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Abstract

The way humanity manages or mismanages its food supply will in many ways define the 21st century-currently we know that we are not doing a great job. Complexities resulting of the economy, globalization, population increase; and the unprecedented increasing consumption of power, natural sources, and food have resulted in the existence of what is called, sustainability. Realising that very little was known about sustainable restaurants we undertook this research on food sustainability in restaurants industry .This research aims to identify to what extent the managers and employees in restaurant industry are aware of sustainable food practices, also to clarify to what extent sustainable food practices were adopted in restaurant industry, to study the motives, benefits and obstacles that affect on implementing of sustainable food practices. In order to achieve these objectives, the current research adopted a deductive approach using the questionnaire strategy as a data collection instrument.

Keywords: Food Sustainability, New Trends, Restaurants Industry.

الملخص العربي

استدامة الغذاء كاتجاه حديث في صناعة المطاعم

إن الطريقة التي تتعامل معها البشرية مع المخزون الغذائي سوف يحدد مسار القرن الحادي والعشرين - ونحن نعلم في الوقت الحالي أننا لا نبلى بلاء حسنا. وكذلك التعقيد الناشئ عن الاقتصاد والعولمة والزيادة السكانية والزيادة الغير مسبوقه في استهلاك الطاقة والموارد الطبيعية والغذاء كل ذلك ادي الي ظهور ما يسمى بالاستدامة. قام الباحث بإجراء ذلك البحث عن استدامة الغذاء في صناعة المطاعم لعدم توافر معلومات كافية عن المطاعم المستدامة. يهدف ذلك البحث لتحديد مدى دراية مديري وموظفي المطاعم بممارسات الغذاء المستدامة، ومدى تطبيقها في صناعة المطاعم؛ بالإضافة إلى دراسة الدوافع، والفوائد، والعوائق التي تؤثر على تطبيق ممارسات الغذاء المستدامة. لتحقيق تلك الأهداف، قام البحث الحالي بتبني نهج استدلالى عن طريق استخدام استطلاع الرأي كوسيلة لجمع البيانات.

الكلمات الدالة: استدامة الغذاء، الاتجاهات الحديثة، صناعة المطاعم.

Introduction

Tourism industry is developing and flourishing day after day. Spreading all over the world, tourism industry creates a greater effect on the environment especially a negative one. Such effects have become an important issue in tourism industry in general and restaurants in specific. Thus, it is necessary to implement sustainable practices which are eco-friendly to decrease tourism industry's negative effect on the environment and society (Sloan et al., 2009).

Complexities resulting of the economy, globalization, population increase; and the unprecedented increasing consumption of power, natural sources, and food have resulted in the existence of what is called, sustainability. The definition of sustainability differs according to the field. The United Nation's

Report 1987 defined sustainability as "satisfying the present generation without touching the needs of the coming generations." The term of sustainability has been included in hotel industry in 1990 after the Rio De Janeiro Conference, and restaurants have been encouraged to adopt some systems and practices that contribute in decreasing the negative effects on the environment and society (Freeman, 2011)

Recently, the concept of sustainability has expanded and become a prominent word in the environment's circle. Awareness of sustainability has increased, for it has included most practices and activities at different hotels' sectors (Goldstein and Primplani, 2012).

Now, more than 80% of European restaurants and hotels follow some practices that keeps the environment safe, starting from the design of the restaurant or the hotel, to the recycling of waste, and the use of renewable power. That is, they have made life sustainable as much as they could (Sloan et al., 2009).

One of the most important sectors that sustainability has touched is food and beverage. The system of food sustainability is defined as: "a cooperative network that merges different components to reinforce environmental, social and economic welfare." Also, Ellen and Prisbery defined it as: "the system which provides the nutritious food in sound prices that fulfill the present food needs with the least negative effect on the environment, and encourages the national economy" (PRI, 2016).

Sustainability had a huge effect on restaurants because of its accumulative effect on the environment, economy and society. Some restaurants see that food is just something that is bought, prepared and served, but they do not consider how the food they serve affects the whole food system. For, restaurants have the ability to affect the produced food and to increase the agricultural profit of farmers (Freeman, 2011).

