

The Provision of Wi-Fi Service in Quick Service Restaurants: An Analytical Study from Customers' and Managers' Perspective

Ashraf Mohamed¹ Mohamed AbouTaleb Mohamed¹ Tamer Amer¹

¹ Faculty of Tourism and Hotels, University of Sadat City

Abstract

Quick service restaurants around the world have installed Wi-Fi equipment to blanket their premises with wireless access to the internet. Internet access may be the tool that attracts new customers, holds customer loyalty, and increases sales in hospitality industry establishments. Offering free Wi-Fi helps to generate revenue thus ensuring the food outlet to stay competitive. This research aimed to investigate the Wi-Fi services in quick service restaurants (QSRs) from customers and operators perspectives. To attain the research aim, the following objectives were targeted: identify the benefits and barriers of the Wi-Fi services and examine the effects of providing Wi-Fi service on customer satisfaction and loyalty. The study revealed provision of Wi-Fi services affects the customer satisfaction and loyalty, there is not a statistically significant difference between customers concerning the Importance of the provision of Wi-Fi service according to their demographics profile except the gender, there is not a statistically significant difference between customers concerning the customer experience about the provision of Wi-Fi service according to their demographics profile, There is not a statistically significant difference between managers concerning advantages of the provision of Wi-Fi service according to their demographics profile and There is not a statistically significant difference between managers concerning disadvantages of the provision of Wi-Fi service according to their demographics profile except age of managers.

Keywords: Quick service restaurant, Wi-Fi, Internet, Wireless technology.

Introduction

“Wi-Fi” technology is a growing source of revenue in the market today. Wi-Fi is unique in that it constantly offers customers secure, wireless, and mobile access to the internet (Smithers, 2007). Wi-Fi provides access to technology, which has moved from being a customer's luxury to a daily necessity (Cobanoglu et al., 2012). In general, wireless networks can be used everywhere and any standard Wi-Fi device works anywhere in the world thus its usage has become closely related to our daily lives nowadays (Hassinen, 2006; Cobanoglu et al., 2012). Restaurant businesses in the hospitality industry have been struggling to improve various types of services or rewards because competition has been constantly increasing. As a result, restaurants attempt to provide a variety of services, such as loyalty programs and mobile applications so they can increase customer's satisfaction and loyalty (Jang & Mattila, 2005). Alongside these various types of services, Wi-Fi service can also be used as tool to compete with others (Yusio & Tiong, 2011).

Due to Wi-Fi's popularity and familiarity with consumers, businesses in the hospitality industry have been opening up to provide Wi-Fi as a new service for customers (Cobanoglu et al., 2012). The pressure has trickled down to restaurants as customers' demand Wi-Fi is increasing. Restaurant customers indicated Wi-Fi as an important reason for their repeat visit and purchase intention. For example, all else being equal between two restaurants, if the restaurant provides Wi-Fi service for their visitors, consumers will prefer to revisit the restaurant offering Wi-Fi service (Jang & Mattila, 2005). Many studies, around the world, had been done to examine the Wi-Fi service as a competitive advantage in most types of hospitality operations (e.g. Cobanoglu et al., 2012; El-Sherie & Ghanem, 2014; Jeon, 2015). Most of findings referred that providing Wi-Fi service at any food and beverage outlet is positively correlated with a customer's intention to return to the outlet. By examining various scopes of such studies, it is noticeable that there is a shortage of studies around the world, and no studies in Egypt have been done to investigate the provision of Wi-Fi service in QSRs. The present study is an attempt to fill the gap in the previous literature by giving an overview of the provision of Wi-Fi service in QSRs from the perspective of both customers and operators.

1. Literature Review

Quick service restaurants

Parsa et al. (1992) reported that QSRs are also referred to as fast food restaurants or fast service restaurants in the popular and/ or trade journals. During the late 1940s the quick-frozen industry developed many convenient foods. Some of the advantages included faster cooking, labor, cost, and energy savings, consistency in presentation, storage convenience, product reliability, and eventual higher profits. These convenient foods are often advertised as "fast foods" and some of the earlier products included French fries, meats, and battered vegetables. Restaurants that depended on these fast food products as the core menu were referred to as fast food restaurants.

