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Customer Opinions on Mobile Applications Used in the Egyptian Hospitality Industry: An Exploratory Study

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Abstract

This research aims to determine customer opinions on mobile applications used in the Egyptian hospitality industry: an exploratory study. Therefore, the research methodology is the descriptive approach. In addition, the population of this research included the customers of Hurghada hotels in the five and four stars hotels. Consequently, this research sample was chosen using a stratified random sample. Using the Cochran's equation, the optimum size of the research sample was deduced (see table 1). The researcher distributed 170 questionnaires, only 162 of which were appropriate for analysis, with a 95.3 % respondent rate. The results of this research showed there are significant differences between Egyptians and Foreigners regarding the satisfaction of using mobile applications in the hospitality industry and there is a statistical significant effect of awareness of mobile apps and customer satisfaction with using mobile applications in the hospitality industry. The most important study recommendation is the hospitality industry in Egypt must develop its services via mobile to include multiple and different services, and its role is not limited to giving information about the place only.

Introduction

One of the most significant instruments in the hotel sector is information technology (IT) (Cavusoglu, 2019). IT is an integral aspect of the hotel sector, according to Collins, Cobanoglu, Bilgihan, and Berezina, (2017).A substantial amount of money has been invested in information technology in the hotel business in order to boost revenues, cut expenses, and improve customer service quality (Tan & Netessine, 2020).Furthermore, hospitality organisations who have used IT have established a good and significant association between IT use and competitive advantage (Sun, Fong, Law & He, 2017).

The majority of studies shed light on mobile applications usefulness, requirements of implementation, and employee's point of views. But there has become an urgent and necessary need to search for the customers' point of view in mobile applications and the extent of their satisfaction with the quality of services provided by mobile in the hospitality industry (Han, Lee, Edvardsson & Verma, 2021). This study aims to identify the customer's point of views in introduced services by mobile applications in Egypt. So this study focuses on the role of mobile technology in the development of hospitality. Moreover, this research includes the following points; Evaluation of consumers' awareness when they use mobile applications; Assessment of customers ' satisfaction with the services provided via mobile; and identify the obstacles that consumers face in obtaining services via mobile.

Review of Literature

Information and communication technologies (ICT) first appeared in the hospitality business in 1950. Han, Lee, Edvardsson and Verma, (2021). Furthermore, Jin (2018) indicated that smart hospitality, which was first offered in 2008 has risen in popularity in subsequent years. Smart hotels are forward-thinking establishments that integrate a variety of contemporary information and communication technologies (ICT) to provide guests with unparalleled levels of hospitality knowledge.(Wu and Cheng, 2018). Therefore, hotel managers have a number of cost-cutting and revenue-maximizing options thanks to the growth of smart hotel technology (such as mobile applications, smart TVs, digital signage, tablets, and smart energy management equipment).

Consequently, Sharma, Antony, Sehrawat, Cruz and Daim,(2021) indicated the hospitality industry has inserted information technology (IT) into all operations, allowing customers to evaluate and purchase hospitality products and services that benefit technology users in quick, effective, and cost-effective ways. While surfing hotel websites for reserving hotel rooms, the internet has also aided potential travellers in accessing critical information such as availability of hotel rooms, pricing, and ratings of the lodgings. So, it was a start Portable trade has arisen as an imperative device for some organizations It offers customers openness, empowering them to buy items or administrations at whenever, from anyplace such as such as hospitality and tourism industry, the insurance industry, banking, payment services, healthcare, multimedia messaging services, shopping for fashion products, broadband wireless access technology-based games, public transportation ticketing services and the usage of electronic procurement systems (Han et al, 2021).Murphy, Chen and Cossutta, (2016) assured that mobile platforms have become one of the most popular booking channels for hospitality industry.

As a result, hoteliers have made major investments in this area, establishing their own mobile applications (apps) in the hopes of increasing direct sales, and bookings are increased while commission payments to third parties are reduced. As a result, customers are seen as the basic substrate in determining their own experience for mobile phone services in hospitality industry. Customers are more likely to use mobile technologies and applications if they believe they will be useful, easy to use, and compatible (Liu and Law (2013), for tasks such as searching for travel information (No & Kim, 2014), purchasing travel-related services (Morosan, 2014).

