

The Impact of Technology Acceptance on the Effectiveness of the Electronic Customer Relationship Management in Hospitality and Tourism industry: The Mediating Role of Employees' Satisfaction

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Abstract

The E-CRM has evolved as one of the most remarkable platforms that enable organizations to communicate with their existing and potential customers and collect, store, and analyze their data to establish an extensive understanding of their needs. This study aims to measure the influence of technology acceptance on the effectiveness of E-CRM in the tourism and hospitality sector. Furthermore, it measures the mediating effect of employees' satisfaction on the relationship between technology acceptance and E-CRM. For this purpose, a questionnaire was distributed to a convenience sample of employees working in hotels and tourism companies' class (A) in Greater Cairo, Egypt (January to February 2020). The results were analyzed with structural equation modeling and ended up with several guiding recommendations. The results for both hotels and tourism companies indicated that technology acceptance and employees' satisfaction play an important role in E-CRM effectiveness. Moreover, there is a partial mediation of employees' satisfaction on the relationship between technology acceptance and E-CRM effectiveness.

Keywords: Electronic Customer Relationship Management (E-CRM), Tourism and Hospitality Sectors, Technology Acceptance, Employees' Satisfaction

Introduction

Recently, the Internet had an effective role in facilitating, transferring, and sharing information; as it enables tourists to access information on various products, programs, offers, prices etc. as well as it helps tourism companies and hotels to attract new clients, know their needs, online behavior and purchasing preferences, thus allocating the appropriate means of communication, products, services, and prices for each category separately then influence their purchasing decisions. These technologies provided many services to tourists such as: booking airline tickets, hotel rooms and car rental, electronic tour guides, hotel self-check-in, and automated hotel check-out; which positively affected the tourist experience and satisfaction as well as the competitiveness of tourism companies and hotels (Kaushika et al., 2015; Guler, 2019).

Due to the emergence of these new technologies in addition to the continuous change in tourists' needs, tourism companies and hotels had to switch from CRM(customer relationship management) that can be explained as a collection of processes of managing accurate information about clients to become loyal customers to E-CRM (electronic customer relationship management) which can be illustrated as a technological system that helps hotels and tourism companies to locate and form long-term relationships with customers by using different technological tools such as email, chat rooms, forums, social media, mobile applications etc.(Kampani & Jhamb, 2020).

The Technology Acceptance Model (TAM) was first presented by Davis in 1989; this model is based on clarifying persons', firms, or companies' attitude towards using new technology via two main variables: perceived usefulness (PU) and perceived ease of use (PEOU). Nowadays, after three decades of the emergence of TAM model, tourism and hospitality studies is still largely relying on the

basic elements of this model (Davis, 1989; Ukpabi & Karjaluo, 2017; Pourfakhimia et al., 2018).

The purpose of this study is to explore the concept of E-CRM, investigate the impact of TAM on the effectiveness of the E-CRM in Hospitality and Tourism, as well as measure the mediation effect of employees' satisfaction (ES) on the relationship between technology acceptance and E-CRM effectiveness.

Literature Review

1- Electronic Customer Relationship Management (E-CRM) in Tourism and Hospitality

To understand E-CRM in a proper way, the definition of traditional CRM should be first explained. CRM is the process that focuses on the customer (customer-centered-management) (Papaioannou et al., 2014); it manages customer information, builds, and sustains profitable and effective customer relationship to achieve customer loyalty, satisfaction, acquisition, retention, and profitability in addition to enhancing interaction between organizations and their customers (Gigi & Divya, 2020; Ensafi & Shoar, 2021). Besides the rapid growth of technology and the emergence of internet-based services, a new concept of CRM appeared, namely E-CRM (Tavana et al., 2013; Rahimi et al., 2015; Sunny & Abolaji, 2016). E-CRM can be defined as a technological system that enables hotels and tourism companies to improve strong, long-term, personal, and mutually beneficial customer relationships, thus increasing profits, sales efficiency, and business performance (Milović, 2012; Cherapanukorn, 2017). Moreover, E-CRM merges traditional CRM tactics and e-business applications to manage customer relationships and interact with customers automatically by using internet technology, web browsers, email, or other electronic tools (Mang'unyi et al., 2017; NurAdlin et al., 2019; Rosalina et al., 2019; Farmania et al., 2021).

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E-CRM has two main types that can be illustrated as follows: Operational E-CRM that supports the front office operations by collecting data and controlling workflow related to marketing, sales, or customer services through electronic communication channels (i.e., chat boxes, websites, e-mails, weblogs, data aggregation systems etc.). For example, operational E-CRM enables hotels and tourism companies to easily interact with customers, access their information and identifying their needs (Erkiah & Ladkoo, 2018); and analytical E-CRM that operates at the back-office activities as well as enables organizations to analyze customer characteristics and behavior (by processing, interpreting, distributing, and exploiting customer data) then implementing the appropriate marketing and promotional strategies. For example, analytical E-CRM, enables hotels and tourism companies to use customers' history information, their feedback, and requests to understand their behavior and adjust their strategies accordingly (Rahimi et al., 2015; Saifi, 2019).

Recently, many hotels and tourism companies tended to use the internet for selling, reserving, providing, advertising, and marketing their services. E-CRM helps hotels and tourism companies to provide a high quality of customer service through several steps which can be illustrated as follows: (1) Collecting, storing and updating massive volume of data and information concerning their customers and competitors, (2) Communicating effectively with customers, (3) Providing services, information, advice, choices, alternatives and solutions to customers, (4) Recording customers' preferences and complaints, (5) Promoting, restoring and improving their services, (6) Identifying and understanding customers' needs, (7) Building and implementing marketing strategies aligned with these needs, (8) Improving customers interaction, (9) Serving the customer interest, (10) Enhancing personalized e-services, and (11) providing speed e-responses (Alim & Ozuem, 2016; Sunny & Abolaji, 2016; Mikaeily et al., 2017; Erkiah & Ladkoo, 2018).

