



The Impact of Digital Transformation on Guest Loyalty in Marsa Alam Hotels

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Abstract

Due to its capacity to carry out traditional human tasks at any time of day, digital transformation is essential to the hospitality sector since it reduces costs significantly, eradicates human mistake, and offers better customer service. With the use of artificial intelligence applications, the possibilities of improving customer service are the main goal of the organization. The main purpose of this paper is to examine the impact of digital transformation on guest loyalty at Marsa Alam hotels, which is considered as one of the main destinations in Egypt. The field study was conducted through a web-based survey of a sample of hotel guests in Marsa Alam, where 384 questionnaire forms were distributed and 323 were valid with a response rate of (83.8%). SPSS software version 22 was used to analyze the data. The study findings showed that there are a positive relationship between digital transformation and guest loyalty. Digitalizing hotel operations includes many benefits such as increased brand awareness, improved guest experience, and increased operational efficiencies. The recommendations included: The necessity of activating *Egypt's Vision 2030*, create a technological infrastructure for the digital economy, announce digital transformation initiatives through digital platforms.

Keywords: Digital Transformation, Guest Loyalty, Hospitality Industry, and Marsa Alam Hotels.

Introduction

In light of the rapid developments by digital transformation, those in charge of the hospitality sector tended to strengthen their methods with the necessary digital technologies in order to raise the efficiency of their decisions in order to improve the performance of hotel establishments. The digital activity is called as any activity that uses digital technologies and the technological environment to provide services to tourists through the international information network "*Internet*" (Abdel-Ghani, 2018).

Digital transformation significantly affects the profitability of the hospitality company, and its advantages are as follows (Kamel, 2021):

- Manage and allocate resources more efficiently.
- Digitize and simplify business processes.
- Reach new guests with higher spending rates.
- Data-driven management and better insight into guest behaviors.
- Deliver improved guest experiences.
- Create new digital products and services.
- Generate great desires towards innovation.

Research Problem

Through several studies that revealed the research gap, which highlighted the effects of digital transformation on guest loyalty in the hospitality industry (Malhotra *et al.*, 2021; Zhu *et al.*, 2021), while some studies have focused on the impact of digitalization on the hospitality and tourism industry (Salama *et al.*, 2021; Verhoef *et al.*, 2019), Some studies address subjects connected to the guest loyalty concepts (Radwan, 2022; Guan *et al.*, 2021; Koo *et al.*, 2019). The following form can be used to express the study question:

What is the impact of digital transformation on guest loyalty in Marsa Alam hotels?

Research Objectives

- a) Determining the importance of applying digital transformation mechanisms in the hospitality field and its impact on improving overall performance.
- b) Creating a theoretical framework for the digital transformation and the guest loyalty.
- c) Clarifying the role of digital transformation in developing the competitive capabilities of hotel establishments.

Research Hypothesis

There is a significant relationship between applying digital transformation and the achievement of guest loyalty in Marsa Alam hotels, Egypt.

The following sub-hypotheses can be developed from the prior hypothesis:

- a) There is a significant relationship between the technological environment of hotels and the guest loyalty.
- b) There is a significant relationship between electronic hotel management and the guest loyalty.
- c) There is a significant relationship between electronic hotel human resources management and the guest loyalty.

Research Model

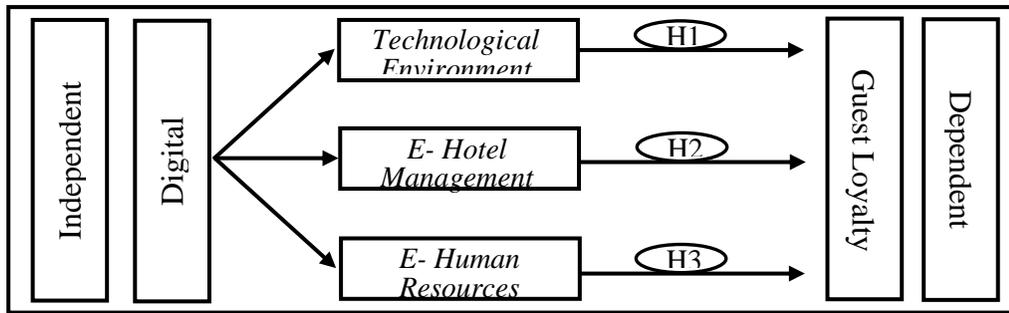


Fig.1. The Research Model

Background of Research

Digital Transformation

Concept of Digital Transformation

Digital transformation concept is depending on integrating advanced digital technology into all functions of an organization, dramatically changing how business is done and providing value to guests including creating smart products and services (Verina and Titko, 2019).