Statement of the Problem

The continuous population increase and the unprecedented food consumption have pushed the national and international organizations to hold conferences and seminars to discuss this problem and its negative effects on the environment and society. Thus, organizations have been encouraged to adopt the term of sustainability. Although some Egyptian restaurants have applied the system of sustainability, the rate of these restaurants is very low if they are compared to the restaurants' society in Egypt.

Thus, the problem lies in:

- The lack of having clear studies that dealt with the implementation of sustainability practices in Egyptian restaurants and the vagueness of the available information.
- The lack of applying the food sustainability criteria as a new trend in the Egyptian restaurants.

Research Questions

This study attempts to answer a number of research questions concerning food sustainability at Egyptian restaurants, for previous studies have not dealt with this subject.

The researcher is seeking to answer some questions as follows:

The main question of the Research:

The main question in this study is "To what extent the food sustainability practices are implemented at Egyptian restaurants?"

The sub-questions:

Question 1: To what extent the employees of Egyptian restaurants are aware of the practices of food sustainability?

Question 2: To what extent the restaurants' management are willing to implement the practices of food sustainability?

Question 3: What are the motives that encourage restaurants to take the decision of implementing the practices of food sustainability?

Question 4: What are the benefits of implementing the practices of food sustainability?

Question 5: What are the obstacles that face the Egyptian restaurants to implement the practices of food sustainability?

Aim and Objectives of the Study

The main aim of this study is to search for the extent of implementing the food sustainability practices at Egyptian restaurants as a new trend at restaurants industry that has a positive effect on the environment, economy and society.

Despite the existence of foreign standards and studies concerning food sustainability, there is a problem in implementing sustainability practices at Egyptian restaurants. This aim is achieved through several objectives as follows:

- Measure the awareness of the employees of the practices of food sustainability.
- Identify the desire of the management to implement the practices of food sustainability.
- Determine the motives that encourage restaurants to take the decision of implementing the practices of food sustainability.
- Identify the benefits of implementing the practices of food sustainability.
- Determine the obstacles that face the Egyptian restaurants to implement the practices of food sustainability.

Review of Literature

Concept of Sustainability

According to Oxford Dictionaries, sustainability refers to "conserving as an ecological balance by avoiding depletion of natural resources" (Oxford Dictionaries, 2012)

In other dictionaries such as the Longman Active Study Dictionary, sustainability is described as being "able to continue, especially without destroying the environment" (Longman Active Study Dictionary, 2004)

Nevertheless, the most acknowledged definition of sustainability was first mentioned in 1978 in the publication of "Our Common Future", better known as Brundtland Report, from

the United Nations World Commission on Environment and Development as “satisfying the needs of the present generation without compromising the ability of future generations to meet their needs” (United Nations World Commission on Environment and Development, 1978) .

As noted in the GSR overview document, common themes of sustainability include the holistic consideration of environmental, social, and economic impacts of an activity and evaluation of these impacts on future generations (The Interstate Technology & Regulatory Council, 2011)

Concept of Food Sustainability

The definition of sustainability varies according to the arena in which it is applied. Academics define and redefine sustainability across varied temporal and spatial scales (Kates *et al.*, 2005).

Restaurateurs view food as something they prepare, serve and throw out. They do not necessarily consider how the food they serve affects the food system as a whole. Restaurants can affect what food is produced, farming profitability, food waste, and the environmental intensity of food production. Indirect effects impacts include resource origin, agricultural and harvesting practices, and the packaging and distribution of goods (Heller and Keoleian, 2003).

Motives and Benefits of Sustainability

According to Goldstein and Primlani (2012), Cost savings. The realization of a bottom line financial return from implementation of sustainable business practices is arguably the strongest motivating factor to encourage private sector participation.

Fiscal and economic incentives. In an effort to encourage the development of environmental retrofits and the construction of ‘green’ buildings, a variety of fiscal and economic incentives have been enacted by numerous governments, agencies and

organizations around the world. These benefits range from tax write-offs to outright grants, and can also include more novel concepts such as insurance premium discounts, expedited regulatory permitting, and grants to cover development soft costs for sustainable projects.

Stabilized utility prices and availability. Going beyond simple cost savings and regulatory regimes, more efficient equipment and alternative forms of utility generation can be deployed to hedge against future price increases in utility costs.