In conclusion, implementing E-CRM in the tourism and hospitality sector will be an effective tool for increasing customer loyalty, satisfaction as well as retention rate, reducing business operations costs by using the latest technology (i.e. websites, social media and e-mailetc.), Maximizing business profitability and market shares, building competitive advantage, achieving a successful business performance, and finally creating a fruitful business environment in these extremely competitive industries (Cherapanukorn, 2017).

2- Technology Acceptance Model (TAM)

To understand individuals' behavior toward technology use, researchers have adopted many theories and models concerning behavior and intention over last decades. In 1989, Davis presented for the first time the Technology Acceptance Model (TAM); which is considered one of the most important models used in research related to information systems (IS) (Davis, 1989); this model has been used to explain the attitude and intention of individuals, groups, or organizations towards using new technology via two main variables: perceived usefulness (PU) and perceived ease of use (PEOU). The first variable can be defined as the level of belief that using a specific technological system will improve an individual's work performance, whereas the second variable can be defined as the level of belief that using a specific technological system will significantly reduce an individual's effort. TAM has been modified by numerous studies and research since 1989 till now by adding new theoretical constructs that greatly influence its main variables (PU and PEOU) (Wahdain & Ahmad, 2014; Dumpit & Fernandez, 2017; Gbongli et al., 2019; Asadi et al., 2019; CheSoh et al., 2019). This study focuses on five main constructs: perceived usefulness, perceived ease of use, enjoyment, information quality and system quality; their influence on determining employees' acceptance of technology, as well as their impact on the effectiveness of electronic customer relationship and employee satisfaction.

2.1 Perceived Usefulness (PU)

The perceived usefulness (PU) construct can be seen as one of the essential factors identified by TAM which refers to people realization that using new technology would positively affect their job performance. (Sevim et al., 2017; Gu et al., 2019). In the current research, PU refers to employees' belief that using technology systems in hotels or tourism companies would obviously improve their job performance.

2.2 Perceived Ease of Use (PEOU)

The perceived ease of use (PEOU) construct can be explained as the ability of learning and using an easy technological system without any effort; it can be concluded that the more the technology system is simple and easy to use, the higher the acceptance rate by users (Selamat et al., 2009; Sevim et al., 2017). In the current research, PEOU refers to employees' willingness to use technology systems in hotels or tourism businesses, as well as their perception that these systems can make their jobs easier, especially if they are simple to learn, comprehend, and use (Gu et al., 2019).

2.3 Perceived Enjoyment (PEJ)

The perceived enjoyment (PEJ) construct can be illustrated as the enjoyment, entertainment, and interest of using a technological system; as these would encourage users to accept using this technology system (Davis et al., 1992; Venkatesh, 2000; Huang et al., 2013; Oakley, 2019). In the current research, PEJ can be seen as a significant motivating factor for employees in tourism companies and hotels to accept using technology system in their work.

2.4 Information Quality (IQ)

Information quality (IQ) construct can be outlined as the capability of a technology system to provide correct, relevant, secure, up to date, trustworthy, useful, important, complete, and prime quality information

that meet persons' expectations, needs, and wishes (Machdar, 2016; Samsi et al., 2016). In the current research, IQ construct may be seen as a vital pillar that helps employees in tourism companies and hotels to use recent, easy, understandable, and important information in their field of work.

2.5 System Quality (SQ)

System quality (SQ) construct can be identified as the capability of this system to provide all the needed elements (i.e., accuracy, reliability, time of response, usability, adaptability, trust, maintainability... etc.) to facilitate the work (Alsamydai, 2014; Alksasbeh & Alqaralleh, 2017). In the current research, SQ construct refers to using a technological system in tourism companies and hotels to facilitate the staff job.

3- Employees Satisfaction

Employee satisfaction is defined as how employees feel about working in an organization (tourism company or hotel) according to their expectations and feelings, which are affected by several factors (employees' salary and their welfare, working hours, coworkers, stress and conflicts at workplace, work safety and security, working environment and condition...etc.) (Yuan & Jiaqing, 2019). It has a vital influence on achieving profitability, efficiency, productivity and effectiveness in tourism and hospitality sectors (Raziq & Maulabakhsh, 2015; Vijayakumar & Vivek, 2018). Furthermore, employee satisfaction positively affects customer satisfaction due to the quality of service provided by tourism companies and hotels (Perić et al., 2015; Perić et al., 2018). Tourism companies and hotels can increase employees' satisfaction by implementing some procedures related to salary, rewards and compensation systems as well as providing technological systems that would make their work easier and enjoyable (Misoc, 2018).

Using technology in tourism companies and hotels may produce new changes in the working environment (i.e., changes in work tasks, relationships with coworkers, more training courses, using new

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systems and devices...etc.); and these changes may influence employees' satisfaction (Mariani et al., 2013). This study examines relationships between (enjoyment and employees' satisfaction; information quality and employees' satisfaction; system quality and employees' satisfaction; usefulness and employees' satisfaction and finally ease of use and employees' satisfaction).

