

### The Impact of Modern Information Systems and their Implications in Electronic Tourism Media: an Applied Study of an Administrative Workers' Sample Opinion in First-Class Hotels in Sulaymaniyah Governorate

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#### ABSTRACT

The modern information systems in their different items have become one of important items of the hotel organizations because of the accurate and fast data they provide for the tourist sites and the tourist attractions in Sulaymaniyah city in Kurdistan region in Iraq. These systems help the ones who work in the hotel organizations to make the right decision at the appropriate time. Thus, our research sheds light on specifying the effect of modern information systems and their reflection on the tourism electronic media in an applied study. In this paper, a sample of data information is represented by the managers who work in the first-degree hotels in Sulaymaniyah city. The theoretical and practical parts of this research deal with the following domains:

1. Research methodology.
2. A conceptual framework for modern information systems.
3. A conceptual framework for tourism electronic media.
4. The practical side of the research.
5. Conclusions and suggestions..

#### Introduction

The development in information technology as well as the software industry, in addition to the complexity of the environment in which hotel organizations operate, has led to an increasing need for tools that enable these organizations to deal with their environment. This is done by taking advantage of this technology, as this began with the electronic operation of data to what has resulted today. One of the many types of information systems. As a result, the old methods that rely on imitation, guesswork, and intuition have become unsuccessful in managing hotel organizations, and through them, management cannot currently achieve its goals successfully.

#### The First Domain - Research Methodology

##### First: The Research Problem

The intense competition in the hotel business environment in light of the rapid technical developments in various fields has forced the management of hotel organizations to adopt modern information systems due to their great importance in quickly obtaining the data and information necessary to decide a specific situation they face during work. Accordingly, the research problem was represented by the following questions:

1. Is there a clear perception among the surveyed organizations about modern information systems?
2. Is there a clear perception among the surveyed organizations about electronic tourism media?
3. What is the nature of the relationship and influence between modern information systems and electronic tourism media?

### Second: Importance of Research

The current research derives its importance from dealing with vital and contemporary administrative topics that have a significant impact on the performance of hotel organizations. The research contributes to activating the effects resulting from the use of modern information systems in tourism electronic media, within an integrated theoretical and applied framework, which is considered a modest practical contribution in addition to the contributions made. The nature of the relationship between modern information systems as an independent variable and their impact on electronic tourism media as a dependent variable is determined.

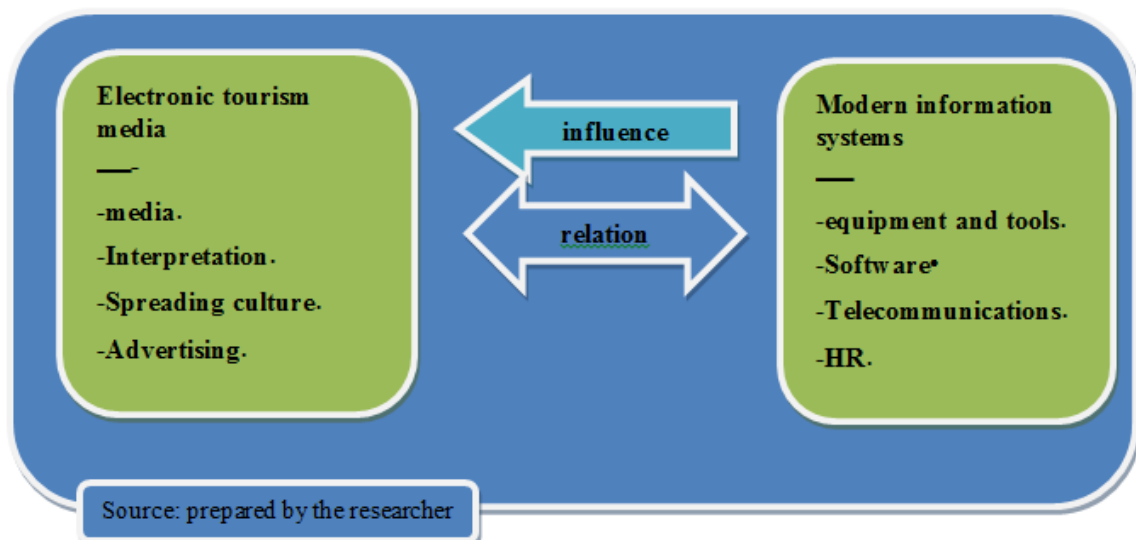
### Third: Objectives of Research

The research seeks to demonstrate the impact of modern information systems on electronic tourism media, in addition to developing a theoretical framework for modern information systems and electronic tourism media, identifying the nature of the relationships (correlation and influence) between the two variables, trying to interpret them, and benefiting from the results in addressing one or more problems in The researched organizations, and presenting a set of proposals that effectively contribute to increasing the awareness and understanding of administrative leaders about the concept of the research variables.