Wi-Fi definition and background

The last couple of years, Wireless Fidelity or "Wi-Fi" has quickly grown to become the dominant wireless LAN standard. Because it operates in unlicensed frequency bands, anyone can set up a Wi-Fi network and cover an area of typically 100-500 feet with high speed wireless access to a LAN and hence to the Internet. Unlike other wireless technologies like GSM (Global System for Mobile communications) or CDMA (Code Division Multiple Access), Wi-Fi has also become a universal standard. As a result, Wi-Fi components are now on a rapid cost reduction curve as volumes increase. It is widely distributed and used in many different parts of the world. Wi-Fi is the term used to describe a class of certified wireless networking products conforming to an industry standard designated by the Institute of Electrical and Electronics Engineers (IEEE). It is a new technology that is preferred for wireless local area networking in both business and home environments (Sherman, 2003).

Wi-Fi services in restaurants

Technology has become an added value in achieving competitive advantage in hospitality industry (Olsen & West, 2008). Wi-Fi Internet access may be the tool that attracts new customers, holds customer loyalty, and increases sales in hospitality industry establishments (Yusop et al., 2011). By providing free Wi-Fi, fast food operators can be regarded as being innovative in introducing new service to their customers as a part of a strategy to remain competitive in the industry (Iskandarani, 2008). Offering free Wi-Fi helps to generate revenue, thus, ensuring the food outlet to stay competitive (Yusop et al., 2011).

The provision of Wi-Fi in restaurants is an important determinant of venue selection, as most guests make a restaurant choice based on availability of free Wi-Fi services (Lock & Reberger, 2011). When people are deciding where to go to eat or drink, they will consider a whole host of factors (ambience, price, location, and product range among other things), but internet access can also be a consideration. Consumers, who own internet-enabled devices, will often want to check something on the web, download a media file or communicate with friends on social networks; for this they need the internet (WBA, 2013).

Advantages of Wi-Fi

Wi-Fi is easy to set up and it is inexpensive. They're also unnoticeable; you may not even notice when you're in a hotspot unless you're on the lookout for a place to use your laptop (Brain & Wilson, 2001). For more details, advantages of free Wi-Fi can be concluded in the following points:

- Attracting Customers: the availability of free Wi-Fi influences customer choice (Al-Bondigas, 2011). Serious mobile Internet users and portable-office workers will seek out the best Internet signals and surroundings in which to work, and if the internet is free they'll likely spend more money in that business. Word of free Wi-Fi gets around, and some businesses are using the surf-for-free concept as a key selling point. Being listed in an online directory of free wireless hotspots can be as good as free advertising (Alberga, 2011).

- Meeting Customer Expectations: Scheck (2015) claimed that the consumers are slowly getting accustomed to free Wi-Fi access and this is creating an expectation for free Wi-Fi availability. Free Wi-Fi is presently available on private and public transport, libraries, hotels, city centers, pubs and even churches.

- Increasing Employee Satisfaction: According to Goldstein (2016) for employees to be at their most productive and happiest, they need to be able to count on their tools and programs. A wireless internet connection gives flexibility to employees, as well, freeing them up to work from a quieter space down the hall or the thriving coffee shop next door rather than being tethered to their cubes. By allowing each employee to find an environment that best suits him or her at a particular time), his productivity and satisfaction will be increased.

- Customer Loyalty: Free Wi-Fi is likely to create a stream of repeat business (Alberga, 2011). People who may set up a portable office in a café, restaurant or coffee shop are likely to stay with the same place, and they might come in every day (Al-Bondigas, 2011).
- Free Promotion: Contributor (2015) pointed out that the Instagram generation customers love to take photos of their fancy food, tweet selfish with their friends and 'check in' to places on Facebook. This is all free promotion for restaurants. Therefore; it makes sense to provide them with the means. Restaurants could encourage them to share their experience online further by running some sort of competition, for example, restaurants could ask them to tweet a picture of their meal along with a hashtag for a chance to win a free meal. This will bring people back to restaurant and increase brand awareness.
- Improved Customer Experience: One of factors that keep patrons coming back is "customer experience," which includes clean, quiet surroundings and a pleasant staff (Al-Bondigas, 2011). Free wireless Internet does add to overall customer experience (Brewer et al., 2008; Alberga, 2011)
- Reducing Costs and Ease of Establishment: Allowing Wi-Fi to be deployed without cabling, potentially reduce the costs of network deployment and expansion. Spaces where cables cannot be run, such as outdoor areas and historical buildings, can host wireless LANs. Wi-Fi products are widely available in the market. Different brands of access points and client network interfaces are interoperable at a basic level of service. Competition amongst vendors has lowered prices considerably since their inception (Vijayakumar et al., 2006).