4- The Relationship between Technology Acceptance and E-CRM

Technology and the Internet have a prominent aspect in the implementation and improvement of E-CRM performance by strengthening the relationship between customers and companies and improving sales and marketing efficiency (Azila & Noor, 2011; Saifi, 2019). Technology acceptance and E-CRM have been examined in many research studies e.g., Sanayei et al. (2010) illustrated that innovation factors regarding usage of E-CRM and usefulness of E-CRM have a significant and encouraging impact on using the system. The most significant impact on performance comes from PU, followed by PEOU. The more users think the E-CRM system is useful and easy to use whenever they accept to use it. Mekkamol et al. (2013) found that website contact interactivity and care and service dimensions of the Modeling e-CRM for community tourism positively correlated in upper northeastern Thailand. Navimipour and Soltani (2016) investigated the TAM and the effectiveness of the E-CRM. It was found that TAM variables (ease of use, e-learning systems, and infrastructure capabilities) are key drivers of the effectiveness of E-CRM. It also summarized that the achievement of the E-CRM system depends on the ease of use of the system as well as the ease of use is one of the technological factors This has a major impact on E-CRM performance. Finally, Suresh (2019) proposed that perceived quality, perceived usefulness, perceived ease of use, and perceived enjoyment have a significant influence on consumers' attitude towards E-CRM behavioral intentions. Based upon the previous studies, the suggested hypotheses are:

H1: TAM positively affects Employees' Satisfaction.

H2: Employees' Satisfaction positively affects E-CRM effectiveness.

H3: TAM positively affects E-CRM effectiveness.

5- The Mediating Role of Employees' Satisfaction in the Relationship between TAM and E-CRM Effectiveness

While various research measured the direct effect of TAM on employees' satisfaction and employees' satisfaction on E-CRM effectiveness (Sanayei et al., 2010; Perić et al., 2015; Navimipour & Soltani, 2016; Perić et al., 2018). , limited research measured the mediation effect of employees' satisfaction on the relationship between TAM and E-CRM effectiveness. This study is among the first attempts to analyze employees' satisfaction as a mediator between TAM and E-CRM. Based upon the results of this research, the following hypothesis is suggested:

H4: Employees' satisfaction mediates the relationship between TAM and E-CRM Effectiveness

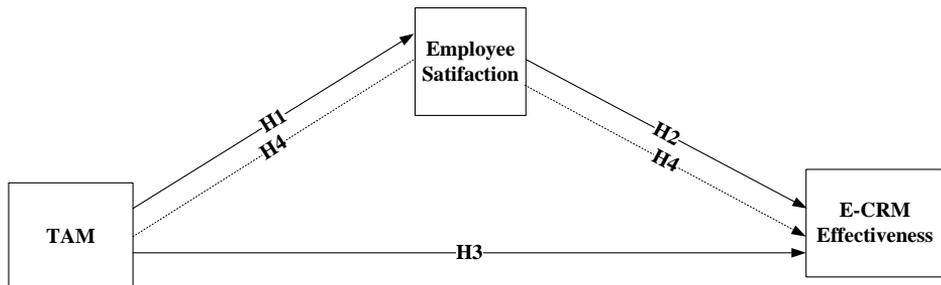


Fig. 1. The research framework of the effect of TAM on Employees' Satisfaction and E-CRM Effectiveness.

Method and Measures

The research instrument used was a questionnaire directed to employees who work in both hotels and tourism companies. The questionnaire was divided into four sections. The first section

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identifies the staff profile such as gender, age, educational level, and department. The second section covers items regarding technology acceptance while parts three and four cover employees' satisfaction and E-CRM effectiveness respectively (see Appendix 1). Items in parts two, three, and four came from Park et al. (2011), Islam et al. (2014), and Mekkamol et al. (2013) respectively. A five-point Likert scale, where 1 = strongly disagree and 5 = strongly agree was used. To confirm the words of the survey is understandable and to guess the time of contribution subsequently, timing is crucial for hospitality and tourism employees, the survey was piloted statistically on a small sample of 40 employees in both hotels and tourism companies before distribution. A minor revision was completed, i.e., the word "my establishment" has been changed to "my hotel/company" according to respondents' comments. The scale reliability was measured using Cronbach's alpha. All constructs were reliable for both samples of hotels and tourism companies where the alpha level was ranged from 0.844 to 0.975 for hotels and ranged from 0.938 to 0.970 for tourism companies compared to an acceptable reliability level above 0.60 (Hair et al., 2013).

Research Sample and Data Collection

The survey was focused on employees in deluxe hotels and tourism companies' class (A) in Greater Cairo, Egypt investigating their technology acceptance on their satisfaction and effectiveness of E-CRM. Ten international deluxe hotels and thirty tourism companies' class (A) in Greater Cairo. The survey was self-administrated to employees in the selected hotels and tourism companies. Before filling out the questionnaires, respondents were given a written agreement, and all respondents were reassured of their confidentiality and informed that the survey was done only for research purposes.

It took over two months to distribute the questionnaire (January to February 2020). A total of 300 questionnaire forms were distributed to

a convenience sample of the investigated hotels. Thirty forms in each hotel and ten forms in each tourism company. There were 226 completed and valid forms among them, representing an 85% response rate for hotels. Furthermore, 213 questionnaires were completed and valid for analysis, representing a response rate of 71 percent for tourist companies.

Data Analysis

Respondents' profile, (e.g., gender and age, educational level, and department), were analyzed using SPSS software version 25 to analyze the data. Moreover, the researchers screened the data and employed the following methods of analysis: the path model in the current research covering the direct effects tested via structural equation modeling (SEM) using AMOS version 25. In addition, utilizing AMOS, regression analysis was used to assess the research hypotheses. Sobel z test was used to examine the mediating effects of employee satisfaction in the link between technology acceptance and E-CRM effectiveness (Sobel, 1982).

Results and Discussions

The Respondents' Profile

Table 1 reveals that males made up most respondents (77% vs.