### Fourth: Research model

A hypothetical model was designed for research, as in Figure (1), which indicates the relationship (link and influence) between modern information systems and electronic tourism media.

Figure (1) Hypothetical research model



**Fifth: Research hypothesis:** In line with the research objectives and to test the plan, the researcher adopted two main hypotheses:

**The first main hypothesis:** There is a significant correlation between modern information systems and electronic tourism media. This main hypothesis is divided into the following sub-hypotheses:

1. There is a significant correlation between devices, equipment, and electronic tourism media.
2. There is a significant correlation between software and electronic tourism media.
3. There is a significant correlation between communications and electronic tourism media.
4. There is a significant correlation between human resources and electronic tourism media.

**The second main hypothesis:** There is no significant effect between modern information systems and electronic tourism media. This main hypothesis is divided into the following sub-hypotheses:

1. There is no significant effect between devices, equipment, and electronic tourism media.
2. There is no significant effect between software and electronic tourism media.
3. There is no significant effect between communications and electronic tourism media.
4. There is no significant effect between human resources and electronic tourism media.

### **Sixth: Research Methodology**

The inductive and deductive research method was used in the theoretical aspect, relying on books, magazines, and scientific periodicals. The statistical aspect was also relied upon in analyzing the scientific aspect of the research.

### **Seventh: Research Community and Sample**

The research community is a group of first-class hotels in Sulaymaniyah Governorate, and due to the great variation in the quality of services therein, the research sample is (**Grand Millennium Sulaymaniyah Hotel, Millennium Kurdistan Hotel and Spa, Titanic Hotel and Spa, Ramada Sulaymaniyah Hotel, Copthorne Baranan Hotel**), which is a sample. Deliberate because it represents first-class hotels currently operating in Sulaymaniyah Governorate. The research sample that was chosen included five first-class hotels in Sulaymaniyah Governorate according to the 2020 statistics. The total number of questionnaires that were distributed was (95) questionnaires, with a rate of (19) questionnaires for each hotel from first-class, the questionnaire was distributed to (**Chairman of the Board of Directors, Managing Director, Assistant Managing Director, Department Director, Division Director**).

### **Eighth: Research Limits**

The research is limited to: -

1. The research is limited to five-star hotels in the Erbil Governorate in the Kurdistan Region of Iraq, which are as follows (**Grand Millennium Suleimani Hotel, Kurdistan Millennium Hotel and Spa, Titanic Hotel and Spa, Ramada Sulaymaniyah Hotel, Copthorne Baranan Hotel**), due to the cooperation of the management of these hotels with the researcher.
2. The research period was extended from 3<sup>rd</sup> January 2020 to 10<sup>th</sup> October 2020.

### **Ninth: Means of Collecting Data and Information: -**

The following methods were relied upon in collecting data and information for the research:

1. Seeking help from some Arab and foreign sources, as well as university periodicals, theses, and dissertations related to the research subject and searching the Internet to cover the theoretical side and support the field side with it.
2. A questionnaire was formed to obtain data on the members of the research sample, as well as data that contribute to determining the correlations and influence between the research variables. The questionnaire was prepared in light of the scientific vision achieved through surveying scientific sources

3. Interview with some of the administrators in the investigated hotels to obtain the history of the hotels and the nature of the business they practice.

**Tenth: Statistical Methods:** Statistical processing was done using the ready-made program (SPSS) to extract the final results and analyze them to discover the relationships and impact between the research variables.

## **The second Domain - Theoretical Aspect**

### **A Conceptual Framework for Modern Information Systems**

#### **First: the Concept of Modern Information Systems**

The urgent need to obtain information, whether for the individual or the organization, in light of the phenomenon of information technology that characterizes the modern era, and within the framework of the system approach used in managing contemporary organizations, led to systems being linked to information, and formed what was agreed upon as the term modern information systems.

Modern information systems in hotel management are considered the basic foundation for providing it with appropriate information to make appropriate decisions. There are several definitions of modern information systems, the most important of which are:

- They are all the procedures, processes, approaches, and technical means that would take place in a certain form of regular interaction to reach the goals set by the hotel organization **(Salem, Salama, 1982:25)**.
- An environment that contains some elements that interact with each other and with their surroundings to collect data, process its computer-wise, and produce and disseminate information to those who need it to make decisions **(Al-Sabbagh, 2000:11)**.
- It is a set of programs that are used to save and process data and organize it with specific procedures established according to the organization's workflow mechanism, to obtain the desired results **(Al-Samarani, Haitham, 2004:43)**.