Disadvantages of Wi-Fi

Vijayakumar et al. (2006) concluded some of the major disadvantages of free Wi-Fi in the following:

- Power consumption is fairly high compared to other standards, making battery life and heat a concern.
- Wi-Fi networks have limited range. A typical Wi-Fi home router using 802.11b or 802.11g might have a range of 45 m (150 ft) indoors and 90 m (300 ft) outdoors.
- Security is one of the significant disadvantages of Wi-Fi. Free access points may be used by a hacker that would be impossible to track beyond the owner of the access point.

Security of Wi-Fi

According to Edney and Arbaugh (2004) security has been considered as an important issue in Wi-Fi networks from the beginning. Consequently, early versions of the IEEE 802.11 wireless LAN standard [802.11] have already featured a security architecture, which is called WEP (Wired Equivalent Privacy). As its name indicates, the objective of WEP is to render wireless LANs at least as secure as wired LANs (without particular security extensions).

For instance, if an attacker wants to connect to a wired Ethernet network, he needs physical access to the Ethernet hub. However, this is usually made difficult by placing the hub in a locked room. In case of an unprotected wireless LAN, the attacker has an easier job, because he does not need to have physical access to any equipment in order to connect to the network. WEP is intended to transform this easy job into a difficult one.

More precisely, WEP is intended to increase the level of difficulty of attacking wireless LANs such that it becomes comparable to the difficulty of attacking wired LANs (e.g., breaking into locked rooms).

Solutions for Wireless Security

Vacca (2006) reported that, intentionally or not, enterprises and individuals may set up wireless networks with no security at all. That happens because most wireless access points come from the factory in open access mode by default, meaning that all security features are turned off. It's the buyer's responsibility to turn them on. Three actions can help to secure a wireless network:

- Discouraging unauthorized users through authentication.
- Preventing unofficial connections through the elimination of rogue access points.
- Protecting data while it's being transmitted through encryption.

Based on the above mentioned literature, this study proposes the following hypotheses:

H1: The provision of Wi-Fi services affects the customer satisfaction.

H2: The provision of Wi-Fi services affects the customer loyalty.

H3: There is a statistically significant difference between customers concerning the importance of the provision of Wi-Fi service according to their demographics profile (gender, age, level of education, marital status).

H4: There is a statistically significant difference between customers concerning the customer experience about the provision of Wi-Fi service according to their Demographics profile (gender, age, level of education, marital status).

H5: There is a statistically significant difference between managers concerning advantages of the provision of Wi-Fi service according to their demographics profile (gender, age, level of education, marital status, years of experience).

H6: There is a statistically significant difference between managers concerning disadvantages of the provision of Wi-Fi service according to their demographics profile (gender, age, level of education, marital status, years of experience).

Methodology

Research Instruments

In order to achieve the objectives of study, two questionnaire forms were used for gathering empirical data. The sections of questionnaires reflected the underling constructs. These constructs were presented in this instrument utilizing Likert scale (1-5 disagree/agree) statements where 1 refers to strongly disagree and 5 refers to strongly agree. The questionnaire was reviewed by academic and practitioners to ensure its validity. The questionnaire of customers and consists of 5 sections (29 questions): -

Section one(i.e. Demographic data) includes (4) questions to identify the demographic profile of respondents (Gender, Age, Level of education, Marital status); Section two includes (7) questions measuring importance of Wi-Fi service from the customer perspective in QSRs; Section three includes (6) questions measuring customer experience about the provision of Wi-Fi service in QSRs, Section four includes (5) questions measuring customer satisfaction about the provision of Wi-Fi service in QSRs, Section five includes (7) questions to measure customer loyalty about the provision of Wi-Fi service in QSRs.

The questionnaire of managers consists of 3 sections (22 questions): -

Section One includes 5 questions about demographic characteristics of the sample (i.e. gender, age, level of education, marital status, and years of experience as a restaurant manager); Section Two includes 11 questions to measure the advantages of the provision of Wi-Fi service from the perspective of QSRs' managers; Section three includes 6 questions to measure the disadvantages of the provision of Wi-Fi service from the perspective of QSRs' managers. Likert scale (1-5 disagree/agree) statements was used to measure the constructs of this questionnaire form.

Data collection and sampling

After collecting the contact information of the investigated restaurants, telephone calls were made with the QSR managers to get their permission to visit their restaurants and distribute the questionnaire forms to managers and customers. Also, the data were collected by sending the questionnaire forms, through Facebook, to QSR customers, who were asked to fill in the form and return it by using the same way. All the questionnaire forms were distributed in December 2017.