Demographic Data		Hotels		Tourism Companies	
		Frequency	%	Frequency	%
Gender	Male	174	77	70	32.9
	Female	52	23	143	67.1
Age	25 years or under	64	28.3	94	44.1
	From 26 to 35 years	104	46.0	88	41.3
	From 36 to 50	43	19.0	26	12.3
	Over 50	15	6.6	5	2.3
Educational Level	Secondary School Education	19	8.4	8	3.8
	University or Higher Institute Degree	177	78.3	184	86.3
	Postgraduate Degrees (Masters or PhD)	30	13.3	21	9.9
Computer Proficiency Level	Average	31	13.7	28	13.1
	Experienced	163	72.1	154	72.3
	Expert	32	14.2	31	14.6

23%) in a sample of hotel employees. Concerning employees' age, 46 percent of respondents were between the ages of 26 and 35, with 28.3 percent of those aged 25 and under. Furthermore, 19% of respondents were between the ages of 36 and 50, with 6.6 percent beyond 50.

It's worth noting that 78.3 percent of respondents had a university or higher education institute diploma. Meanwhile, 13.3% of them had earned a postgraduate degree (Master degree or Ph.D. degree). Likewise, 8.4% of the employees had completed secondary school,

indicating that many hotel workers were highly educated (Sobaih & Hasanein, 2020). The computer proficiency of hotel employees varied, 72.1% of the respondents experienced it. Likewise, 14.2% of the are experts and only 13.7% of the average in using a computer, this means that most hotel employees experienced in using the computer.

Table 1 shows that females were most respondents in a sample of tourism company employees, with 67.1 percent compared to 32.9 percent males, which supports Obadic and Maric's (2009) conclusions that women make up most employees in tourism organizations. In terms of age, 44.1 percent of respondents were 25 years old or younger, followed by 41.3 percent of respondents aged 26 to 35 years. Furthermore, 12.3% of the respondents were between the ages of 36 and 50, and 2.3 percent were over 50, demonstrating the youth's dominance in the Egyptian tourist business and validating Elbaz and Haddoud's work (2017).

Table 1 also shows that 86.3% of the respondents held a college or higher institute degree. Simultaneously, 9.9% of them were had postgraduate degrees (Master degree or Ph.D. degree). Besides, 3.8% of the respondents were secondary school holders which indicates that a huge number of the tourism companies' employees in Egypt were highly educated. The computer proficiency of tourism companies' employees various, 72.3% of the respondents experienced it. Likewise, 14.6% of the are experts and only 13.1% of the average in using a computer, this means that the majority of the tourism companies' employees experienced in using the computers.

CFA Results for Measurement Model Constructs

Each construct is factor examined in SPSS using confirmatory factor analysis (CFA) to see if questionnaire questions loaded into their appropriate scales or not. Item loading of (0.40) is fitting for a sample size of 200, (0.35) for a sample size of 250, and (0.30) for a sample size of 350 (Perera et al., 2018). To provide a high degree of

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significance, a factor loading of (0.40) was chosen for both the hotel sample (N = 226) and the tourism enterprises sample (N = 213) in the current study. As a result, components with a load of 0.40 or higher were included in the study (see Appendix 1).

Technology acceptance factors have been measured using a 17-item scale adapted from Park et al. (2011). It was bundled as follows: enjoyment, information quality, system quality, perceived usefulness, and perceived ease of use. For all item loadings, there is a suitable convergence of technology acceptance factor for both hotels and tourism companies were high and significant and ranged from high of (0.99) to a low of (0.75) for the factors assigned in a sample of hotels and the variables assigned in a sample of tourism organizations ranged from a high of (0.97) to a low of (0.79) (See Appdenix 1).

The overall satisfaction of employees regarding using the technology of E-CRM has been measured using a 3-item scale adapted from Islam et al. (2014). For both hotels and tourism companies, all loadings employee satisfaction factors were highly significant, ranging from (0.87) to (0.71) for the factors assigned in a sample of hotels and (0.88) to (0.74) for the factors allocated in a sample of tourism organizations (see appendix 1). This signifies that each item scored highly on its characteristics.

E-CRM effectiveness factor has been measured using a 5-item scale adapted from Mekkamol et al. (2013). For both hotels and tourism companies, all item loadings of the E-CRM effectiveness factor were highly significant, ranging from a high of (0.90) to a low of (0.74) for factors assigned in a sample of hotels and a high of (0.92) to a low of (0.81) for factors assigned in a sample of tourism companies (see appendix 1). This means that each item had a strong weighting on its factors.

Testing Research Hypotheses: The Direct Relationships

Table 2 summarizes the results regarding the hypotheses of the study proposed previously, particularly the direct relations, and will be discussed in the following paragraphs.

Hypothesis	Hypothesized Relationship	Hotels			Tourism Companies		
		β	t-Value	Result	β	t-Value	Result
H1	TAM → ES	0.140	13.38**	Supported	0.148	16.69**	Supported
H2	ES → E-CRM Effectiveness	0.416	4.023**	Supported	0.485	4.007**	Supported
H3	TAM → E-CRM Effectiveness	0.139	6.395**	Supported	0.134	5.658**	Supported

Note: β = Standardized path; *Absolute t-value > 1.96, $p < 0.05$; **Absolute t-value > 3.29, $p < 0.001$.

Hypothesis 1 focused on the impact of TAM on ES. It was hypothesized that TAM positively affects ES. Regarding both hotels and tourism companies, the results respectively demonstrated that ES is statistically dependent on TAM ($\beta = 0.140$, $p < 0.001$); ($\beta = 0.148$, $p < 0.001$). This means that this hypothesis is supported. This result agrees with several studies (i.e., Sanayei et al., 2010; Perić et al., 2015; Navimipour & Soltani, 2016; Perić et al., 2018) who found that TAM is the powerful source of ES.