Digital Transformation Technologies

Hotel chains can implement digital transformation concept through the following applications:

Internet of Things (IoT)

Hotel chains can take advantage IoT in a number of ways to make the guest experience more seamless, contact less, and more comfortable as follows (Car *et al.*, 2019):

- *Digital Key Card*: Providing hotel guests with an electronic key card on mobile devices is one of the best ways to save time, money and overall security. It helps hotel management to collect data about room preferences and improve future guest experience.
- *Smart Rooms*: IoT can be utilized to let visitors control in-room amenities through mobile apps. This includes preferences for lighting, thermostat settings, and media libraries. All of these services make the guest's experience more comfortable and enjoyable. Making smart rooms available to the visitors has a lot of advantages. Beginning with the ability to customize their experience, guests will have control over their comfort and have access to a variety of amenities.
- *Self-check-in*: Using the mobile application, hotel chains can allow guests to check-in themselves. This reduces waiting time and gives the guest great flexibility.

Mobile Apps

The easiest way to communicate with hotel guests effectively is via mobile apps. It provides a variety of opportunities to enhance the guest experience, as follows (Car and Stifanich, 2020):

- *Booking Rooms*: The quickest option for tourists to book hotel rooms on their mobile device is through an app. It's just a click away.

- *Communications*: Guests can simply contact with hotel staff members through mobile apps., for any special requests. Instead of handling guest inquiries over the phone, the employees may readily respond more promptly and efficiently, such as check-in times, breakfast schedules, and hotel amenities, can be sent with the use of apps.

- *Guest Loyalty Program*: Through the apps., hotels can introduce "*Guest Loyalty Programs*" where guests can exchange prizes or points. It keeps them interested and improves a long-lasting friendship.

5G Telecommunications

These 5G wireless networks have low latency, greater capacity, and improved data transmission speed. These networks' download speeds are substantially faster than those of earlier generations (3G and 4G), which affects the quality of service for the hotel guest (Simko and Mattsson, 2019).

Virtual Reality and Augmented Reality

Modern hotel guests are increasingly technologically adept and like having information at their fingertips rather than reading reviews, blogs, and YouTube videos. Without leaving their homes, guests could visit the hotel via virtual reality. They will be able to view all the hotel amenities like spas, restaurants, and rooms using this technology. In addition to improving the guest experience, this also boosts their confidence in the brand and their ability to explore the location without having to rely on outdated brochures, the greatest ways for hotels to utilize virtual reality are to:

- Make a website tour of the property's facilities.
- Display the distance from other properties and popular hot spots.
- Create a virtual tour of the hotel's meeting rooms and guest accommodations.

With augmented reality, it's possible to give guest better experiences in a whole new way, such as:

- Using a smart phone, a hotel guest can find their precise location, explore historical sites, find nearby restaurants, view hotel amenities, and many of other possible services (Fox, 2020).
- Guests can navigate to stores, elevators, shops and parking spaces with "IFS-ARgo" program on WeChat as augmented reality application (Zhu *et al.*, 2021).

Artificial Intelligence

Artificial intelligence is arguably one of the best ways to enhance the guest experience in the hospitality industry. It powered chatbots that can be used to address guest concerns and questions more quickly. This allows the hotel staff to better plan their time because they are no longer required to answer calls to solve simple problems. Chatbots can be utilized to examine incoming data such as visitors' purchasing histories, spa usage, saved payment methods, meal preferences, and other activities made when interacting with a hotel app. (Tumoi *et al.*, 2021).

Some of the major benefits of using digital transformation in hotel chains involve (Pereira *et al.*, 2022):

Wait times are decreased, time and money are saved, relationships are improved, hotels get to know their guests, hotel performance is improved, and there is a high rate of return business.

Dimensions of Digital Transformation

The dimensions of digital transformation include (Salama *et al.*, 2021):

Technological Environment

The technological environment is part of the hotel's external environment and is associated with developments and changes in technology. Technology can improve overall output by (Nasrudin, 2022):

- Increased productivity.
- Cost reduction.