In addition, making hotel reservations (Park & Huang, 2017),customers want to save time, be more efficient, and be effective by utilizing mobile technologies and applications. Many hotels and travel agencies have mobile applications that provide service assistance, additional information, and the ability to make or change reservations (Lee, Chung and Koo, 2017). For example, customers can use Marriott's "Anything Else?" mobile service to find out what else is available.Chat with hotel staff in real time Hilton's Honors program. Customers can use a digital key embedded in the smartphone app to open hotel rooms.(InterContinental Hotels Group Customers can use the IHG app to check in, check out, and make service requests by mobile application (Lei, , Wang, & Law, 2019).

Moreover, Jang, Chong, & Yoo, (2021) classified the retailer portable applications ("retailer applications"), as one kind of famous practical promoting devices, offer a method for embracing "pull" rather than "push" advertising exercises, since clients download the applications, intelligently speak with the organizations, and give input on the offered items and administrations .

Another note to the same effect, customer confidence and loyalty are two of the most successful mobile applications in the hospitality industry. Customer loyalty is an important topic in hospitality that has never been out (Wu, 2021). Loyalty to a mobile applications frequently

represents the intention to reuse, the desire to recommend, a willingness to pay a high price, and the hesitancy to switch to another app (Wu & Law, 2019).With the advancement of mobile technology and the introduction of the smartphone, a plethora of hotel apps, including those provided by online travel agencies (OTAs) and hotel groups, have emerged in the global market, resulting in increased competition (Ozturk, Nusair, Okumus, and Hua, 2016).

While, OTAs have become the primary point of entry for hotel bookers searching for hotels on mobile devices, hotel groups anticipate that app investments will result in improved customer experience and loyalty For example, with over 100 million loyal customers, Hilton Group achieved 30 percent of hotel bookings via its mobile app channels. Using of AI in the hotel sector opening doors with barcode by phone opening the door with facial recognition, fingerprint or eye scan, Rooms controlled by telephone, Self-service check-in /check-out Humanoid robots (looking like humans) serving guests (e.g. at the reception desk) (Citak, Owoc & Weichbroth, 2021).

It could be noticed that, there is a shortage of personalized service and relationship with guests, personal services that are tailored to the individual cannot be substituted by mobile technology apps, the enforced homogeneity of mobile technology would be incompatible with hospitality industry, problems occur (silent food requesting and in the hotel industry, real human touch is lost when the number of service encounters is reduced (Law , Chan & Wang., 2018).

Nevertheless, Guests are unfamiliar with cutting-edge mobile technology, and there are language problems .Guests are often more interested in other activities than in the implementation of mobile technologies, and leveraging mobile applications to persuade consumers to really act on service offerings is difficult. Customer information privacy cannot always be safe for business goals, Personal context information may need to be accessed for business purpose, but this is not always practicable due to privacy concerns. The issue of privacy and risk associated with smartphone travel is becoming a major concern for smart tourism (Han et al., 2021).

According to Morosan & DeFranco (2015), trust in the app as well as the overall value of information disclosure has a significant impact on personal information disclosure via mobile apps. Park and Huang , (2017) sought to assess the perceived risk associated with mobile travel booking. They identified seven types of risk in mobile travel booking: time risk, financial risk, performance risk, security risk, psychological risk, physical risk, and device risk. It is especially important to investigate customer preferences when developing hotel mobile applications. Smartphones and mobile applications according to Tussyadiah (2014), should provide social support as well as act as travel companions.

As a result, it is preferable to incorporate human-like characteristics into the design of mobile technologies and applications on texts for tourism and travel (Tussyadiah, 2013).Consumers prefer hotel mobile applications to obtain more relevant, timely, and location-based information (Chen, Murphy, and Knech, 2017), make accommodation bookings, check-in via mobile app, and manage loyalty programs (Douglas, Lubbe and Merw, 2017).

Methodology

This research aims to determine customer opinions on mobile applications used in the Egyptian hospitality industry: an exploratory study. Therefore, the research methodology is the descriptive approach. In addition, the population of this research included the customers of Hurghada hotels in the five and four stars hotels. Consequently, this research sample was chosen using a stratified random sample. Using the Cochran's equation, the optimum size of the

research sample was deduced (see table 1). The reseracher distributed 170 questionnaires, only 162 of which were appropriate for analysis, with a 95.3 % respondent rate.