In order to overcome potential bias, the sampling was conducted in all QSRs (25 restaurants) in Shebin Elkom. This governorate was selected because most of QSRs in the other governorates have a Wi-Fi service for a long time, but in Menoufiya QSRs the Wi-Fi service is yet a new experience which needs to be thoroughly investigated. There are two types of samples in this study. Firstly, a random sample of QSR customers was chosen for investigation. A total of 430 questionnaire forms were distributed for customers, 410 forms were retrieved. A total of 402 forms were valid for statistical analysis with a response rate of 93.48 %.

Secondly, a census sample of QSR managers was chosen for investigation. All the 25 questionnaire forms that were distributed for managers were retrieved. 20 forms were valid for statistical analysis with a response rate of 80%.

Results and Discussion

Reliability of the Customers' Questionnaire

The reliability of the main sections of the survey (provision of Wi-Fi, experience, satisfaction, and loyalty) was calculated using Alpha Cronbach test and the results are shown in the following:

Table (1): Cronbach's alpha of customers' questionnaire

Constructs	No of Item	Cronbach's Alpha
Importance of the provision of Wi-Fi service	7	0.901
Experience about the provision of Wi-Fi service	6	0.802
Customers Satisfaction	5	0.837
Customers Loyalty	7	0.916
Overall total scale	25	0.946

Through the previous table, it is clear that the Cronbach's alpha values of all constructs are higher than 0.7, which indicate that the reliability of the survey dimensions used in the study was to a high degree.

- Reliability of the Managers' Questionnaire

The reliability of the main sections of the managers' questionnaire (Wi-Fi advantages, Wi-Fi disadvantages) was calculated using Alpha Cronbach test. The results are shown in the following:

Table (2): Cronbach's alpha of managers questionnaire

Constructs	No of Item	Cronbach's Alpha
Advantage and Disadvantage provision of Wi-Fi	17	0,785
Overall total scale	17	0,785

Through the previous table, it is obvious that the Alpha coefficient of the constructs is higher than 0.7, which indicates the reliability of the survey dimensions used in the study to a high degree.

-Importance Wi-Fi Service

Table (3): A descriptive analysis of Wi-Fi service importance items

N	Items	Frequencies %										Mean	SD
		1		2		3		4		5			
		F	%	F	%	F	%	F	%	F	%		
1	I consider the ease of using Wi-Fi service is the most important in QSRs	16	4.0	33	8.2	56	13.9	196	48.8	101	25.1	3.83	1.025
2	Wi-Fi service provides a great value in QSRs	17	4.2	43	10.7	52	12.9	179	44.5	111	27.6	3.81	1.086
3	In general, the continuity of Wi-Fi is the most important in QSRs	12	3.0	39	9.7	60	14.9	195	48.5	96	23.9	3.81	1.005
4	I need to be on line while sitting in the restaurant.	27	6.7	38	9.5	48	11.9	169	42.0	120	29.9	3.79	1.166
5	I ask about the availability of free Wi-Fi service before entering any QSR.	22	5.5	75	18.7	76	18.9	178	44.3	51	12.7	3.40	1.095
6	When the speed and quality of Wi-Fi service offered in the QSR aren't good, I search for another restaurant that provides a better and faster Wi-Fi service.	36	9.0	95	23.6	71	17.7	136	33.8	64	15.9	3.24	1.231
7	Unavailability of free Wi-Fi service in the QSR makes me search for another one that provides such a service.	48	11.9	104	25.9	66	16.4	110	29.8	64	15.9	3.12	1.290

Table (3) reveals that "I consider the ease of using Wi-Fi service is the most important in QSRs" had the highest mean (3.83) followed by "Wi-Fi service provides great value in QSRs"(3.81), "In general, the continuity of Wi-Fi is most important in QSRs"(3.81), "I need to be on line while sitting in the restaurant" (3.79),"I ask about the availability of free Wi-Fi service before entering any quick services restaurants" (3.40),"When the speed and quality of Wi-Fi service offered in restaurant aren't good, I Search for another restaurant that provides a better and faster Wi-Fi service" (3.24), "Unavailability of free Wi-Fi service in QSRs make me search for another quick service restaurant that provide such a service"(3.12).