The impact of technological change on the organization can be affected through many ways through: market research, needs for new expertise, the choice of communicating with stakeholders, change the needs and desires of guests, and product sales technique. Hotel management companies must be able to adapt to new technological developments to increase market share and maximize profit margins (Nasrudin, 2022).

Electronic Management

Electronic management is typically characterized as the process of automating all hotel duties and activities through reduced paper usage, streamlined processes, less bureaucracy, and accurate job and transaction fulfillment. The following are the most significant factors that have contributed to the change to electronic management (Al-Hakim and Al-Fleet, 2020):

- The impact of complex procedures on rising corporate costs.
- Lack of enterprise-level data standardization.
- Evaluating performance measurement rates is difficult.
- The difficulty of providing circulating data about the hotel staff.
- Increasing the nature of competition between hotel chains and each other.
- Effective continuous communication between hotel staff and management.
- Enabling guests to obtain information about hotel services without their personal presence.

Electronic Human Resources

One of the main areas that any hotel should focus is *Electronic Human Resources*, which consists of the following (Choochote and Chochiang, 2015):

- *Recruitment System*: Downloading an application form that addresses the desired position for the job is the first step in an online job application.
- *Employee System*: It can use a networking system to manage the employees' basic data properly.

- *Salary Management System*: Only when necessary is it possible to access the salary management system and print a pay slip.
- *Learning and Training System*: If the employee is interested in a particular program, he can submit an email application at the designated time and day. The system will notify the employee via alert message to confirm the prior registration.
- *Welfare System*: It is made available to hotel staff in order to achieve the desired result while limiting the number of users in the database.

Guest Loyalty

Concept of Guest Loyalty

Guest loyalty is a valuable intangible asset for many hotel companies. This term refers to the ongoing emotional relationship between guests and hotel brands and then the repeat visit to the hotel in a short period of time. Guest loyalty programs are an extension of the hotel brand and considered as a tool to help guests connect with that brand. Calculating guest loyalty includes the following elements (Xu, 2022):

- Booking frequency.
- Repeat booking rate.
- Guest retention rate.
- Average booking value.
- Profitability per order.
- Loyal guest rate.

One of the most important reasons that lead to guests' disloyalty in hotels: the intensity of competition between hotel chains and each other, which leads to offering many advantages to guests, changes in guests' wants and needs, and the advice and recommendation (Xu, 2022).

Benefits of Guest Loyalty Programs

While there are many ways to encourage current guests to come back to hotels, guest loyalty programs are considered as one of the best and most efficient ways to achieve this. The advantages of introducing a guest loyalty program involve: increased hotel bookings, cost effectiveness, improved guest experience, boosted revenues, corporate advantages, build relationships, and valuable insights (Gallemard, 2022).

Dimensions of Guest Loyalty

Singh *et al.*, (2017), have identified several dimensions of hotel guest loyalty, as follows:

- *Word-of-Mouth*: It is an informal oral communication. The loyal guests act as word-of-mouth marketers for the hotel they visit. Guests who are loyal are more probable to present constructive word-of-mouth for an organization. Loyal guests are more likely to promote an organization positively through word-of-mouth and act as information channels, and other potential customers to the organization.
- *Repurchase Intention*: Repurchasing a specific service from the same business depends on the buyer's personal opinion, taking into consideration the current and anticipated situations. Repurchase intent is a reliable, quantifiable service outcome.

• *Price Sensitivity*: Guests' willingness to pay more for a particular service than for similar ones is known as price sensitivity, and it can be either positive or negative. The price that a guest will pay for a brand in comparison to another with comparable advantages is a fundamental sign of brand loyalty.

Research Methods

The survey method is the technique used in this paper, which involves distributing structured questions to the intended participants. The primary goal of this paper is to examine the relationship between digital transformation and guest loyalty in Marsa Alam hotels. Salama *et al.*, (2021) explained the dimensions of digital transformation, which include technological environment, electronic management, and electronic human resources. Singh *et al.*, (2017) discussed the dimensions of guest loyalty, which involve: word-of-mouth, repurchase intention, price sensitivity, and complaining behavior.

Pilot Study

The pilot study's primary objective is to evaluate the questionnaire's validity before it is utilized with a larger sample of participants. According to Viechtbauer *et al.* (2015), the total number of respondents in the pilot study was 59 with a 95% confidence level and 5% probability. Therefore, 59 respondents were used in the pilot study, which was carried out using pre-planned interviews and straightforward questionnaire forms. Cronbach's coefficient alpha (α) was used with a value of 0.881, which means very reliable. The pilot study's findings showed that 94% of the respondents indicated that digital transformation practices are essential for achieving exceptional performance. While 95% of them indicated that the digital transformation technologies contribute to deepening hotel guest loyalty by repeating visits at short intervals.