#### **Second: The Importance of Modern Information Systems**

The importance of modern information systems is evident in their ability to improve the operations and performance of all types and sizes of organizations, as well as supporting the decision-making process and strengthening cooperative work among work teams, which leads to strengthening the competitive position of the hotel organization in the market in which it operates **(Malukhiya, 2006: 4)**.

Modern information systems gain exceptional importance in the life of hotel organizations and in the success of their management in achieving their goals and objectives. This importance is embodied in the major role that modern information systems play in providing information with the required descriptions for decision-making departments, as the importance of decisions is necessarily equal to the importance of the information adopted in making them **(Al-Tai'e, 2000:157)**.

Despite the importance of modern information systems for all organizations, their importance is evident in large hotel organizations, and modern information systems can achieve the following: **(Al-Maghrabi, 2011: 33)**.

1. Enabling hotel management to make decisions on a rational basis by providing appropriate information at the right time.
2. Hotel management avoids making mistakes in planning, organizing, and allocating work.
3. It contributes to achieving the best investment in available data.

4. It works to identify and measure relationships between variables and use them in forecasting.
5. Integration of marketing, production, finance, and other specialized data is achieved to ultimately give a complete picture to management.
6. Providing information with the least amount of duplication, as the entity publishing and distributing the information is unified.
7. It reduces the time spent making decisions, as only the necessary amount of information is sent to decision-making centers.

**Third: Components of Modern Information Systems:** Studying any variable requires identifying its components concerning modern information systems, Researchers have differed in defining their components. Some believe that they consist of (computers, including microcomputers, medium-range and high-powered computers, and communication networks) (Senn, 1998:14). While others have defined it as four elements, namely (hardware and equipment, software, communications, and human resources), there is unanimous agreement among the researchers' opinions that the following components, which will be adopted for this study, represent the basic elements of information technology, which are as follows:

**A. Devices and equipment:** These are the devices and equipment that are represented by a set of physical (tangible) structures or manufactured parts that are used in building and installing the computer, whether its internal or external parts (Al-Tawdari, 2003:20). In this field, devices and equipment are educational components that include tools that add value to the hotel organization, to secure and facilitate electronic work, such as the computer and its accessories, electrical circuits, and communication equipment such as wires of all kinds and transmitting and receiving stations (Khalaf, Omar, 2018: 406).

**B. Software:** It is a group of instructions written in a special language such that its electronic application controls the work of the calculator to fulfill some needs. It can also be described as systems and programs that process data and transform it into information. Computer software can be developed internally by the organization or purchased from outside the hotel organization. And software (Mohamed, Adel, 2018:137).

**C. Telecommunications:** The basic principle of telecommunications technologies is to provide data and information electronically between two different parties or multiple parties, one of whom is a sender and the other is a receiver. However, the use of this technology in linking distant computers together to achieve the same principle has increased the speed and exchange of this process. It made it possible for more than one party to participate in the transmission and reception processes at the same time, with a high speed of transmission that increases day after day. Therefore, the process of interconnecting computers with each other was called (computer networks), or information networks (Stair and Reynolds, 2003:229).

**D. Human Resources:** It is concerned with all the details related to the cadres and individuals working in those organizations under study. Human resources are concerned with following up on the records of the employees in the organization, who are the broad segment that works with their minds, knowledge, and experience, and they are distributed according to precise specializations such as (systems designer, programmer, Database Administrator, Network Administrator, Data Analyst, Information Systems Director, Supreme Supervision and Monitoring Committee for the Information System) (Sabah, Fouad, 2013: 244).

### **The Third Domain: A Conceptual Framework of Electronic Tourism Media**

#### **First: The Concept of Electronic Tourism Media**

Tourism media is a form of specialized media, which emerged as a result of the need for specialized and new information and the development of the cognitive aspects of the public and specialists in addition to previous information. It aims to provide the public with facts and

information that achieve awareness and understanding and create a private field and not a public field. Tourism media is considered one of the Communication media types, which is also a communication media activity concerned with transferring and circulating information related to various aspects of the tourism industry to attract tourists to turn to this product. There have been many definitions given for this concept, including the following:

- The communication process is based on addressing the public objectively and rationally, using the factors of attraction and excitement in presenting the tourism product or service to convince the public and arouse their interest in the importance of tourism and its benefits to the individual and the state, and encouraging them to know the temptations of tourism, by spreading tourism awareness among them and treating tourists well and helping them with what they need. It addresses the audience of prospective tourists, encourages them to visit, and attracts them to the tourism product (**Al-Zahir, Naem, 2001: 178**).
- It is one of the forms of specialized media and is represented in all aspects of planned and continuous communication activity carried out by specialized media professionals to provide the public with all the correct and sound facts and news about issues, topics, problems, and the course of matters related to tourism in an objective manner and without distortion (**Hijab, 2002:63**).