Table 1: Sample Size

σ^2	Z	e	Optimal Sample Size
0.105	1.96	0.05	162

The reseracher calculated the research sample size using Cochran's sample size calculation (Shkeeb, B., 2014)

$$n = \frac{Z^2\sigma^2}{e^2}$$

Where:

σ^2 : Variance of community Z : Standard degree

e : Maximum allowed error

The appropriate sample size for this research is 162 participants when the parameters shown in table 1 are fed into Cochran's computation.

Hypotheses

1. There are statistically significant differences between males and females regarding the level of their awareness of mobile applications in the hospitality industry at significance level of 0.05
2. There are statistically significant differences between the age categories regarding the easiness of using mobile applications in the hospitality industry at significance level of 0.05.
3. There are statistically significant differences between Egyptians and Foreigners regarding the satisfaction of using mobile applications in the hospitality industry at significance level of 0.05.
4. There is statistically significant effect of usefulness of mobile apps on the customer satisfaction with using mobile applications in the hospitality industry at significance level of 0.05.
5. There is a statistically significant effect of awareness of mobile apps on the customer satisfaction with using mobile applications in the hospitality industry at significance level of 0.05.
6. There is a statistically significant effect of confidence of using mobile apps on the customer satisfaction with using mobile applications in the hospitality industry at significance level of 0.05.
7. There is a statistically significant effect of easiness of using mobile apps on the customer satisfaction with using mobile applications in the hospitality industry at significance level of 0.05.

Conceptual Framework

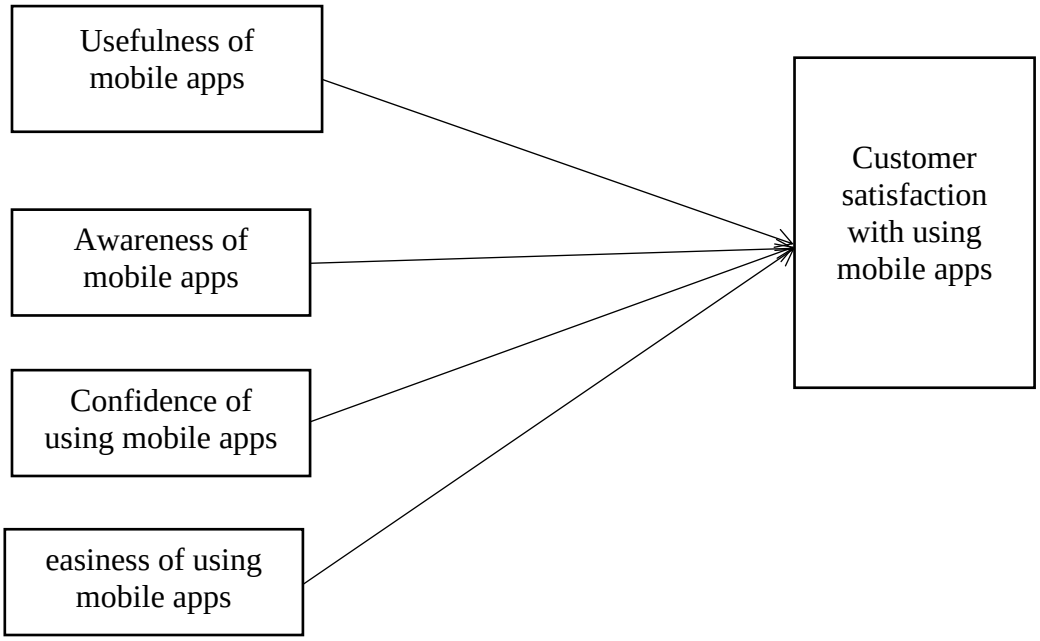

Figure1: Conceptual framework

Results

Reliability Analysis

Table 2: Reliability analysis of the research scale

No. of Items	Cronbach's Alpha
22	0.585

Table (2) shows that, Cronbach's alpha is less than 0.6, which means that the research tool is not reliable (Hinson, 2001). The researcher deleted the statement of usefullness7 "The mobile apps are useful to cancel the reservations" to improve the level of reliability of the scale. As a result, Cronbach's alpha reached 0.63 (see table 3), indicating that the scale's reliability was attained.