Characteristics of Population and Sample

This study targeted four-star hotel guests in Marsa Alam city, which is stretching along the isolated south coast of the red sea. It is the perfect place for quite vacation and divers for having top diving sites in the world. In Marsa Alam city, there are 29 five-star hotels, (Egyptian Hotels Guide ,2022). The formula used to determine sample size is calculated as follows: (Daniel, 2019):

$$n = Z^2 * p * (1 - p) / e^2$$

$$n = 1.96^2 * 0.5 * (1 - 0.5) / 0.05^2 = 384.$$

Where; n=sample size, Z= the confidence level of 95%, equal to 1.96, p=The proportion of the population which equal 0.5, e= a margin of error of 0.05.
The total sample size = 384.

Methods of Data Collection

Questionnaire Design

The questionnaire form included two parts: the first part dealt with the dimensions of digital transformation, and the second part dealt with the dimensions of guest loyalty. It employed a five-point Likert scale.

Questionnaire Distribution

In Marsa Alam city, 384 questionnaires were given out to visitors of four-star hotels; 323 valid responses were obtained from them, yielding a response rate of (83.8%).

Table 1

Hotels' Sample Profile

<i>Hotel Classification</i>	<i>Total no. of Hotels</i>	<i>Selected Hotels</i>	<i>Distributed Forms</i>	<i>Total Responses (384)</i>	<i>Valid Responses (323)</i>
Four Star Hotels	24 hotels	6 hotels	64	384 (61)	323

Source: Egyptian Hotel Guide, 2022.

Questionnaire Validity and Reliability

The questionnaire's face validity was determined by distributing the forms to reviewers. The questionnaire was revised and given its final form in light of their suggestions. Statistics were used to calculate it using correlation coefficients. For each survey dimension, the reliability was determined statistically using Cronbach's alpha..

Table 2

Questionnaire Validity

<i>Dimensions</i>	<i>Number of Statements</i>	<i>Correlation Coefficient</i>	<i>Significance Level</i>
Technological Environment	5	0.704	0.01
Electronic Management	4	0.713	
Electronic Human Resources	4	0.698	
<hr/>			
Word of Mouth	4	0.638	0.01
Repurchase Intention	4	0.672	
Price Sensitivity	4	0.674	
<i>Total</i>	25	0.679	

Indicating the validity of the internal consistency of the questionnaire form, the total values of the correlation coefficients reached 0.679, which is a high value and significant at the 0.01 level.

Table 3
Questionnaire Reliability

<i>Dimensions</i>	<i>Number of Statements</i>	<i>Cronbach's alpha</i>	<i>Significance Level</i>
Technological Environment	5	0.815	0.01
Electronic Management	4	0.821	
Electronic Human Resources	4	0.802	
Total			
Word of Mouth	4	0.815	0.01
Repurchase Intention	4	0.813	
Price Sensitivity	4	0.814	
Total			
	25	0.816	

Cronbach's alpha as a whole reached a value of 0.816, which is regarded as a high value suggesting that the survey achieves good reliability and is appropriate for distribution to respondents.

Data Analysis
Descriptive Statistics for the Study Variables

Table 4
Mean & Standard Deviation of Digital Transformation (Independent Variable)

<i>Dimensions of Digital Transformation</i>	<i>No. of Statements</i>	<i>Mean</i>	<i>Standard Deviation</i>	<i>Rank</i>
Technological Environment	5	4.039	0.869	2
Electronic Management	4	4.052	0.919	1
Electronic HR	4	3.979	0.869	3
Digital Transformation	13	4.027	0.879	

The dimensions of digital transformation ranged in mean from 3.979 to 4.052. From an employee's perspective, electronic management is seen as the most successful component. Its average value of 4.052 suggests the significance of this component among the dimensions of digital transformation.

