practices

From the previous table, it showed that there is a significant positive influence of drivers of food safety practices on food safety practices (ANOVA Sig. = 0.000), this result suggests that the six hypothesis of the study is valid. The following equation for predicting the level of food safety practices with the information about the level of drivers of food safety practices can be suggested as follow:

$$\text{Food safety practices} = (0.965 * \text{drivers of food safety practices}) - 0,015$$

The researcher adopts linear regression coefficient to test H_2 that benefits of food safety practices have a significant positive influence on food safety practices as follows:

Table (11): Linear regression coefficients for the influence of benefits of food safety practices on food safety practices

Model	ANOVA	Beta	T	Sig.
(constant) Benefits of food safety practices	0.000	.083 .933	.148 7.192	.000

a. Dependent variable: food safety practices

From the previous table, it showed that there is a significant positive influence of benefits of food safety practices on food safety practices (ANOVA Sig. = 0.000), this result suggests that the seventh hypothesis of the study is valid. The following equation for predicting the level of food safety practices with the information about the level of benefits of food safety practices can be suggested as follow:

$$\text{Food safety practices} = 0,083 + (0.933 * \text{benefits of food safety practices})$$

The researcher adopts linear regression coefficient to test H_3 that challenges of food safety practices have a significant negative influence on food safety practices as follows:

Table (12): Linear regression coefficients for the influence of challenges of food safety practices on food safety practices

Model	ANOVA	Beta	T	Sig.
(constant) Challenges of food safety practices	0.000	4.920 -.300-	24.798 -4.307-	.000

a. Dependent variable: food safety practices

From the previous table, it showed that there is a significant negative influence of challenges of food safety practices on food safety practices (ANOVA Sig. = 0.000), this result suggests that the eighth hypothesis of the study is valid. The following equation for predicting the level of food safety practices with the information about the level of challenges of food safety practices can be suggested as follow: $\text{Food safety practices} = 4.920 - (0.3 * \text{challenges of food safety practices})$

The researcher adopts linear regression coefficient to test H_4 that food safety practices have a significant positive influence on hotels performance as follows:

Table (13): Linear regression coefficients for the influence of food safety practices on hotels performance

Model	ANOVA	Beta	T	Sig.
(constant)				
Food safety practices	0.000	2.075 .509	8.542 8.681	.000

a. Dependent variable: hotels performance

From the previous table, it showed that there is a significant positive influence of food safety practices on hotels performance (ANOVA Sig. = 0.000), this result suggests that the ninth hypothesis of the study is valid. The following equation for predicting the level of hotels performance with the information about the level of food safety practices can be suggested as follow:

$$\text{Hotels performance} = 2.075 + (0.509 * \text{food safety practices})$$

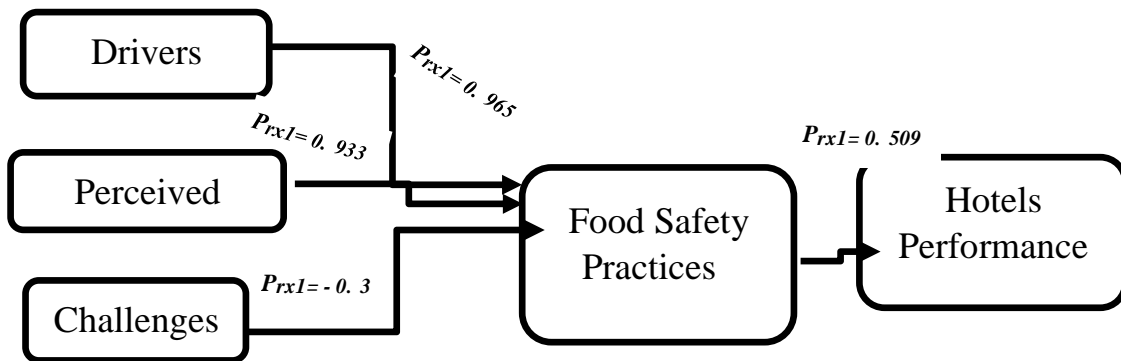


Figure 2: Final structural equation model and standardized estimates

- H1: Drivers of food safety practices have a significant positive influence on food safety practices.
- H2: Benefit of food safety practices has a significant positive influence on food safety practices.
- H3: Challenges of food safety practices have a significant negative influence on food safety practices
- H4: Food safety practices have a significant positive influence on hotel performance