Table 3: Adjusted reliability of the research variables

No. of Items	Cronbach's Alpha
21	0.63

Validity Analysis

Table 4: Validity analysis of the research scale

The Axis	No. of statements	Extraction
Usefulness of mobile apps	6	0.624
Awareness of mobile apps	4	0.631
Confidence of using mobile apps	3	0.603
easiness of using mobile apps	4	0.601
Customer satisfaction with using mobile apps	4	0.773
Extraction Sums of Squared Loadings		64.64%

Table (4) shows a factor analysis that was used to try to find main factors that could explain the pattern of correlations within a set of observable variables. The statistical loading should be at

least 0.6. (Fabrigar, Wegener, MacCallum, and Strahan, 1999). According to Table 4 all variables have statistical loading with a value greater than (0.6) on one factor explained 64.64% of the acheaving the primary variable.

Sample Characteristic

Table 5: Sample characteristic

No.	Factors	Items	Frequency	%
1	Gender	Male	95	58.6
		Female	67	41.4
		Total	162	100
2	Nationality	Egyptians	105	64.8
		Foreigners	57	35.2
		Total	162	100
3	Age	20 - >30	12	7.4
		30 - >40	22	13.6
		40 - >50	61	37.7
		50 - 60	51	31.5
		More Than 60	16	9.8
		Total	162	100
4	No of Hours	Less than 2	18	11.1
		2 - >4	19	11.7
		4 - 6	103	63.6
		More than 6	22	13.6
		Total	162	100
5	No. of Applications	0 - 5	0	0
		6 - 10	0	0
		11 - 15	0	0
		16 - 20	95	58.6
		21 - 25	67	41.4
		26 - 30	0	0
		Total	162	100
6	Status of Usage	Extremely Agreed	48	29.6
		Agreed	74	45.7
		Neutral	23	14.2
		Disagreed	14	8.6
		Extremely Disagreed	3	1.9
		Total	162	100

Table (5) shows the frequencies of the research factors, it was found that the percentage of males (58.6%) is higher than females (41.4%), and the percentage of Egyptians (64.8%) is higher than foreigners (35.2%), and most of the respondents came in the age range 40 - 50 years with a percentage of (37.7%), and about 63.6 % of the respondents spend from 4 to 6 hours using the mobile per a day, and the number of applications used ranges from 16 to 20, representing 58.6% of the total number of the respondents. Finally, about 75.3% of the respondents are satisfied with the applications that pertain to the hospitality industry.

Study Variables Analysis

Usefulness of mobile apps

Table 6: Statistics for the usefulness of mobile apps

Statements	M	SD	Rank	Sig.
Giving the titles of restaurants and hotels	2.30	.870	2	0.000
Giving the time of working	2.10	1.105	6	0.000
Giving the daily of food menus	3.44	1.009	1	0.000
Giving the realistic image	2.94	.995	4	0.000

Giving the reservations of rooms	3.15	1.011	3	0.000
Giving the payment of deposit	2.46	.953	5	0.000
Overall variable	2.73	0.448		0.000

M = Mean SD = Standard Deviation Sig. = significance degree of one-sample T-Test

Table (6) indicated that the total average of the above factors was (2.73) with the standard deviation (0.448), indicating the low level of usefulness of consumers as a result of their use of mobile applications. The most successful item was "Giving the daily of food menus" which had a mean of 3.44, with a standard deviation of 1.009, and a p-value of 0.000, this indicates that there are significant differences between this variable and the test value (4). On the other hand, hotels use a lot of mobile apps but customers don't get any usefulness from them. The least effective variable, was "Giving the payment of deposit" with a mean value of 2.46 and standard deviation of 0.953. This demonstrates the ineffectiveness of hotel development and advertising strategies for these apps among the customers. This result is opposite with (Wang, Li, Li, & Zhang, 2021).