Hypothesis 2 dealt with the impact of ES on E-CRM effectiveness. It was suggested ES positively affects E-CRM effectiveness. Both hotels and tourism companies found that there is a positive and significant effect of ES on E-CRM effectiveness ($=0.416$, $p0.001$) and ($=0.485$, $p0.001$), respectively. This suggests that hypothesis 2 is supported. This finding is in line with the findings of several studies (e.g., Tsai et al., 2007; Ahmad & Tarmudi, 2012; Islam, 2014; Yeh, 2014) showing ES has a positive impact on E-CRM effectiveness.

Hypothesis 3 was focused on the influence of TAM on E-CRM effectiveness. It was assumed that TAM had a significant positive effect on E-CRM effectiveness. The results for both hotels and tourism companies revealed that positive and significant paths from TAM to E-CRM effectiveness respectively ($\beta=0.139$, $p<0.001$); ($\beta=0.134$, $p<0.001$). This implies that hypothesis 3 is supported. This result is in line with further research (i.e., Jutla et al., 2001; Holzinger et al., 2011; Navimipour & Soltani, 2016) who confirmed that TAM was identified as key enablers of E-CRM.

Testing Research Hypotheses: Mediating Relationships

The Sobel z test was used to test mediating relationships. Table 3 shows the results, which were consistent with the mediation hypotheses.

Hypothesis	Indirect Effects	Hotels			Tourism Companies		
		Sobel Test	P-Value	Mediating Effect	Sobel Test	P-Value	Mediating Effect
H4	TAM→ES→E-CRM Effectiveness	3.880	0.015*	Partial	3.894	0.000**	Partial

** $P \leq 0.001$, * $P \leq 0.05$

As shown in table 3, It was hypothesized in H4 that ES has a mediation effect on the relationship between TAM and E-CRM effectiveness. Regarding both hotels and tourism companies, the result of hypothesis H4 demonstrated that ES partially mediates the relationship between TAM and E-CRM effectiveness respectively (Sobel z test= 3.880, $p < 0.01$); (Sobel z test= 3.894, $p < 0.001$). this means that TAM positively affects E-CRM effectiveness directly and indirectly.

Conclusion and Implications

With the growth of the internet and the broad use of web technology, organizations now can spread E-CRM technology capabilities. Nowadays, organizations know the customers are the driving force for their success and survival. The present study aims to examine the impact of technology acceptance on the effectiveness of E-CRM in the tourism and hospitality sector. Likewise, it measures the mediation effect of employees' satisfaction in the relationship between TAM and E-CRM effectiveness. A survey was conducted with a sample of employees in deluxe hotels and tourism companies' class (A) in Greater Cairo, Egypt, and the results were analyzed with structural equation modeling. The study showed that the E-CRM improves customer relationships and interactions and creates a competitive advantage in the marketplace. Many hotel and tourism companies are moving towards web-based customer services to reduce costs and provide real-time services to enhance customers' convenience and satisfaction. Furthermore, implementing E-CRM in the tourism and hospitality sector would be an efficient tool for increasing customer loyalty, satisfaction as well as retention rate, reducing business operations costs by using the most recent technology (i.e. websites, social media, and e-mailetc.), Maximizing business profitability and market shares, building competitive advantage, achieving a successful business performance, and eventually creating a fruitful business environment in this extremely driven industry. This study provided a model and framework for the factors assessing the impact the direct and indirect on E-CRM effectiveness. The findings for both hotel and tourism companies show that organizations should have appropriate technical staff, hardware, and software to provide technical support for using E-CRM systems to establish customer relationships

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and serve customers. The findings from this study address several critical implications for information systems and information management research.

The current study examined the influence of employees' technology acceptance on the effectiveness of E-CRM. TAM variables (PEOU, PU, SQ, and IQ) are the key drivers of the effectiveness of E-CRM. Furthermore, the success of the E-CRM system is subjected to the accessibility of the system. Therefore, this study concluded that ease of use is one of the significant technological factors that affect the performance and effectiveness of E-CRM. The findings obtained showed that, to improve the effectiveness of the E-CRM system, organizations should develop their infrastructure capabilities and acceptance technology strategies to support the implementation of the E-CRM system. Finally, the study shows that one of the useful ideas for the effectiveness of E-CRM is that organizations should focus on employee satisfaction, reduce customer costs, and apply simple technological systems to customers and employees.

References

- Ahmad, M., & Tarmudi, S. (2012). Generational Differences in Satisfaction with E-Learning among Higher Learning Institution Staff. *Procedia-Social and Behavioral Sciences*, 67(1), 304–311.
- Alim, S., and Ozuem, W., (2016). The Influences of e-CRM on Customer Satisfaction and Loyalty in the UK Mobile Industry. *Journal of Applied Business and Finance Researches*, 3(2), 47-54.
- Alksasbeh, M., and Alqaralleh, B., (2017). Integrating Quality Features into Technology Acceptance Model for Examining the Acceptance of Mobile Banking. *Journal of Theoretical and Applied Information*

Technology, 95(16), 3737-3748.

Alsamydai, M., (2014). Adaptation of the Technology Acceptance Model (TAM) to the Use of Mobile Banking Services. *International Review of Management and Business Research*, 3(4), 2016-2028.

Asadi, S., Abdullah, R., Safaei, M., and Nazir, S., (2019). An Integrated SEM-Neural Network Approach for Predicting Determinants of Adoption of Wearable Healthcare Devices. *Mobile Information Systems*, 1(1), 1-9.

Azila, N., and Noor, M. (2011). Electronic Customer Relationship Management Performance: Its Impact on Loyalty from Customers' Perspectives. *International Journal of e-Education, e-Business, e-Management and e-Learning*, 1(2), 181-186.