Table 5
Mean & Standard Deviation of Guest Loyalty (Dependent Variable)

<i>Dimensions of Guest Loyalty</i>	<i>No. of Statements</i>	<i>Mean</i>	<i>Standard Deviation</i>	<i>Rank</i>
Word of Mouth	4	4.069	0.880	2
Repurchase Intention	4	4.063	0.881	3
Price Sensitivity	4	4.084	0.860	1
Guest Loyalty	12	4.071	0.862	

The mean level of guest loyalty varied from 4.063 to 4.084. The most effective aspect of competitive advantage is price sensitivity. Its mean value was 4.084, indicating that the characteristics of customer loyalty are more influenced by price sensitivity.

Research Hypotheses Test

The First Sub-Hypothesis Test

There is a significant relationship between the technological environment of hotels and the guest loyalty.

A *Pearson Test* was used to ascertain the kind, nature, and direction of the association between technological environment and guest loyalty in order to verify the hypothesis validity.

Table 6

Correlation Coefficient between Technological Environment & Guest Loyalty

<i>Dimensions of Guest Loyalty</i>	<i>Pearson Correlation Coefficient with Tech. Environment</i>	<i>Significance Level</i>
Word of Mouth	0.611	0.01**
Repurchase Intention	0.554	0.01**
Price Sensitivity	0.662	0.01**

** Correlation is significant at the 0.01 level

Table 6 shows a high direct association between technical environment and guest loyalty, with correlation coefficients of (0.611), (0.554), and (0.662), respectively, for word-of-mouth, repurchase intention, and price sensitivity at a significance level of 0.05. The alternative hypothesis is accepted as a result of this positive association, which demonstrates the influence of hotels' technological environments on the development of guest loyalty.

The Second Sub-Hypothesis Test

There is a significant relationship between electronic hotel management and the guest loyalty.

A *Pearson Test* was used to ascertain the kind, nature, and direction of the association between electronic hotel management and guest loyalty in order to verify the hypothesis validity.

Table 7

Correlation Coefficient between e- Hotel Management and Guest Loyalty

<i>Dimensions of Guest Loyalty</i>	<i>Pearson Correlation Coefficient with e-Hotel Management</i>	<i>Significance Level</i>
Word of Mouth	0.619	0.01**
Repurchase Intention	0.499	0.01**
Price Sensitivity	0.691	0.01**

** Correlation is significant at the 0.01 level

Table 7 indicates that there is a direct link between electronic hotel management and the development of guest loyalty, with the correlation coefficients for word-of-mouth, repurchase intention, and price sensitivity, respectively, being equal (0.619, 0.499, 0.691) at a significance level of 0.01. This relationship represented in applying specific software across all hotel departments. Therefore, the alternative hypothesis is accepted.

The Third Sub-Hypothesis Test:

There is a significant relationship between electronic hotel human resources management and guest loyalty

A *Pearson Test* was used to ascertain the kind, nature, and direction of the association between electronic human resources and guest loyalty in order to verify the hypothesis validity.

Table 8
Correlation Coefficient between e-Human Resources & Guest Loyalty

<i>Dimensions of Guest Loyalty</i>	<i>Pearson Correlation Coefficient with e-Human Resources</i>	<i>Significance Level</i>
Word of Mouth	0.571	0.01**
Repurchase Intention	0.669	0.01**
Price Sensitivity	0.514	0.01**

** Correlation is significant at the 0.01 level

From Table 8, it can be concluded that there is a direct link between electronic hotel human resources and the guest loyalty, with correlation coefficients of (0.571, 0.669, and 0.514) for word-of-mouth, repurchase intention, and price sensitivity, respectively, at a significance level of 0.01. The alternative hypothesis is accepted as a result of this positive association, which affects directly on the hotel performance.

Research Results

The study's analysis of the data gathered from the respondents' responses yielded the following conclusions:

- There is a statistically significant relationship between the technological environment of hotels and the achievement of guest loyalty hotel guests in four-star hotels in Marsa Alam city, where the Pearson correlation coefficient was (0.611, 0.554, 0.662) for word of mouth, repurchase intention, and price sensitivity respectively at a significance level ≤ 0.01 . This means the positive impact of technological environment which affects all aspects of business through increased productivity and cost reduction concept.
- There is a statistically significant relationship between the electronic hotel management and the achievement of guest loyalty from guests in four-star hotels in Marsa Alam city, where the Pearson correlation coefficient was (0.619, 0.499, 0.691) for word of mouth, repurchase intention, and price sensitivity respectively at a

significance level ≤ 0.01 . Having a good electronic management improves both internal efficiency, overall business competitiveness and increases guest loyalty.