Awareness of Mobile Apps

Table 7: Statistics for the awareness of mobile apps

Statements	M	SD	Rank	Sig.
I can use new technology without fatigue	3.02	1.112	2	0.000
I can cope with the new development of technology	3.19	.893	1	0.000
There are challenges to use new development of technology	2.48	.907	4	0.000
Circle of family I am the first to use new development of technology	3.01	1.123	3	0.000
Overall variable	2.92	.629		0.000

M = Mean SD = Standard Deviation Sig. = significance degree of one-sample T-Test

Table (7) showed that the total average of the above factors was (2.92) with the standard deviation (0.629), indicating the low level of customers awareness of mobile apps as a result of their use of mobile applications. The most successful item was "I can cope with the new development of technology" which had a mean of 3.19 with a standard deviation of 0.893, and a p-value of 0.000, this indicates that there are significant differences between this variable and the test value (4). The least effective variable, was "There are challenges to use new development of technology" with a mean value of 2.48 and standard deviation of 0.907. This result is similar with table No. 6, which shows that hotel development and advertising tactics for mobile applications are unsuccessful among customers. This result does not agree with (Wu, 2021).

Confidence of Using Mobile Apps

Table 8: Statistics for the confidence of using mobile apps

Statements	M	SD	Rank	Sig.
I don't fear from mobile applications	3.45	.827	1	0.000
mobile applications don't make me taut	3.38	.899	2	0.000
I use application with full safe	2.34	1.016	3	0.000
Overall variable	3.05	.555		0.000

M = Mean SD = Standard Deviation Sig. = significance degree of one-sample T-Test

Table (8) showed that the total average of the above factors was (3.05) with the standard deviation (0.555), indicating the low level of confidence of using mobile apps. The most successful item was "I don't fear from mobile applications" which had a mean of 3.45 with a standard deviation of 0.827, and a p-value of 0.000, this indicates that there are significant differences between this variable and the test value (4). The least effective variable, was " I use application with full safe " with a mean value of 2.34 and standard deviation of 1.016.

Easiness of Mobile Apps

Table 9: Statistics for the easiness of mobile apps

Statements	M	SD	Rank	Sig.
mobile applications are simple	3.52	1.310	1	0.000
mobile applications are quick	2.35	.775	3	0.000
mobile applications are variety	2.06	.924	4	0.000
Using a mobile applications makes me happier	3.35	1.149	2	0.000
Overall variable	2.81	.532		0.000

M = Mean SD = Standard Deviation Sig. = significance degree of one-sample T-Test

Table (9) showed that the total average of the above factors was (2.81) with the standard deviation (0.532), indicating the low level of easiness of using mobile apps. The most successful item was "mobile applications are simple" which had a mean of 3.52 with a standard deviation of 1.310, and a p-value of 0.000, this indicates that there are significant differences between this variable and the test value (4). The least effective variable, was "mobile applications are variety" with a mean value of 2.06 and standard deviation of 0.924. This result contradicts with Sharma et al., (2021)

Customer satisfaction with using mobile apps

Table 10: Statistics for customer satisfaction with using mobile apps

Statements	M	SD	Rank	Sig.
Mobile recreational amenities will be more accessible.	3.01	1.114	1	0.000
Interactions between technological applications and services excite me	2.78	.839	2	0.000
I am pleased with the use of mobile apps.	2.51	.941	4	0.000
I am pleased with the newly available mobile phone service.	2.72	1.138	3	0.000
Overall variable	2.75	.477		0.000

M = Mean SD = Standard Deviation Sig. = significance degree of one-sample T-Test

Table (10) indicated that the total average of the above factors was (2.75) with the standard deviation (0.477), indicating the low level of customers satisfaction as a result of their use of mobile applications. The most successful item was "Mobile recreational amenities will be more accessible" which had a mean of 3.01 with a standard deviation of 1.114, and a p-value of 0.000, this indicates that there are significant differences between this variable and the test value (4). The least effective variable, was " I am pleased with the use of mobile apps " with a mean value of 2.51 and standard deviation of 0.941. This finding is consistent with Tables 6 and 7, indicating that hotel development strategies for mobile applications are ineffective with consumers. This result does not agree with (Han *et al,* 2021).