Cherapanukorn, V., (2017). Development of e-CRM Success: A Case Study of Hotel Industry, *International Journal of Trade, Economics and Finance*, 8(2), 90-95.

CheSoh, M., Hasan, S., Shamsuddin, S., and Abdul Rahman, A., (2019). Acceptance Analysis of Shipbuilding Dynamical Resources Planning System by Using Technology Acceptance Model. *Journal of Advanced Research Design*, 53(1), 1-14.

Davis, F., (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13(3), 319-340.

Davis, F., Bagozzi, R., and Warshaw, P., (1992). Extrinsic and Intrinsic Motivation to Use Computers in the Workplace. *Journal of Applied Social Psychology*, 22(14), 1111-1132.

Dumpit, D., and Fernandez, C., (2017). Analysis of the Use of Social Media in Higher Education Institutions (HEIs) using the Technology Acceptance Model. *International Journal of Educational Technology in*

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Higher Education, 14(5),1-16.

Elbaz, A., & Haddoud, M. (2017). The role of wisdom leadership in increasing job performance: Evidence from the Egyptian tourism sector. *Tourism management*, 63(1), 66-76.

Ensafi, F., and Shoar, M., (2021). The Role of Electronic Customer Relationship Management in the Tourism Industry Using Structural Equation Modeling. *Journal of Humanities Insights*, 5(2), 35-40.

Erkiah, S., and Ladkoo, A., (2018). A Quantitative Study about Assessing the Effectiveness of Electronic Customer Relationship Management: A Case of Two Hotels in Mauritius. *International Journal of Social and Business Sciences*, 12(10), 1438-1446.

Farmania, A., Elsyah, R., and Tuori, M., (2021). Transformation of CRM Activities into e-CRM: The Generating e-Loyalty and Open Innovation. *Journal of Open Innovation Technology, Market and Complexity*, 7(2), 1-20.

Gbongli, K., Xu, Y., and Amedjonekou, K., (2019). Extended Technology Acceptance Model to Predict Mobile-Based Money Acceptance and Sustainability: A Multi-Analytical Structural Equation Modeling and Neural Network Approach. *Journal of Sustainability*, 11(13), 1-33.

Gigi, G. S. and Divya, A., (2020). Customer Relationship Management and Innovative Strategies in Tourism Industry. *Journal of Contemporary Issues in Business and Government*, 26(2), 546-555.

Gu, D., Khan, S., Khan, I., and Khan, S., (2019). Understanding Mobile Tourism Shopping in Pakistan: An Integrating Framework of Innovation Diffusion Theory and Technology Acceptance Model. *Mobile Information Systems*, 1(1), 1-18.

Guler, O., (2019). Usage of Technology Acceptance Model in Tourism Studies: Suggestions for Gastronomy Studies, VIII. National IV. International Eastern Mediterranean Tourism Symposium, Mersin, Turkey.

Hair, J., Hult, M., Ringle, C., and Sarstedt, M. (2013). A primer on partial least squares structural equation modeling (PLS-SEM). Sage Publications.

Holzinger, A., Searle, G., and Wernbacher, M. (2011). The Effect of Previous Exposure to Technology on Acceptance and its Importance in Usability and Accessibility Engineering. *Universal Access in the Information Society*, 10(3), 245–260.

Huang, Y., Backman, S., Backman, K., and Moore, D., (2013). Exploring User Acceptance of 3D Virtual Worlds in Travel and Tourism Marketing. *Tourism Management*, 36(1), 490-501.

Islam, A. (2014). Sources of Satisfaction and Dissatisfaction with a Learning Management System in Post-Adoption Stage: A Critical Incident Technique Approach. *Computers in Human Behavior*, 30(1), 249–261.

Islam, T., Ahmad, U., and Ahmed, I. (2014). Exploring the Relationship between POS, OLC, Job Satisfaction and OCB. *Procedia-Social and Behavioral Sciences*, 114(1), 164-169.

Jutla, D., Craig, J., and Bodorik, P. (2001). Enabling and Measuring Electronic Customer Relationship Management Readiness. In *Proceedings of the 34th Annual Hawaii International Conference on System Sciences* (pp. 10-pp). IEEE.

Kampani, N., and Jhamb, D., (2020). Analyzing the Role of E-CRM in Managing Customer Relations: A Critical Review of the Literature. *Journal of Critical Reviews*, 7(4), 221-226.

The Impact of Technology Acceptance on the Effectiveness of the Electronic Customer Relationship Management in Hospitality and Tourism industry: The Mediating Role of Employees' Satisfaction

Kaushika, A., Agrawal, K., and Rahman, Z., (2015). Tourist Behaviour towards Self-Service Hotel Technology Adoption: Trust and Subjective Norm as Key Antecedents. *Tourism Management Perspectives*, 16(1), 278-289.

Machdar, N. (2016). The Effect of Information Quality on Perceived Usefulness and Perceived Ease of Use. *Business and Entrepreneurial Review*, 15(2), 131-146.

Mang'unyi, E., Khabala, O., and Govender, K., (2017). The Relationship between e-CRM and Customer Loyalty: A Kenyan Commercial Bank Case Study. *Banks and Bank Systems*, 12(2), 106-115.

Mariani, M., Curcuruto, M., and Gaetani, I., (2013). Training Opportunities, Technology Acceptance and Job Satisfaction: A Study of Italian Organizations. *Journal of Workplace Learning*, 25(7), 455-475.

Mekkamol, P., Piewdang, S., and Untachai, S. (2013). Modeling e-CRM for Community Tourism in Upper Northeastern Thailand. *Procedia - Social and Behavioral Sciences*, 88(1), 108-117.