- There is a statistically significant relationship between applying electronic hotel human resources and the achievement of guest loyalty in four-star hotels in Marsa Alam city, where the Pearson correlation coefficient was (0.571, 0.669, 0.514) word of mouth, repurchase intention, and price sensitivity respectively at a significance level ≤ 0.01 . This means the positive effect of applying electronic hotel human resources (improving quality services, reducing human bias, performing crucial functions of human resources, facilitating routine tasks) on achieving guest loyalty in hotels.
- Digitizing hotel operations involves a lot of advantages such as increased brand awareness, improved guest experience, and increased operational efficiencies.
- The study proved that applying digital transformation in hotel chains can assist in expanding the hotel market presence, increasing the volume of direct bookings, and gaining loyal guests, and if they are satisfied with hotel services, they'll choose the same hotel again over other competitors.

Research Recommendations

The study proposes several recommendations, as follows:

I- Recommendations Concerned to the Egyptian Government:

- The necessity of activating *Egypt's Vision 2030*, which includes the implementation of the digital economy strategy, paying attention to income-generating industries such as the tourism industry, and providing them with growth opportunities.
- The necessity of creating a technological infrastructure for the digital economy, including, and the transformation of e-government, and thus strengthening the Egyptian hospitality industry in Marsa Alam, especially in light of the current political changes, and this includes:
 - Raising the efficiency of internet speed for all hotel classifications in Marsa Alam.
 - Developing websites for Marsa Alam hotels under the supervision of the Ministry of Tourism, where the tourist can roam virtually and book rooms through credit cards.
 - Providing innovative solutions for front office management, booking engine, channel management, point of sale, purchase cycle and inventory management, accounts receivable and payable via digital transformation applications for Marsa Alam Hotels.
- Increasing interest in domestic tourism as one of the main sources of hotel revenues, through:
 - The application of e-programs to help tourists, such as the tourist taxi.
 - Develop an illustrated library of Marsa Alam City on social media tools.
 - Increasing the number of weekly flights to Marsa Alam from main destinations such as Cairo and Alexandria.

- The importance of the presence of security forces in the tourism areas to impose security and prevent any abuses in these areas.

II- Recommendations Concerned to the Ministry of Tourism:

- Supporting hotel employees by creating data base that contributes to raising performance rates by developing customized training programs to increase their skills and capabilities.
- Develop laws and legislation in cooperation with the Egyptian Hotel Association for applying digital transformation concepts.
- Review and evaluate the current policies, plans and programs for hotels in order to contribute to the application of digital transformation requirements to improve performance rates.

III- Recommendations Concerned to the Hotels Management:

- Hotel management should supervise the improvement and development of their employees' performance through the existence of a special mechanism that includes training programs for the requirements of digital transformation, thus distinguishing the overall performance.
- Hotel management must provide the requirements for digital transformation and work to remove all obstacles in a manner to achieve hotel guest satisfaction.
- Holding training courses for hotel staff on how to deal well with advanced technological transformation in all hotel sectors and its impact on guest loyalty.

Limitations and Further Research

This paper aimed to study the impact of digital transformation on guest loyalty in Marsa Alam Hotels. The scale used by (Salama, 2021) to measure the dimensions of digital transformation, and the scale used by (Singh *et al.*, 2017) to measure the dimensions of guest loyalty. More research is needed to study the impact of digital transformation on guest loyalty using scales other than those mentioned in this study; further research might explore the impact of digital transformation on innovation and productivity in hospitality industry in Egypt, and consider the effects of the above factors on different destinations and different hotel classifications.