Test of Hypotheses

To test H_1 of the research, the independent sample T test was used to determine whether there are significant differences between males and females regarding the level of their awareness of mobile applications in the hospitality industry at significance level of 0.05. The results of the independent sample T test were shown as follows:

Table 11: Differences between males and females regarding the level of their awareness of mobile applications in the hospitality industry

	Gender	N	mean	Std	Sig.
Awareness of mobile applications	**Males**	95	2.89	.654	0.566
	Females	67	2.95	.595	

Table (11) showed that the significance value was (0.566 > 0.05), indicating that there is no significant difference between males and females regarding the level of their awareness of mobile applications in the hospitality industry, as a result of this finding, the research's first hypothesis (H_1) was not acceptable. On the other word, *there are no statistically significant differences between males and females regarding the level of their awareness of mobile applications in the hospitality industry at significant level of 0.05.*

To test H_2 of the research, ANOVA test was used to determine whether there are significant differences between the age categories regarding the easiness of using mobile applications in the hospitality industry at significance level of 0.05. The results of the ANOVA test were shown as follows:

Table 12: Differences between the age categories regarding the easiness of using mobile applications in the hospitality industry

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.220	4	1.305	5.067	.001
Within Groups	40.437	157	.258		
Total	45.656	161			

The above table showed that Sig. value (0.001) is less than .05, which means that there are differences between the age categories regarding the easiness of using mobile applications in the hospitality industry. So the second hypothesis H_2 is accepted.

H_2: There are statistically significant differences between the age categories regarding the easiness of using mobile applications in the hospitality industry at significance level of 0.05.

Table 13: Multiple Comparisons according LSD (Age Categories)

(I) age	(J) age	Mean Difference (I-J)	Std. Error	Sig.
20 - >30	30 - >40	-.04356-	.18213	.811
	40 - >50	.38490*	.16027	.017
	50 - 60	.07230	.16283	.658
	More Than 60	-.02083-	.19381	.915
30 - >40	20 - >30	.04356	.18213	.811
	40 - >50	.42846*	.12621	.001
	50 - 60	.11586	.12945	.372
	More Than 60	.02273	.16675	.892
40 - >50	20 - >30	-.38490-*	.16027	.017
	30 - >40	-.42846-*	.12621	.001
	50 - 60	-.31260-*	.09629	.001
	More Than 60	-.40574-*	.14255	.005
50 – 60	20 - >30	-.07230-	.16283	.658
	30 - >40	-.11586-	.12945	.372
	40 - >50	.31260*	.09629	.001
	More Than 60	-.09314-	.14542	.523
More Than 60	20 - >30	.02083	.19381	.915
	30 - >40	-.02273-	.16675	.892
	40 - >50	.40574*	.14255	.005
	50 - 60	.09314	.14542	.523

* The mean difference is significant at the 0.05 level.

The previous table indicated that, there are no differences between all of age categories (all Sig. are more than .05) except the age category of 40 - >50 (all Sig. are less than .05). Furthermore, when it comes to mobile applications, respondents aged 40 to >50 are the most hardest to deal with, as the average for this category is considered the lowest value (M = 2.59) see table 14.

Table 14: Means of the easiness of using mobile applications between age categories

age	Mean	N	Std. Deviation
20 - >30	2.9792	12	.58832
30 - >40	3.0227	22	.42194
40 - >50	2.5943	61	.49826
50 - 60	2.9069	51	.51952
More Than 60	3.0000	16	.54772
Total	2.8194	162	.53252

To test H_3 of the research, the independent sample T test was used to determine whether there are significant differences between Egyptians and Foreigners regarding the satisfaction of using mobile applications in the hospitality industry at significance level of 0.05. The results of the independent sample T test were shown as follows:

Table 15: Differences between Egyptians and Foreigners regarding the satisfaction of using mobile applications in the hospitality industry

	Gender	N	mean	Std	Sig.
Satisfaction of using mobile applications	**Egyptians**	105	2.76	0.485	0.77
	Foreigners	57	2.74	0.467	

Table (15) showed that the significance value was (0.77 > 0.05), indicating that there is no significant difference between Egyptians and Foreigners regarding the level of their satisfaction of using mobile applications in the hospitality industry, as a result of this finding, the research's third hypothesis (H_3) was not acceptable. On the other word, *there are no statistically significant differences between Egyptians and Foreigners regarding the satisfaction of using mobile applications in the hospitality industry at significance level of 0.05.*

To test the fourth hypothesis of the research, beta regression coefficient was used to determine whether there is a statistical significant effect of usefulness of mobile apps on customer satisfaction with using mobile applications in the hospitality industry at the significance level of 0.05. The results of the linear regression test were shown as follows:

Table 16: The effect of usefulness of mobile apps on customer satisfaction with using mobile applications