Mikaeily, F., Taghva, R., Khazir, M., and Lou, A., (2017). The Efficacy of Electronic Customer Relationship Management (e-CRM) and Business Performance on Hotel Industry. *International Journal of Electronic Customer Relationship Management*, 1(1) 1-15.

Milović, B., (2012). Social Media and e-CRM as a Prerequisite for Hotel Success. *Management Information Systems*, 7(3), 026-031.

Misoc, I., (2018). Managerial Strategy for Increasing the Performance of Travel Agency by Increasing the Job Satisfaction and Job

Performance of Travel Agents. *International E-Journal of Advances in Social Sciences*, IV (11), 369-374.

Navimipour, N., and Soltani, Z. (2016). The Impact of Cost, Technology Acceptance and Employees' Satisfaction on the Effectiveness of the Electronic Customer Relationship Management Systems. *Computers in Human Behavior*, 55(1), 1052–1066.

NurAdlin, F., Ferdiana, R., and Fauziati, S. (2019). Current Trend and Literature on Electronic CRM Adoption Review. *Journal of Physics: Conference Series*, 1201(1), 1-11.

Oakley, K. (2019). An Extended Technology Acceptance Model on Theme Park Visitor's Intention to Use Virtual Reality. Master Thesis, Hospitality Management, Faculty of California State Polytechnic University, Pomona.

Obadic, A., and Maric, I. (2009). The significance of tourism as an employment generator of female labour force. *Ekonomiska misao i praksa*, 18(1), 93.

Papaioannou, A., Kariofyllas, C., Koronios, K., Kourtesopoulou, A., and Kriemadis, A. (2014). Exploring E-CRM Application: The Case of Tourism and Hospitality Industry in Greece. *Journal of Regional Socio-Economic Issues*, 4(1), 75-84.

Park, S., Nam, M., and Cha, S. (2011). University Students' Behavioral Intention to Use Mobile Learning: Evaluating the Technology Acceptance Model. *British Journal of Educational Technology*, 43(4), 592–605.

Perera, N., Granziera, H. and McIlveen, P. (2018). Profiles of teacher personality and relations with teacher self-efficacy, work engagement, and job satisfaction. *Personality and Individual Differences*, 120(1), 171-178.

Perić, G., Gašić, M., Stojiljković, M., and Mihajlov, S. (2015).

The Impact of Technology Acceptance on the Effectiveness of the Electronic Customer Relationship Management in Hospitality and Tourism industry: The Mediating Role of Employees' Satisfaction

Research of Employee Satisfaction in Tourism Center Vrnjačka Spa. Management and Education, XI (2), 26-31.

Perić, G., Gašić, M., Stojiljković, M., and Nešić, I. (2018). The Impact of Employee Satisfaction on the Tourist Satisfaction with the Services of Spa Tourism, *Economics of Agriculture*, 65(2), 617-632.

Pourfakhimia, S., Duncanb, T., and Coetzee, W. (2018). A Synthesis of Technology Acceptance Research in Tourism & Hospitality, in *Information and Communication Technologies in Tourism* (pp.143-155), Stangl, B., and Pesonen, J., (Eds.), Springer International Publishing, Switzerland.

Rahimi, R., Nadda, V., and Wang, H. (2015). CRM in Tourism: Customer Relationship Management (CRM), in *Emerging Innovative Marketing Strategies in the Tourism Industry* (pp.16-43), Ray, N., (Ed.), IGI Global, United States of America.

Raziq, A., and Maulabakhsh, R. (2015). Impact of Working Environment on Job Satisfaction, *Procedia Economics and Finance*, 23(1), 717-725.

Rosalina, V., Hamdan, H., and Triayudi, A. (2019). Electronic Customer Relationship Management (E-CRM) Modeling as Efforts to Increase Customer Retention of Micro Small and Medium Enterprises (MSMEs) in Banten, *International Journal of Computer Applications*, 181(39), 1-8.

Saifi, M. (2019). A Conceptual Framework Illustrating the Effects of E-CRM on Customer Loyalty, in *Private Sector Innovations and Technological Growth in the MENA Region* (pp. 123-134), Ebrahimi, M., (Ed.), IGI Global, United States of America.

Samsi, S., Jamaluddin, H., Noor, A., Mohd, S., and Abdullah, S.

(2016). Information Quality, Usefulness and Information Satisfaction in Islamic E-Tourism Websites. *Journal of Theoretical and Applied Information Technology*, 89(2), 450-460.

Sanayei, A., Ansari, A., and Ranjbarian, B. (2010). A Hybrid Technology Acceptance Approach for Using the E-CRM Information System in Clothing Industry. *International Journal of Information Science and Management*, 1(1), 15-25.

Selamat, Z., Jaffar, N., and Boon, O. (2009). Technology Acceptance in Malaysian Banking Industry. *European Journal of Economics, Finance and Administrative Sciences*, 1(17), 143-155.

Sevim, N., Yüncü, D., and Hall, E. (2017). Analysis of the Extended Technology Acceptance Model in Online Travel Products. *Journal of Internet Applications and Management*, 8(2), 45-61.

Sobaih, A., and Hasanein, A. (2020). Herzberg's Theory of Motivation and Job Satisfaction: Does it Work for Hotel Industry in Developing Countries?. *Journal of Human Resources in Hospitality & Tourism*, 19(3), 319-343.

Sobel, M. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology*, 13(1), 290–312.

Sunny, E., and Abolaji, O. (2016). Electronic Customer Relationship Management (E-CRM) & Marketing Performance: Empirical Evidence from Nigeria Telecom Sector. *British Journal of Economics, Management & Trade*, 11(1), 1-14.