Customer Experience about the Provision of Wi-Fi Service

Customers of QSRs' revealed that "There is an easy access for Wi-Fi service in this restaurant" had the highest mean (3.63), followed by " Using Wi-Fi service is quite easy in this restaurant" (3.58), "The speed of Wi-Fi service is quite appropriate" (3.48), "This restaurant provides a secured Wi-Fi service" (3.42),"The price of menu items in this restaurant is competitive with other similar menu items offered by those QSRs which do not offer Wi-Fi service" (3.34), "It is worth paying for Wi-Fi access in this restaurant" (2.68). (Table:4)

Table (4): A descriptive analysis of customer experience items

N	Items	Frequencies %										Mean	SD
		1		2		3		4		5			
		F	%	F	%	F	%	F	%	F	%		
1	There is an easy access for Wi-Fi service in this restaurant	16	4.0	41	10.2	76	18.9	213	53.0	56	13.9	3.63	.97
2	Using Wi-Fi service is quite easy in this restaurant	17	4.2	35	8.7	95	23.6	209	52.0	46	11.4	3.58	.95
3	The speed of Wi-Fi service is quite appropriate	20	5.0	59	14.7	75	18.7	203	50.5	45	11.2	3.48	1.03
4	This restaurant provides a secured Wi-Fi service	24	6.0	47	11.7	103	25.6	191	47.5	37	9.2	3.42	1.01
5	The price of menu items in this restaurant is competitive with other similar menu items offered by those QSRs which do not offer Wi-Fi service	15	3.7	81	20.1	97	24.1	171	42.5	38	9.5	3.34	1.02
6	It is worth paying for Wi-Fi access in this restaurant	80	19.9	127	31.6	64	15.9	102	25.4	29	7.2	2.68	1.24

Customers Loyalty

Table (5) showed that "Wi-Fi in this restaurant provides hedonic value for me" was the highest mean (3.61) followed by "The Provision of Wi-Fi service makes me feel good in this restaurant" (3.85), "I recommend this restaurant to my friends and family because of its provision of Wi-Fi service" (3.53), "I revisit this restaurant because of Wi-Fi" (3.47), "I maintain a relationship with this restaurant because of Wi-Fi service" (3.44), "I make purchase because of the provision of Wi-Fi service in this restaurant" (3.19), "I am willing to spend more because of Wi-Fi service" (2.99).

Table (5): Customers loyalty

N	Items	Frequencies %										Mean	SD
		1		2		3		4		5			
		F	%	F	%	F	%	F	%	F	%		
1	Wi-Fi in this restaurant provides hedonic value for me.	20	5.0	46	11.4	58	14.4	226	56.2	52	12.9	3.61	1.014
2	The Provision of Wi-Fi service makes me feel good in this restaurant.	24	6.0	46	11.4	60	14.9	218	54.2	54	13.4	3.58	1.050
3	I recommend this restaurant to my friends and family because of its provision of Wi-Fi service.	25	6.2	51	12.7	71	17.6	195	48.5	60	14.9	3.53	1.086
4	I revisit this restaurant because of Wi-Fi	27	6.7	69	17.2	54	13.4	193	48.0	59	14.7	3.47	1.137
5	I maintain a relationship with this restaurant because of Wi-Fi service	33	8.2	71	17.7	63	15.7	156	38.8	79	19.7	3.44	1.220
6	I make purchase because of the provision of Wi-Fi service in this restaurant	39	9.7	94	23.4	70	17.4	148	36.8	51	12.7	3.19	1.210
7	I am willing to spend more because of Wi-Fi service.	42	10.4	134	33.3	66	16.4	110	27.4	50	12.4	2.99	1.238

- Results of the questionnaire of QSRs' managers

- Advantages of the provision of Wi- Fi service in QSRs.

Managers of QSRs' revealed that "The availability of free Wi-Fi helps to revisit customer again to restaurant" (4.10) was the largest mean followed by "The availability of free Wi-Fi increases the presence the restaurant name and location on the social networking sites" (4.10),"The availability of free Wi-Fi influences customer choice QSRs" (3.95)," The speed and quality of free Wi-Fi positively correlated with guests" (3.95), "The Provision of Wi-Fi service increases revenue" (3.85), "Wi-Fi services help to attract new customers" (3.75), "The availability of free Wi-Fi promote products / services, and special offers" (3.70), "Providing Wi-Fi service improve customer loyalty" (3.55),"The impact of free Wi-Fi in restaurant as a competitive advantage" (3.45),"Providing Wi-Fi service that stay customers more time in the restaurant and spending more money" (3.35), "Availability of free Wi-Fi improved customer experience" (3.30). (Table:6)