Model	**R^2**	**Beta**	**Constant**	**t**	**Sig.**
(Constant) **Usefulness of mobile apps**	**0**	**0.019**	**2.705**	**11.612**	**0.826**
a. Dependent variable: Customer satisfaction with using mobile applications					

Table (16) shows that the coefficient of determination (R^2) is (0) and sig. value (0.826) is more than 0.05 meaning that the fourth hypothesis of the research is not accepted. On the other word, *There is no a statistical significant effect of usefulness of mobile apps and customer satisfaction with using mobile applications in the hospitality industry at significance level of 0.05.*

To test the fifth hypothesis of the research, beta regression coefficient was used to determine whether there is a statistical significant effect of awareness of mobile apps on customer satisfaction with using mobile applications in the hospitality industry at the significance level of 0.05. The results of the linear regression test were shown as follows:

Table 17: The effect of awareness of mobile apps on customer satisfaction with using mobile applications

Model	**R^2**	**Beta**	**Constant**	**t**	**Sig.**
(Constant) **awareness of mobile apps**	**0.192**	**0.332**	**1.785**	**11.079**	**0.000**
a. Dependent variable: Customer satisfaction with using mobile applications					

Table (17) shows that the coefficient of determination (R^2) is (0.192) implying that the awareness of mobile apps is responsible of 19.2% of the variation in customer satisfaction with using mobile applications. Sig. value (0.000) is less than 0.05, implying that the fifth hypothesis of the research is accepted. On the other word, *there is a statistical significant effect of*

awareness of mobile apps and customer satisfaction with using mobile applications in the hospitality industry at significance level of 0.05.

The following equation may be extrapolated from the preceding findings to forecast the customer satisfaction with using mobile applications from the information of the awareness of mobile apps:

Equation 1: The influence of awareness of mobile apps on customer satisfaction with using mobile applications

Customer satisfaction with using mobile applications = 1.785 + 0.332 awareness of mobile apps

To test the sixth hypothesis of the research, beta regression coefficient was used to determine whether there is a statistical significant effect of confidence of using mobile apps on customer satisfaction with using mobile applications in the hospitality industry at the significance level of 0.05. The results of the linear regression test were shown as follows:

Table 18: The effect of confidence of using mobile apps on customer satisfaction with using mobile applications

Model	R^2	Beta	Constant	t	Sig.
(Constant) **confidence of using mobile apps**	**0.026**	**0.155**	**2.282**	**10.982**	**0.022**
a. Dependent variable: Customer satisfaction with using mobile applications					

Table (18) shows that the coefficient of determination (R^2) is (0.026) implying that the confidence of using mobile apps is responsible of 2.6% of the variation in customer satisfaction with using mobile applications. Sig. value (0.022) is less than 0.05, implying that the sixth hypothesis of the research is accepted. On the other word, *there is a statistically significant effect of confidence of using mobile apps and customer satisfaction with using mobile applications in the hospitality industry at significance level of 0.05*.

The following equation may be extrapolated from the preceding findings to forecast the customer satisfaction with using mobile applications from the information of the confidence of using mobile apps:

Equation 2: The influence of confidence of using mobile apps on customer satisfaction with using mobile applications

Customer satisfaction with using mobile applications = 2.282 + 0.155 confidence of using mobile apps

To test the seventh hypothesis of the research, beta regression coefficient was used to determine whether there is a statistical significant effect of easiness of using mobile apps on customer satisfaction with using mobile applications in the hospitality industry at the significance level of 0.05. The results of the linear regression test were shown as follows:

Table 19: The effect of easiness of using mobile apps on customer satisfaction with using mobile applications

Model	R^2	Beta	Constant	t	Sig.
(Constant) **easiness of using mobile apps**	**0.068**	**0.234**	**2.079**	**10.67**	**0.001**
a. Dependent variable: Customer satisfaction with using mobile applications					

Table (19) shows that the coefficient of determination (R^2) is (0.068) implying that the easiness of using mobile apps is responsible of 6.8% of the variation in customer satisfaction with using mobile applications. Sig. value (0.001) is less than 0.05, implying that the seventh hypothesis of the research is accepted. On the other word, *there is a statistically significant effect of easiness of using mobile apps and customer satisfaction with using mobile applications in the hospitality industry at significance level of 0.05*.