Creation of a positive corporate culture / Employee retention. The adoption of a sustainable corporate culture can provide a distinct advantage in terms of attracting and retaining talent. Investor requirements. Investors in both public and private companies are increasingly looking for quantifiable indicators of sustainable performance.

Environmental motive. The public “no longer accepts major environmental damage as the price for economic opportunity” (Post and Altman, 1994).

Companies that do not implement environmental or ‘green’ initiatives may feel pressure from the public to make changes. (freeman,2011)

Research Methodology

The population of this research consisted of the employees of international QSRs in Greater Cairo, which classified as tourists restaurants.

Table 1: A sample from International QSRs chains in Egypt

No	Restaurant chains	Classification	Branches
1	Americana Maadi food court	5	1
2	MacDonald's	4	6
		3	7
3	Starbucks	4	2
		3	1
4	Domino's Pizza	3	1

5	Tikaa	4	3
		3	3
6	Pizza Hut	4	5
		3	4
7	K.F.C	4	7
		3	8
8	Hardees	4	2
Total			50

According to Chamber of Tourism Establishments (2017), the total numbers of QSRs in Egypt is 184 which are affiliated to international chains and that got the tourist classification from Chamber of Tourism Establishments. In Greater Cairo there are about 129 restaurants. A sample of 50 (38.8%) restaurants was selected randomly to adopt the filed study

The questionnaire form was piloted on 50 of the respondents to validate the constructs of the study. The purpose of the pilot study was to refine the questionnaire and identify any potential problems. As a result, ambiguity and unclear words have been eliminated from the questionnaire. The final questionnaire consisted of five parts; the first part intended to reveal the employees' demographic data, which included gender, age, educational level, years of experience. The second part aimed to study knowledge and awareness of employees of food sustainability. The third part aimed to study the implementation of food sustainability. The fourth part aimed to study benefits of applying food sustainability. The fifth part aimed to study obstacles of applying food sustainability. The respondents were asked to indicate their agreement of the statements on five points of Likert- type scales, which range from 5= strongly agree to 1= strongly disagree. To determine the levels of agreement with the statements investigated. The Statistical Package for the Social

Sciences (SPSS) version 22.0 was used to analyze and compute the collected data.

Results and discussions

The following part presents the response of the employees on the study dimensions.

The results in table (2) show a study sample demographic data and variables. Amongst the respondents, 90.1% were male, 9.9% were female, and this indicates that the majority of employees were male. The age variable represented as; 64.3% in less than 30 years, 26.1% were from 30-40 years, 9.6% More than 40 years - Less than 50 years, none of them were 50 years and over.

Table 2: Demographic Data of the Respondents

Demographic Data	Attribute	Freq.	Percent (%)	Ranking
Gender	Male	363	90.1	1
	Female	40	9.9	2
Total		403	100.00	
Age	Less than 30 years	259	64.3	1
	From 30 – 40 Years	105	26.1	2
	More than 40 years - Less than 50 years	39	9.6	3
	50 years and over	0.00	0.00	4
Total		403	100.00	
Educational level	Vocational or technical school	171	42.4	2
	Bachelors degree	202	50.1	1
	Postgraduate(Diploma - Master – PhD)	18	4.5	3

	Another	12	3	
Total		403	100.00	
Years of Experience	Less than 5 years	197	48.9	1
	From 5 – 10 Years	87	21.6	2
	10 years and over	119	29.5	3
Total		403	100.00	-

The data concerns respondents education level variables shows that 42.4% were in vocational or technical school, 50.1% bachelors degree, 4.5% were in Postgraduate (Diploma -Master-PhD), and Another were 3%, this indicates that more than half of the sample were bachelors degree. Description of demographic data shows respondents years of experiences as; 48.9% were in less than 5 years, 21.6% were in from 5–10 years and 29.5% were in 10 years and over.

From the tabulated data in table (3), it could be noticed that the majority of the respondents agreed that there were knowledge and awareness of the following statements according to the mean " You are aware of the impact of restaurants on the surrounding environment" at (Mean= 4.36)," You have an awareness of local and organic food used in the Ingredients of food in the menu." at (Mean= 4.21), "You have an awareness of the locations and addresses of the suppliers." at (Mean= 3.94), "You have an awareness of fair trade of accredited products" at (Mean= 3.66), and "You have an awareness of the benefits of applying sustainability practices to customers and the community" at (Mean=3.52). Meanwhile, their aware were neutral toward the statement of "You have an awareness of the impact of sustainability practices on the environment."at (Mean = 2.96), and "You are familiar with the standards of food sustainability practices" at (Mean= 2.82), The results show that the sample of the study are aware of food sustainability , at (General Mean = 3.63).