DISCUSSION

The outcome of the study indicated that there are statistical differences between the four and five-star hotels in terms of food safety practices and

there are statistical differences between the four and five-star hotels in Drivers, Benefits and Challenge of food safety practices. These findings are in the line with Campos, et al. (2009) study as they indicated that training programs targeted at improving the attitude of food handlers of low educational level and with the acknowledgment that poor food hygiene practices amongst food workers are a leading cause of food safety incidents, food safety training for employees have become a central component in the management of food contamination risks. in five-star hotels

Keeping customers satisfied is the most important in drivers of food safety practices this These finding is in the line with Akhtari et al. (2015) study as which indicated that Companies should improve their food safety practices to satisfy their customers, so they can achieve a competitive advantage in a competitive environment because the main result of customer satisfaction is the customer's confidence. These findings also suggest that one of the most important Drivers of food safety practices influence is to improve product quality. In this regard, relatively strong relationships were found between food safety practices to Prevent food poisoning'.

Drivers and Benefits of food safety practices have a significant positive influence on food safety practices this agree with Henson & Jaffee (2006) indicated that the push for regulation on an integrated food safety practices approach is primarily on the basis of the perceived degree of assurance it gives, towards the protection of public health, and the increased transparency it introduces into food value chains. How enterprises respond is, however, dependent on their strategic orientation, the drivers, and the perceived industrial and economic benefits. It is evident that product quality is a significant driver for enterprises complying, even though customers satisfy turned out top of the list of drivers.

On the other hand, other manufacturers believe that because of the lack of prerequisite programs and costs involved in complying with food safety practices, most enterprises would not have complied if there were no external incentives. There is a consensus, however, on the benefits derived from compliance for food safety practices (Henson & Jaffee ,2006)

H3: Challenges of food safety practices have a significant negative influence on food safety practices this agree with:

These findings are consistent with the work of Yapp and Fairman (2006) the topmost challenge enterprises faced in their quest to implement integrated food safety practices were personnel training. This is partly attributed to the low level of education and training of employees related to food safety management systems. This challenge is logical as most

enterprises developed and implemented their food safety management systems in-house, making use of their own employees.

A major challenge came from getting the right prerequisite programs to plan and implement the processes needed for validating control measures and verifying the effectiveness of the FSP. Consequently, external agencies are contracted for validation and verification. Here again, some hotels suffer the most because they are not able to enjoy the economies of scale provided by bulk rates from outsourced laboratory testing services (Taylor, 2001).

H4: Food safety practices have a significant positive influence on Hotel performance this agree with:

The data of the present study shows there is a significant relationship between Food safety practices and performance dimensions. The employees who have more on the job experience in food safety have better performance because there is an increase in both skills & competencies because of more on the job experience. In fact, the employees 'experience allows the employees to gain stability in performing different tasks reputedly in such a way that employees avail the chances of removal of any weaknesses or errors in their resultant performances. The data further show that the employees which have passed more time in getting different food safety training have shown better performance because the more the employees pass time in getting training the more chances are availed by employees to learn new things (Griffin & Neal ,2000).

Ball et al (2010) stated that there is a relationship between food safety practices and resultant performance dimensions. The employees who have more on the job experience have better performance because there is an increase in both skills and competencies because of more on the job experience. In fact, the employees' experience allows the employees to gain stability in performing different tasks reputedly in such a way that employees avail the chances of removal of any weaknesses or errors in their resultant performances. Sales Growth and Profitability are heavily dependent on the type of food safety. The performance of hotels depends on the overall food safety practices of hotels in providing different services to targeted customers according to their needs. Kaynak (2003) reported that the study of the relationship of the food safety with performance is important for today's managers because the modern business trends demand more efficiency, accuracy, and effectiveness in less time and cost and this can be achieved only through design, development, and deployment of excellent training programs to the employee

RECOMMENDATIONS

Depending upon both the literature reviewed and the field study findings, the following recommendations could be suggested:

- The management should educate and persuade food handlers of the potential benefits of food safety practices adoption and to spread food safety management knowledge and technology to the food industry. educate, giving counseling, encouragement, and incentives.
- Hotel's managers should consider giving one or two employees primary responsibility for HACCP implementation since this reduces challenges to improving food safety practices. all individuals involved in food production will need to have training in food safety and HACCP.
- Managers need to examine how resources are allocated in their district and may need to reallocate funds for food safety practices and HACCP because this is a critical health and safety issue. These challenges also may have policy implications.
- There is a fundamental need to raise awareness of the weakness of established food safety controls, despite the fact that they are based on traditional practices and are long-standing, and the need for risk and process-based approaches such as HACCP.
- Linking food safety practices to leadership success and motivation to encourage food safety practices
- managers should Keep in contact with food and beverage employees to know what the problems that they face with food safety practices are
- From time to time, food and beverage managers should evaluate and review the training programs of food safety practices to meet the food and beverage employees' expectations
- Regarding a four-star hotel, managers should increase using food safety practices via involvement with employees