تأثير التحول الرقمي على ولاء العملاء في المنشآت الفندقية بمرسى علم
المستخلص

يلعب التحول الرقمي دوراً هاماً في مجال صناعة الضيافة، نظراً لقدرته على أداء الوظائف البشرية التقليدية في أي وقت من اليوم مما يوفر أموالاً كبيرة ويقضي على شبهة الخطأ البشري لاسيما مع استخدام تطبيقات الذكاء الاصطناعي. وتهدف هذه الدراسة إلى تحليل العلاقة التآثيرية بين ممارسات التحول الرقمي ومدى تحقيق ولاء العملاء في المنشآت الفندقية من فئة الأربع نجوم بمدينة مرسى علم والتي تعد من المدن السياحية الرئيسية بمصر، وقد اعتمدت الدراسة على أسلوب المسح الميداني عن طريق تصميم وتوزيع استمارة استبيان، حيث تم إرسال عدد 384 استبياناً إلى العملاء في الفنادق المختارة، وتم استقبال 323 استمارة صالحة للتحليل الإحصائي بمعدل استجابة (83.8%). وتم تحليل البيانات باستخدام برنامج SPSS الإصدار 22، وتمثلت أهم النتائج المتحصل عليها في ايجابية العلاقة بين التحول الرقمي ولاء الضيوف في المنشآت الفندقية، وتتضمن الرقمنة في مجال صناعة الفنادق العديد من الفوائد كزيادة الوعي بالعلامة التجارية، تحسين تجربة العملاء وزيادة الكفاءات التشغيلية. وتضمنت التوصيات الدراسة: ضرورة تفعيل رؤية مصر 2030، وإنشاء بنية تحتية تكنولوجية للاقتصاد الرقمي، والإعلان عن مبادرات التحول الرقمي من خلال المنصات الرقمية.

الكلمات الدالة: التحول الرقمي، ولاء الضيوف، صناعة الضيافة والمنشآت الفندقية بمرسى علم.

Appendix
Questionnaire Form
First Part:

The Impact of Digital Transformation on Guest Loyalty in Marsa Alam hotels is the topic of the researcher's study. Therefore, we gladly ask you to make a circle regarding the dimensions of the *Digital Transformation*.

No.	Statements	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
I-	<i>Technological Environment:</i>					
1-	The latest devices, equipment and advanced technology are used.					
2-	Hotel is interested in using modern information technology methods.					
3-	There is a specialized department for technical consultancy.					
4-	The hotel has an e-communication system.					
5-	Computers are constantly updated according to business requirements.					
II-	<i>Electronic Management:</i>					
6-	A good electronic system is available to protect data security.					

7-	All administrative work is planned electronically.					
8-	The hotel places the use of electronic applications at the top of its priority.					
9-	The hotel is adopting electronic performance appraisal system.					
III-	<i>Electronic Human Resources:</i>					
10-	Human resources are attracted in the field of information systems.					
11-	The hotel has e-system for managing human resources.					
12-	The electronic network was used to communicate with hotel employees.					
13-	The quality of work and assignments are assessed electronically.					

Second Part:

Please circle your selections for the *Guest Loyalty* dimensions, being aware of (1) strongly disagree, (2) disagree, (3) neutral, (4) agree and (5) strongly agree.

<i>No.</i>	<i>Statements</i>	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
I-	<i>Word of Mouth:</i>					
1-	The opinions of the guests who talk about the hotel on social media are believed.					
2-	Electronic groups have an important role in increasing hotel sales.					
3-	Information about the hotel via social media is accurate and clear.					
4-	The word of mouth positively affects the mental image of the hotel.					
II-	<i>Repurchase Intention:</i>					
5-	Hotel guests like to use short video platforms for a long time.					
6-	The guests enjoy a strong relationship with the hotel.					

7-	I go to this hotel several times a year because I am satisfied with the service level.					
8-	Loyalty is a strong and deep commitment to repurchase a hotel product.					
III-	<i>Price Sensitivity:</i>					
9-	Competitive price leads to best price to hotel products.					
10-	Price is one of the main factors in choosing a hotel.					
11-	The price element affects my choice of a specific hotel over another.					
12-	The type of hotel product affect to the price sensitivity.					

References

- Abd-el Ghani, A., (2018), Digital Management in the Official Tourist Organizations- Case Study: Egyptian Ministry of Tourism, International Journal of Heritage, Tourism and Hospitality, Faculty of Tourism and Hotels- Fayoum University, 12(2/2), pp. 426-441.
- Al-Hakim, A. & Al-Fleet, K., (2020), The Impact of Knowledge Management Processes on the Requirements of Electronic Management of Employees Working in Palestinian Universities, Journal of Administrative and Economic Sciences, 10(1), pp. 22-32.
- Car, T., Stifanich, L. & Simunic, M., (2019), Internet of Things (IoT) in Tourism and Hospitality: Opportunities and Challenges, Tourism in South East Europe, Vol. 5, pp. 163-175.
- Car, T. & Stifanich, L., (2020), Mobile Technology: A Tool To Increase Hotel Sales and Revenue, Journal of Economics, Business and Organization Research, Proceedings of the Third EBOR Conference 2020, pp. 454-465.
- Choochote, K. & Chochiang, K., (2015), Electronic Human Resource Management (e-HRM) of Hotel Business in Phuket, International Journal of Advanced Computer Science and Applications, Vol. 6, No. 4, pp. 73-78.
- Egyptian Hotel Association, (2022), The Egyptian Hotel Guide.
- Fox, J., (2020), Pandemic Offers Hotels Opportunities for Innovation, Hotel Management, Retrieved from: <https://www.hotelmanagement.net/tech/pandemic-offers-innovation-opportunities-for-hotels>, Last Accessed : 28 October, 2022.