Table3: Knowledge an Awareness of employees of food sustainability.

N.B: SD="Standard Deviation"; R="Ranking"

Statements	N	Mea n	S.D	R
1-You are aware of the impact of restaurants on the surrounding environment.	403	4.36	.853	1
2-You are familiar with the standards of food sustainability practices .	403	2.82	1.037	7
3-You have an awareness of the impact of sustainability practices on the environment.	403	2.96	1.153	6
4-You have an awareness of local and organic food used in the Ingredients of food in the menu.	403	4.21	.855	2
5-You have an awareness of the locations and addresses of the suppliers.	403	3.94	1.185	3
6-You have an awareness of fair trade of accredited products.	403	3.66	1.073	4
7-You have an awareness of the benefits of applying sustainability practices to customers and the community.	403	3.52	.939	5
General Mean		3.63		

Concerning the results in table 4, it could be concluded that the employees agreed that the restaurants implementing the following practices according to the following means: "The restaurant uses meat and birds of all kinds from high quality companies." at (Mean=4.01), "The restaurant uses vegetables and fruits from local and sustainable sources." at (Mean=4.01)," -The restaurant uses eggs from a certified and local source." at (Mean=3.94), "Baked items in the restaurant are fresh and baked daily by local bakeries" at (Mean= 3.89), "-Food products are purchased directly from local farms with taking into consideration

paying fair prices." At (Mean= 3.88), "The restaurant reduces the loss of food to save energy, money and natural resources" at (Mean= 3.82), "The restaurant uses certified and locally manufactured dairy products." at (Mean=3.80), and "Seafood is purchased from sustainable sources." at (Mean= 3.60). Meanwhile, their answers were neutral toward the following statements: " There are options of meals that meet the needs of diets and food allergies." at (Mean=3.40), "-There are vegetarian dishes on the menu." at (Mean= 3.37), "-Staff are trained to promote the objectives and principles of food sustainability practices ." at (Mean= 3.21), "-Organic and certified food products are used to prepare food." at (Mean= 3.12) and "- Seasonal food is used in designing the Menu ." at (Mean= 3.02). On other hand, they disagreed that "The restaurant's management is involved in the cultivation of food items that are included in the menus" (Mean=2.51). The results show that the sample of the study implement the standards of food sustainability, at (General Mean = 3.54).

Table 4: Implementation of Food Sustainability in QSRs.

Statements	N	Mean	S.D	R
8-Staff are trained to promote the objectives and principles of food sustainability practices .	403	3.21	1.104	11
9-Organic and certified food products are used to prepare food.	403	3.12	1.106	12
10-There are vegetarian dishes on the menu.	403	3.37	1.256	10
11-Seasonal food is used in designing the Menu .	403	3.02	1.278	13
12-Food products are purchased directly from local farms with taking into consideration paying fair prices.	403	3.88	.926	5

13-Baked items in the restaurant are fresh and baked daily by local bakeries.	403	3.89	.808	4
14-The restaurant's management is involved in the cultivation of food items that are included in the menus.	403	2.51	1.324	14
15-The restaurant uses vegetables and fruits from local and sustainable sources.	403	4.01	.986	2
16-Seafood is purchased from sustainable sources.	403	3.60	1.256	8
17-The restaurant uses meat and birds of all kinds from high quality companies.	403	4.01	1.009	1
18-The restaurant uses eggs from a certified and local source.	403	3.94	.924	3
19-The restaurant uses certified and locally manufactured dairy products.	403	3.80	1.085	7
20-There are options of meals that meet the needs of diets and food allergies.	403	3.40	1.018	9
21-The restaurant reduces the loss of food to save energy, money and natural resources.	403	3.82	.974	6
General Mean		3.54		

N.B: SD="Standard Deviation"; R="Ranking"