Table (6): Advantages of the provision of Wi- Fi service in QSRs

N	Items	Frequencies %										Mean	SD
		Strongly disagree		Disagree		Neutral		Agree		Strongly agree			
		F	%	F	%	F	%	F	%	F	%		
1	The availability of free Wi-Fi helps to revisit customer again to restaurant.	-	-	1	5	2	10	11	55	6	30	4.10	.78
2	The availability of free Wi-Fi increases the presence the restaurant name and location on the social networking sites.	-	-	-	-	3	15	12	60	5	25	4.10	.64
3	The availability of free Wi-Fi influences customer choice QSRs.	-	-	3	15	2	10	8	40	7	35	3.95	1.05
4	The speed and quality of free Wi-Fi positively correlated with guests'	-	-	1	5	5	25	8	40	6	30	3.95	.88
5	The Provision of Wi-Fi service increases revenue	1	5	-	-	3	15	13	65	3	15	3.85	.87
6	Wi-Fi services help to attract new customers	-	-	4	20	1	5	11	55	4	20	3.75	1.01
7	The availability of free Wi-Fi promote products / services, and special offers	-	-	2	10	6	30	8	40	4	20	3.70	.92
8	Providing Wi-Fi service improve customer loyalty	1	5	6	30	-	-	7	35	6	30	3.55	1.35
9	The impact of free Wi-Fi in restaurant as a competitive advantage.	-	-	5	25	3	15	10	50	2	10	3.45	.99
10	Providing Wi-Fi service that stay customers more time in the restaurant and spending more money.	-	-	4	20	9	45	3	15	4	20	3.35	1.03
11	Availability of free Wi-Fi improved customer Experience	-	-	6	30	4	20	8	40	2	10	3.30	1.03

Disadvantages of the provision of Wi- Fi service in QSRs.

Managers of QSRs' revealed that "Provision of Wi-Fi service decreases Staff productivity" (3.95) was the largest mean followed by "Provision of Wi-Fi service decreases seat turnover rates" (3.70), "Providing Wi-Fi service within QSRs slows down the service speed of the restaurant significantly" (3.60), "Wi-Fi networks have limited range comparing with other networks" (3.60), "Security is one of the significant disadvantages of provision of Wi-Fi service within QSRs" (3.45), "Wi-Fi is difficult to set up and it is expensive" (2.20). (Table:7)

Table (7): Disadvantages of the provision of Wi- Fi service in QSRs

N	Phrases	Frequencies %										Mean	SD
		Strongly disagree		Disagree		Neutral		Agree		Strongly agree			
		F	%	F	%	F	%	F	%	F	%		
1	Provision of Wi-Fi service decreases staff productivity	1	5	3	15	-	-	8	40	8	40	3.95	1.23
2	Provision of Wi-Fi service decreases seat turnover rates.	2	10	1	5	-	-	15	75	2	10	3.70	1.08
3	Providing Wi-Fi service within QSRs slows down the service speed of the restaurant significantly.	1	5	4	20	-	-	12	60	3	15	3.60	1.14
4	Wi-Fi networks have limited range comparing with other networks	2	10	2	10	3	15	8	40	5	25	3.60	1.27
5	Security is one of the significant disadvantages of provision of Wi-Fi service within QSRs	1	5	4	20	2	10	11	55	2	10	3.45	1.09
6	Wi-Fi is difficult to set up and it is expensive	2	10	1	5	2	10	2	10	-	-	2.20	0.76

Testing of Hypotheses

H1: The provision of Wi-Fi services affects customers’ satisfaction

This study conducted multiple linear regression analysis to test the study hypotheses. Multiple linear regression analysis was performed with satisfaction and loyalty as the dependent variables and the importance of Wi-Fi factors as the independent variables

Table (8): Summary of Regression analysis for satisfaction (N=402)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.666 ^a	.444	.407	.67205

* p< 0.05.

Table (8) is a summary table of the regression test, It is clear that the availability of Wi-Fi service affects the satisfaction of customers in QSRs, this effect can be measured by the best regression model.

H2: The provision of Wi-Fi services affects the customers’ loyalty.

Regarding the second hypothesis, multiple regression analysis was performed to investigate whether the provision of Wi-Fi services affects the customer loyalty in the QSR or not.

Table (9): Summary of Regression Analysis for loyalty (N=402)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.750 ^a	.563	.534	.67065

* p< 0.05.

Table (9) is a summary table of the regression test, It shows that the provision of Wi-Fi service affects the loyalty of customers in QSRs,

H3: There is a statistically significant difference between customers concerning the importance of the provision of Wi-Fi service according to their demographics profile such as (gender, age, level of education, marital status).