The following equation may be extrapolated from the preceding findings to forecast the customer satisfaction with using mobile applications from the information of the easiness of using mobile apps:

Equation 3: The influence of easiness of using mobile apps on customer satisfaction with using mobile applications

Customer satisfaction with using mobile applications = 2.079 + 0.234 easiness of using mobile apps

From the results of tables No. 16,17,18, and 19 the following path analysis model can be drawn to illustrate that influences:

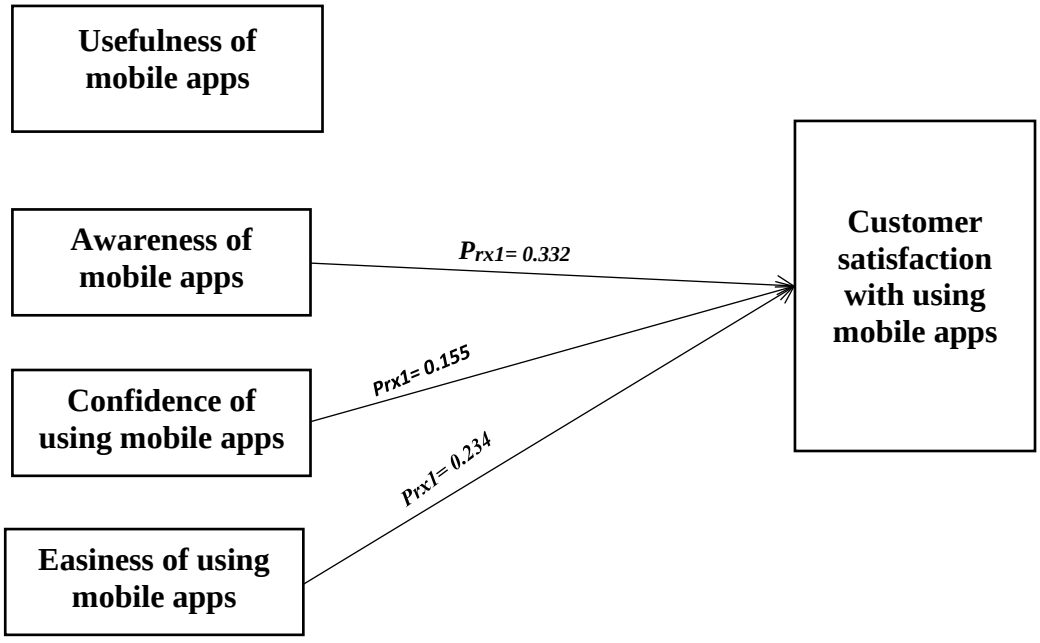

Figure 2: Research model

Recommendations

This research recommends the following points:

- The hospitality industry in Egypt needs to develop its services via mobile to include multiple and different services, and its role is not limited to giving information about the place only, its services must be expanded to include all aspects of the service such as reservation, electronic payment, registration upon arrival, calling elevators and reducing contact.
- Ease of downloading hotel mobile applications on mobile devices, providing all the necessary information to the user about the hotel, its continuous updating, and the security of information and financial transactions through the application is available.
- Integrating smart phone technology and its hospitality applications as a modern marketing tool in the marketing strategy only includes (information, reservation process, prices, payment, and registration for the hotel establishment by spreading awareness of its importance.
- The hospitality industry in Egypt must develop its services via mobile to achieve the security and privacy of guest information
- The necessity of balancing the use of mobile applications and the human element in the hospitality industry to ensure a high level of service quality.
- Mobile technology is aimed at streamlining services, improving customer experiences and engagement, and providing guests with more value for their money Furthermore, hotel management teams can use mobile apps to increase business while also ensuring the ease of operations.

Limitations and Future Research

Although this study has several limitations, it does provide a foundation for future research. Only five and four hotels were considered in this study. Second, this study was limited to hotel and five-star hotel consumers in the Hurghada governorate. Finally, future research should concentrate on the impact of mobile applications on the marketing process, guest satisfaction, and the extent to which different types of restaurants adopt mobile applications, as well as the identification of impediments to mobile application use in the Egyptian hospitality industry. How to find a balance between the nature of the hospitality sector and mobile applications in the hospitality, as well as the extent to which they necessitate contact between service providers and customers.

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