- Gallemard, J., (2022), The Many Benefits of Customer Loyalty Programs, Available at: <https://blog.smart-tribune.com/en/benefits-of-customer-loyalty> Last Accessed : 30 October, 2022.
- Guan, J., Wang, W., Guo, Z., Chan, J. & Qi, X., (2021), Customer Experience and Brand Loyalty in the Full-Service Hotel Sector: The Role of Brand Affect, International Journal of Contemporary Hospitality Management, Vol. 33 No. 5, pp. 1620-1645.
- Kamel, S., (2021), The Potential Impact of Digital Transformation on Egypt, Economic Research Forum, pp. 1-72.
- Koo, B., Yu, J. & Han, H., (2019), The Role of Loyalty Programs in Boosting Hotel Guest Loyalty: Impact of Switching Barriers, International Journal of Hospitality Management, pp. 1-10.
- Malhotra, R., Srivastava, P., Jhajharia, P. & Gera, R., (2021), Digitalization Impact on Customer Loyalty and Customer Satisfaction at Luxury Hotels in India, Ilkogretim Online - Elementary Education Online, Vol. 20, Issue 5: pp. 5121-5131.
- Nasrudin, A., (2022), Technological Environment: Definition and Its Effects on Business, Available at: www.penpoin.com/technological-environment/, Last Accessed: 29 October, 2022.
- Pereira, C., Duraõ, N., Moreira, F. & Veloso, B., (2022), The Importance of Digital Transformation in International Business, International Business. Sustainability, pp.1-26.
- Radwan, H., (2022), A Study on the Factors Contributing to Customer Loyalty in Budget Hotels in Cairo and Alexandria, Egypt, African Journal of Hospitality, Tourism and Leisure, Vol. 11, No. 1: pp. 26-45.
- Salama, S., Maher, A. & El-Azab, M., (2021), The Role of Digitalization in Improving the Performance of the Egyptian Tourism Companies, Journal of Faculty of Tourism and Hotels - University of Sadat City, 5 (1), pp. 76-92.
- Simko, M. & Mattsson, M., (2019), 5G Wireless Communication and Health Effects, International Journal of Environmental Research and Public Health, 16 (18), pp.1-23.
- Singh, G., Singh, I. & Vij, S., (2017), Antecedents and Consequences of Customer Loyalty: A Conceptual Model, International Journal of Applied Business and Economic Research, Vol. 15, No. 23, pp. 237-251.
- Tuomi, A., Tussyadiah, I. and Stienmetz, J., (2021). Applications and Implications of Service Robots in Hospitality, Cornell Hospitality Quarterly, 62(2), pp. 232-247.
- Verhoef, P., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J., Fabian, N. and Haenlein, M., (2019), Digital Transformation: A Multidisciplinary Reflection and Research Agenda, Journal of Business Research, 18(12): pp. 27-66.

- Verina, N. & Titko, J., (2019), Digital Transformation : Conceptual Framework, Contemporary Issues in Business, Management and Economics Engineering, pp. 719-727.
- Viechtbauer, W., Smits, L., Kotz, D., Bude, L., Spigt, M., Serroyen, J. & Crutzen, R., (2015), A Simple Formula for the Calculation of Sample Size in Pilot Studies, Journal of Clinical Epidemiology, Vol. 68, pp. 1375-1379.
- Xu, J., (2022), Service Trust and Customer Loyalty in China's Hotel Services: The Causal Role of Commitment, Journal of Sustainability, Vol. 14, pp. 1-18.
- Zeithaml, V., Berry, L. & Parasuraman A., (1996), The Behavioral Consequences of Service Quality, Journal of Marketing, Vol. 60, No. 2, pp. 31-45.
- Zhu, J., Wang, Y. & Cheng, M., (2021), Digital Transformation in the Hospitality Industry, Boston Hospitality Review, 1 (1): pp. 1-7.