Table (10): The differences among demographics regarding the importance of Wi-Fi service

Importance of provision of Wi- Fi		N	Mean	Sig.(p. value)
Gender	Male	241	3.6554	.020
	Female	161	3.4428	
Age	Less than 20 years	51	3.4538	.104
	From 20 to <30Years	175	3.7165	
	From 30 to<40Years	124	3.4424	
	From 40to< 50Years	39	3.5348	
	50 years and more	13	3.3846	
Marital statuses	Single	198	3.6284	.217
	Married	186	3.4898	
	Other (divorced or widowed)	18	3.7563	
Level of education	High School	97	3.45	.329
	Bachelor's degree	223	3.5514	
	Master degree	64	3.7366	
	PhD degree	18	3.9244	

The results of table 10 of Kruskal-Wallis test excepted the gender of Mann-Whitney test indicate that there is no significant difference between sample responses to the provision of Wi-Fi service excepted the gender, this is because p. Value, it is more than significant level 0.05.

H4: There is a statistically significant difference between customers concerning the customer experience about the provision of Wi-Fi service according to their Demographics profile such as (gender, age, level of education, marital status).

Table (11): Differences between sample responses to experiences of custom about provision of Wi- Fi according to gander, age, marital status, level of education of customers

Experiences of customer		N	Mean	Sig.(p. value)
Gender	Male	241	3.3804	.422
	Female	161	3.3199	
Age	Less than 20 years	51	3.3889	.890
	From 20 to <30Years	175	3.3962	
	From 30 to<40Years	124	3.3185	
	From 40to< 50Years	39	3.2521	
	50 years and more	13	3.359	
Marital statuses	Single	198	3.3611	.700
	Married	186	3.3351	
	Other (divorced or widowed)	18	3.4902	
Level of education	High School	97	3.4054	.293
	Bachelor's degree	223	3.3528	
	Master degree	64	3.4141	
	PhD degree	18	3.7353	

The results of table 11 of Kruskal-Wallis test accepted the gender of Mann-Whitney test indicate that there is no significant difference between sample responses to the provision of Wi-Fi service except the gender (P= .020), it is more than significant level 0.05.

H4: There is a statistically significant difference between customers concerning the customer experience about the provision of Wi-Fi service according to their Demographics profile such as (gender, age, level of education, marital status).

Table (12): Differences between sample responses to experiences of custom about provision of Wi- Fi according to gander, age, marital status, level of education of customers

Experiences of customer		N	Mean	Sig.(p. value)
Gender	Male	241	3.3804	.422
	Female	161	3.3199	
Age	Less than 20 years	51	3.3889	.890
	From 20 to<30Years	175	3.3962	
	From 30 to<40Years	124	3.3185	
	From 40to< 50Years	39	3.2521	
	50 years and more	13	3.359	
Marital statuses	Single	198	3.3611	.700
	Married	186	3.3351	
	Other (divorced or widowed)	18	3.4902	
Level of education	High School	97	3.4054	.293
	Bachelor's degree	223	3.3528	
	Master degree	64	3.4141	
	PhD degree	18	3.7353	

The results of table 12 of Kruskal-Wallis test excepted the gender of Mann-Whitney test indicate that there is no significant difference between sample responses to experiences of customer about the provision of Wi- Fi, this is because p. Value, it is more than significant level 0.05. It is noted from the previous results that the hypothesis (H4) that said "There is a statistically significant difference between customers concerning the customer experience about the provision of Wi-Fi service" was rejected.

H5: There is a statistically significant difference between managers concerning advantages of the provision of Wi-Fi service according to their Demographics profile such as (age, level of education, marital status, and years of experience).

Table (13): Differences between sample responses to advantages of the provision of Wi- Fi from the managers' perspective according to age, marital status, level of education, and years of experience of manager

Advantages of the provision of Wi- Fi service		N	Mean	Sig.(p. value)
Age	Less than 20 years	5	37.00	.247
	From 20 to <30Years	8	41.63	
	From 30 to<40Years	6	44.17	
	From 40to< 50Years	1	38.00	
	50 years and more	5	37.00	
Marital statuses	Single	3	40.33	.829
	Married	17	41.18	
Level of education	less than university	3	38.67	.770
	Bachelor's degree	17	41.47	
Years of experience as manager	less than a year	2	41.50	.097
	1 to 5 years	10	38.30	
	more than 5 years	8	44.38	

The results of table 13 of Kruskal-Wallis test indicate that there is no significant difference between sample responses to advantage of provision services Wi- Fi from the managers’ perspective; this is because p. Value, it is more than significant level 0.05. It is noted from the previous results that the hypothesis (H5) that said "There is a statistically significant difference between managers concerning advantages of the provision of Wi-Fi service” was rejected.

H6: There is a statistically significant difference between managers concerning disadvantages of the provision of Wi-Fi service according to their Demographics profile such as (gender, age, level of education, marital status, and years of experience).