From the tabulated data in table (5), it could be noticed that the respondents' answers were agreed on that the investigated restaurants were "Increasing the interest in taking care of the environment and reducing the negative effects on the environment." at (Mean=4.51), " Rationalizing consumption as a result of reducing food losses ." at (Mean= 4.49), " -Encouraging local agriculture through using local raw materials ." at (Mean= 4.42), " Getting the largest percentage of customers from the target market segment." at (Mean= 4.35), " -Increasing customers' satisfaction by providing safe organic products." a(Mean= 4.34), "

Increasing profitability by providing the requirements of environmentally friendly market segments." at (Mean=4.27), "Achieving excellence over other competitive institutions due to adoption of food sustainability practices." at (Mean= 4.06), and "Increasing staff's concerns with applying food sustainability practices." at (Mean= 3.70). The results show that the implementation of food sustainability standards have many benefits for restaurants , at (General Mean = 4.26).

Table 5: Benefits of Food Sustainability in QSRs.

Statements	N	Mean	S.D	R
22-Increasing profitability by providing the requirements of environmentally friendly market segments.	403	4.27	.722	6
23-Increasing staff's concerns with applying food sustainability practices.	403	3.70	.893	8
24-Increasing customers' satisfaction by providing safe organic products.	403	4.34	.742	5
25-Getting the largest percentage of customers from the target market segment.	403	4.35	.676	4
26-Encouraging local agriculture through using local raw materials .	403	4.42	.763	3
27-Increasing the interest in taking care of the environment and reducing the negative effects on the environment.	403	4.51	.717	1
28-Achieving excellence over other competitive institutions due to adoption of food sustainability practices.	403	4.06	.770	7
29-Rationalizing consumption as a result of reducing food losses .	403	4.49	.678	2
General Mean		4.26		

N.B: SD="Standard Deviation"; R="Ranking"

Concerning the results in table 6, it could be concluded that the employees agreed that there is "Lack of employees' awareness of food sustainability practices." at (Mean=3.97), and "Staff's Lack of experience and training to implement food sustainability practices." at (Mean= 3.55). Meanwhile, their answers were neutral toward the following statements: "Lack of awareness among some customers of food sustainability practices." at (Mean=3.31), Management's lack of a strategic plan to implement food sustainability practices." at (Mean= 3.08), "Management's lack of interest in implementing food sustainability practices." at (Mean= 3.07), and "Availability of suppliers." at (Mean= 2.62). On other hand, they disagreed that there is "Lack of financial sources necessary to apply practices of food sustainability." (Mean=2.41). The results show that the implementation of food sustainability standards have many obstacles at restaurants , at (General Mean = 3.14).

Table 6:Obstacles of Implementing Food Sustainability in QSRs.

Statements	N	Mean	S.D	R
30-Lack of employees' awareness of food sustainability practices.	403	3.97	.978	1
31-Management's lack of interest in implementing food sustainability practices.	403	3.07	1.256	5
32-Staff's Lack of experience and training to implement food sustainability practices.	403	3.55	1.342	2
33-Management's lack of a strategic plan to implement food sustainability practices.	403	3.08	1.211	4
34-Lack of financial sources necessary to apply practices of food sustainability.	403	2.41	1.117	7
36-Availability of suppliers	403	2.62	1.346	6
36-Lack of awareness among some customers of food sustainability practices.	403	3.31	1.098	3

General Mean	3.14
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N.B: SD="Standard Deviation"; R="Ranking"

Recommendation:

- Activate the role of the Ministry of Tourism and the Chamber of Tourism Establishments in increasing awareness of the importance of food sustainability through organizing a unit responsible for following up the implementation of food sustainability.
- The Ministry of Tourism and the Chamber of Tourism Establishments must adopt competitive competitions among the chain of restaurants to select the best restaurants that are interested in implementing food sustainability, and deduct the tax rate for them.
- Prepare compulsory mandatory courses for employees of QSRs through the Ministry of Tourism and the Chamber of Tourism Establishments in partnership with the green certifier's organization to improve the performance of employees towards the optimal implementation of food sustainability.
- Linking employees' equivalents to actual performance by implementing food sustainability in restaurants, which motivate them to increase interest in the implementation.
- Encouraging restaurants to have their own farms in order to grow organic food according to standards.

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