Suresh, K. (2019). Analyzing E-CRM Technology Acceptance – An Empirical Study Exploring Factors Affecting Technology Adoption. *A Journal of Composition Theory*, XII (IX), 973-980.

The Impact of Technology Acceptance on the Effectiveness of the Electronic Customer Relationship Management in Hospitality and Tourism industry: The Mediating Role of Employees' Satisfaction

Tavana, A., Bakiyan, B., Farjam, H., Karami, M., and Ostovari, S. (2013). Electronic Customer Relationship Management and Its Implementation in Business Organizations. *Interdisciplinary Journal of Contemporary Research in Business*, 4(11), 686-693.

Tsai, P. C.-F., Yen, Y.-F., Huang, L.-C., and Huang, I.-C. (2007). A Study on Motivating Employees' Learning Commitment in the Post-Downsizing Era: Job Satisfaction Perspective. *Journal of World Business*, 42(2), 157–169.

Ukpabi, D., and Karjaluoto, H. (2017). Consumers' Acceptance of Information and Communications Technology in Tourism: A Review. *Telematics and Informatics*, 34(5), 618-644.

Venkatesh, V. (2000). Determinants of Perceived Ease of Use: Integrating Control, Intrinsic Motivation, and Emotion into the Technology Acceptance Model. *Information Systems Research*, 11(4), 342-365.

Vijayakumar, N., and Vivek, S. (2018). A Study on the Job Satisfaction of Employees in the Hospitality Industry. *International Journal of Pure and Applied Mathematics*, 118(20), 4235-4240.

Wahdain, E., and Ahmad, M. (2014). User Acceptance of Information Technology: Factors, Theories and Applications. *Journal of Information Systems Research and Innovation*, 6(1),17-25.

Yeh, Y. (2014). Exploring the Impacts of Employee Advocacy on Job Satisfaction and Organizational Commitment: Case of Taiwanese Airlines. *Journal of Air Transport Management*, 36(1), 94–100.

Yuan, H., and Jiaqing, K. (2019). Job Satisfaction of Hotel Employees Conceptual Model Construction and Evaluation. *International Journal of Business and Economics Research*, 8(1), 1-5.

Appendix 1: The Research Instrument

Source	Construct	Items	Hotels				Tourist Companies			
			M	SD	Factor Loading	α^+	M	SD	Factor Loading	α^+
Technology Acceptance Park et al. (2011)	Enjoyment	I find using the E-CRM system to be enjoyable.	4.4	0.65	0.793	0.887	4.4	0.66	0.794	0.895
		The actual process of using the E-CRM system is pleasant.	4.3	0.68	0.901		4.3	0.69	0.903	
		I have fun using the E-CRM system.	4.3	0.64	0.860		4.4	0.65	0.881	
	Information Quality	The E-CRM system provides up-to-date information.	4.8	0.61	0.960	0.975	4.7	0.63	0.973	0.959
		The E-CRM system provides information easy and understandable.	4.8	0.61	0.990		4.8	0.59	0.899	
		The E-CRM system provides relevant information for my job.	4.8	0.65	0.949		4.7	0.67	0.961	
	System Quality	The E-CRM system uses all the features needed to facilitate my work activities (e.g., text, figures, graphs, audio, and video).	4.2	0.60	0.885	0.904	4.3	0.62	0.904	0.937
		The E-CRM system enables me to access many links to other useful web resources (web links, books, and a virtual lab).	4.3	0.63	0.853		4.3	0.64	0.919	
		The E-CRM system supports interactivity between employees and the customers via chat, forums, discussions, etc.	4.2	0.65	0.875		4.3	0.67	0.916	
	Perceived Usefulness	Using E-CRM system improves my career performance	4.5	0.64	0.829	0.872	4.5	0.65	0.861	0.904
		Using E-CRM system enhances my effectiveness in learning activities.	4.5	0.66	0.771		4.5	0.67	0.820	
		Overall, I find the E-CRM system to be useful.	4.5	0.64	0.750		4.5	0.65	0.800	
		Using E-CRM system enables me to complete my tasks more quickly.	4.5	0.66	0.822		4.5	0.67	0.867	
	Perceived Ease of Use	The process of using E-CRM system is clear and understandable.	4.2	0.60	0.964	0.961	4.2	0.62	0.970	0.970
		I feel that using E-CRM system makes it easy to do my tasks in accordance with the professional way.	4.2	0.65	0.960		4.3	0.67	0.965	
		Overall, I find the E-CRM system easy to use.	4.2	0.60	0.918		4.3	0.63	0.937	
It is easy for me to learn how to use the E-CRM system.		4.2	0.65	0.872	4.3		0.68	0.904		
Employee Satisfaction Islami (2014)	Employee Satisfaction	I am satisfied with the performance of the E-CRM system.	4.5	0.66	0.838	0.844	4.4	0.67	0.838	0.854
		I am pleased with the experience of using the E-CRM system.	4.5	0.66	0.869		4.4	0.67	0.881	
		The company/hotel decision to use the E-CRM system was a wise one.	4.5	0.62	0.713		4.5	0.62	0.742	
E-CRM Effectiveness Mekhaemel et al. (2013)	E-CRM Effectiveness	E-CRM is an effective platform which provides employees to build lasting relationships with customers	4.7	0.60	0.882	0.925	4.6	0.61	0.884	0.938
		E-CRM followed up and directed automatically customer complaints.	4.7	0.61	0.895		4.6	0.64	0.916	
		E-CRM is an effective tool to meet customer requirements	4.6	0.60	0.858		4.6	0.62	0.870	
		E-CRM is an effective tool to retains the company/hotel customers	4.8	0.52	0.737		4.7	0.58	0.812	
		I intend to use system E-CRM in my work.	4.6	0.60	0.855		4.60	0.62	0.858	