Table (14): Differences between sample responses to disadvantages of the provision of Wi- Fi from the managers’ perspective according to age, marital status, level of education, and years of experience of manager

Disadvantages of the provision of Wi- Fi service		N	Mean	Sig.(p. value)
Age	Less than 20 years	5	17.80	.000
	From 20 to <30Years	8	22.63	
	From 30 to<40Years	6	21.83	
	From 40to< 50Years	1	9.00	
	50 years and more	5	17.80	
Marital statuses	Single	3	20.33	.938
	Married	17	20.53	
Level of education	less than university	3	17.00	.087
	Bachelor’s degree	17	21.12	
Years of experience as manager	less than a year	2	22.00	.842
	1 to 5 years	10	20.50	
	more than 5 years	8	20.13	

The results of table 14 of Kruskal-Wallis test indicate that there is no significant difference between sample responses to disadvantage of provision services Wi- Fi from the managers perspective, except the age (P=.000), , it is more than significant level 0.05.

Conclusion

Wi-Fi service factors turned out to be significant for QSRs satisfaction. From the managers’ perspective, provision of free Wi-Fi in QSRs influences customer choice of the restaurant, helps to make the customer revisit again to restaurant, leads to attract new customers and stay more time in the restaurant and hence spending more money. Also results indicated that Wi-Fi service factors turned out to be significant for QSRs loyalty. Worth paying, safety, accessibility, and security were significant for loyalty. Reliability and the speed of Wi-Fi service would further encourage customers to become loyal to the QSR. Also, provision of free Wi-Fi in QSRs influences as a competitive advantage, improves customer experience, increases loyalty, promotes products / services, and special offers and increases the presence of the restaurant name and location on the social networking sites.

In addition, the results showed that Wi-Fi security is one of the significant advantages of provision of Wi-Fi service within QSRs from managers' point of view. On the other hand, the study confirmed that the provision of Wi-Fi in QSRs leads to some disadvantages, such as decreasing in seat turnover rates. Also, the provision of Wi-Fi may lead to low productivity and slow service.

Recommendations

- It is recommended that QSRs should be interested in safely network Wi-Fi using encryption for the network.
- QSR management should tighten control on the staff for ensuring that they do not waste time using the Wi-Fi service while serving customers
- QSRs should provide more devices that provide Wi-Fi network to cover all places in the QSR to overcome the limitations of the network.
- The restaurant manager should provide Wi-Fi of high speed, quality, security and more free application to keep customers satisfied and loyal.

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توفير خدمة الواي - فاي داخل مطاعم الخدمة السريعة: دراسة تحليلية من وجهة نظر عملاء ومدراء المطاعم

أشرف إسماعيل محمد¹ محمد ابوطالب محمد¹ تامر محمد عامر¹

¹ كلية السياحة والفنادق - جامعة مدينة السادات

الملخص

يهدف البحث إلى دراسة أهمية توفير الواي فاي داخل مطاعم الخدمة السريعة من وجهة نظر العملاء ومدراء المطاعم، والتعرف على مزايا وعيوب توفير خدمة الواي فاي بمطاعم الخدمة السريعة، وتحديد مدي تأثير الخدمة على رضا العملاء وولائهم. وتكمن أهمية الدراسة في معرفة وجهة نظر كلا من العملاء والمدراء بمطاعم الخدمة السريعة نحو تقديم خدمة الواي فاي داخل المطعم، حيث أن معرفة آراءهم تساعد على اتخاذ القرار نحو توفير الخدمة داخل المطاعم من عدمه، وتبرز هذه الدراسة المزايا العديدة للواي فاي داخل مطاعم الخدمة السريعة التي تشمل فوائد وأرباح متزايدة نتيجة جذب المزيد من العملاء والحصول علي إرضائهم وولائهم، أيضا توضح هذه الدراسة بعض أهم التحديات التي قد تواجه القائمين علي العمل بمطاعم الخدمة السريعة عند توفير مثل هذه الخدمة وكيفية إيجاد الحلول الملائمة للتغلب علي تلك الصعوبات المتوقعة. إن تقديم خدمة الواي فاي يمكن أن يكون له تأثيرات إيجابية وسلبية علي مؤسسات تقديم الطعام فهي تؤثر علي ولاء العملاء للمكان، ومن الممكن أن تؤدي إلى تحول العملاء إلى هذه المطاعم بالإضافة إلى أن وجود الواي فاي قد يكون هو الأداة التي تجذب العملاء وتزيد من المبيعات، هذا إلى جانب الفوائد المختلفة الناتجة عن هذه الخدمة.

الكلمات الدالة: مطاعم الخدمة السريعة، الواي - فاي، الانترنت، تقنية لاسلكي.