REFERENCES

- Akhtari, P., Akhtari, A., & Torfi, A. (2015). Measuring customer satisfaction in food industry. *Management Science Letters*, 5(3), 235-244.
- Ansari, M. A., Kumar, V., Singh, C., Shukla, V., & Kumar, R. (2013). Studies on Food Safety Management and Its Significance in Maximizing the Profit for Food Industry. *Internet Journal of Food Safety*, 15, 20-28.

- Ball, B., Wilcock, A., & Aung, M. (2010). Background factors affecting the implementation of food safety management systems. *Food Protection Trends*, 30(2), 78-86.
- Baş, M., Yüksel, M., & Çavuşoğlu, T. (2007). Difficulties and barriers for the implementing of HACCP and food safety systems in food businesses in Turkey. *Food Control*, 18(2), 124-130.
- Campos, A. K. C., Cardonha, Â. M. S., Pinheiro, L. B. G., Ferreira, N. R., de Azevedo, P. R. M., & Stamford, T. L. M. (2009). Assessment of personal hygiene and practices of food handlers in municipal public schools of Natal, Brazil. *Food control*, 20(9), 807-810.
- Cho, S., Hertzman, J., Erdem, M., & Garriott, P. (2012). A food safety belief model for Latino(a) employees in food service. *Journal of Hospitality and Tourism Research*, 20 (10), 1-19.
- Delios, A. and P. Beamish, (2002) Survival and profitability: The roles of experience and intangible assets in foreign subsidiary performance. 13-20
- Ellis, J. D., S. W. Arendt, C. H. Strohbehn, J. Meyer, and P. Paez. (2010). Varying influences of motivation factors on employees' likelihood to perform safe food handling practices because of demographic differences. *J. Food Prot.* P 73
- Egyptian Hotel Association (EHA). (2016). *The Egyptian Hotel Guide*, Twenty Fifth Edition, ETF, Cairo.44-48.
- Griffin, M. A., & Neal, A. (2000). Perceptions of safety at work: a framework for linking safety climate to safety performance, knowledge, and motivation. *Journal of occupational health psychology*, 5(3), 347.
- Henson, S., & Jaffee, S. (2006). Food safety standards and trade: Enhancing competitiveness and avoiding exclusion of developing countries. *The European Journal of Development Research*, 18(4), 593-621.
- Jayasinghe-Mudalige, U., & Henson, S. (2007). Identifying economic incentives for Canadian red meat and poultry processing enterprises to adopt enhanced food safety controls. *Food control*, 18(11), 1363-1371.
- Kaynak, H. (2003). The relationship between total quality management practices and their effects on firm performance. *Journal of operations management*, 21(4), 405-435.

- Knowles, T. (2002). Food safety in the hospitality industry. First edition, Butterworth-Heinemann, Oxford, 115- 266.
- Lawley R., Curtis L., and Davis J., (2008). The food safety hazard Guide book. food safety info, London, UK. Published by The Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge CB4 0WF, UK., 98–99.
- Motarjemi, Y. (2000). Regulatory Assessment of HACCP: A FAO/WHO consultation on the role of government agencies in assessing HACCP. *Food Control*, 11(5). 341–344.
- Pragle, A. S., Harding, A. K., & Mack, J. C. (2007). Food workers' perspective on hand washing behaviours and barriers in the restaurant environment. *Journal of Environmental Health*. 69(10), 27-32.
- Taylor, E. (2001). HACCP in small companies: benefit or burden? *Food control*, 12(4), 217-222.
- United States Department of Agriculture. (2010). Refrigeration and food safety. Safe Food Handling. Available from [http://www.fsis.usda.gov/fact_sheets/Refrigeration&food Safety/index.asp](http://www.fsis.usda.gov/fact_sheets/Refrigeration&food_Safety/index.asp) (Accessed 27 July 2019)
- Yapp, C., & Fairman, R. (2006). Factors affecting food safety compliance within small and medium-sized enterprises: implications for regulatory and enforcement strategies. *Food control*, 17(1), 42-51.
- Yiannas, F. (2009). Food Safety Culture: Creating A Behavior Based Food Safety Management System, Springer, NY. *Journal of food safety*, 25(3), 50-5