### **Second: The Importance of Electronic Tourism Media**

Tourism electronic media plays many roles in the tourism industry. It works to shape the features of tourism products offered in the Kurdistan region of Iraq and persuade the new generation of tourists to turn to domestic tourism. Tourism electronic media has an important economic role, which is to transform latent tourism demand into active demand by following communication methods. Modern marketing, in addition to providing a significant investment opportunity through the production of media materials specialized in tourism, providing consultations and completing studies regarding electronic tourism media, in addition to forming and training cadres working in the (tourist-hotel) sector, and preparing and implementing communication and media campaigns. Contributing to identifying the obstacles to the tourism industry and highlighting the untapped investment opportunities in the Kurdistan region of Iraq, this is from an economic standpoint, but socially, tourism electronic media is important in conveying correct and accurate information about the state of tourism in the region. It also contributes to supporting the social trend towards accepting tourism as an important industry. Within the Kurdistan region of Iraq, it generates revolution and absorbs unemployment (**Abdul Qader, 2014: 154-155**).

### **Third: Electronic Tourism Media Functions**

To exploit the multiple tourism components available in the Kurdistan region of Iraq, each of which is suitable to be an element of tourist attraction internally and externally, the matter requires the media to perform well in their functions and objectives concerning (the tourism-hotel field), which includes the following: -

**1. News or media:** According to Harold Laswell's vision, news in general means providing people with accurate and objective information and data about events, ideas, issues, phenomena, and current problems in society in a way that helps them form specific attitudes toward what is happening in their society and their world. In the field of tourism electronic media means developing and providing the public with internal and external news and various activities that develop citizens' knowledge and help develop their tourism awareness, which makes them recognize the value of what surrounds them.

**2. Interpretation:** This means providing the public, whether internal or external, with background details of current tourism events, issues, and problems, and explaining tourism development schedules, provided that this information is presented in a simplified manner, devoid of practical details, in an easy-to-read language, and in a way that awakens the public,

arouses its attention, and develops its mind to participate in its discussion. This is why the tourism media relies on his interpretation of events and problems, he relies on an opinion supported by evidence, proof, facts, and numbers, and avoids big, resonant words (**Fatiha, 2016: 50-51**).

**3. Spreading culture:** presenting different sets of values, concepts, beliefs, and lifestyles to the public, whether local or international. Tourism, in its reality as a civilizational phenomenon, is the most important means of cultural communication between nations and peoples. Here it must be made clear to the internal public that tourism is carried out in light of the controls. Ethical standards do not conflict with the values and traditions of the Kurdistan region of Iraq and the teachings of the Islamic religion.

**4. Marketing and advertising:** The media, through its various means, is the most important means that institutions, companies, and tourism bodies resort to advertise tourism programs and policies. Advertisements address foreign tourism programs and domestic tourism programs, in addition to their importance for covering tourism topics within the framework of the general national plan, as it benefits the public by providing this. The necessary information is also an essential source of funding for the media, as tourism advertising is one of the most important communication arts that those in charge of tourist facilities resort to introduce prospective and local tourists to tourism products, services, and components (**Hijab, 2002: 85**).

**Fourth Domain: the Practical Aspect**

**First: Description of the research community:** The research chose a community of first-class hotels in Sulaymaniyah Governorate, as it consists of five hotels as shown in the following table:

**Table (1)**  
**Questionnaires were distributed to the investigated hotels**

No.	The names of hotels	The number of distributed forms	Number of reviewed forms suitable for analysis
1	Grand Millennium Soleimani Hotel	30	19
2	Millennium Kurdistan Hotel & Spa	29	19
3	Titanic Hotel & Spa	30	19
4	Ash Sulaymaniyah Hotel	28	19
5	Copthorne Baranan Hotel	30	19
Total		147	95

Source: Prepared by the researcher.

**Second: The research sample: consists of:**

**Table (2)**

Research sample	Number	Ratio
Chairman of Board of Directors	11	11.57%
Authorized manager	20	21.05 %
Assistant Managing Director	18	18.94%
Director of the Department	21	22.10%
Division manager	25	26.31%
Total	95	100%

**Third: Methods of collecting and analyzing data:** The questionnaire form was designed

according to the research objective and hypothesis, by relying on theoretical literature related to the subject of the research. There were also personal interviews with members of the board of directors, managers, and heads of departments in the organization.

- **Statistical methods:** Some statistical methods appropriate to the nature of the data were followed, and the results were calculated, extracted, and processed by computer and using the (SPSS) program.
- ✓ **Frequency distribution of individuals in the research sample:**
- Frequency distribution of individuals in the research sample by gender: Through analyzing the questionnaire form after filling it out by individuals in the research sample (hotel organizations), which was (95) forms according to table (3):

**Table (3) shows the distribution by gender**

Gender	Frequency	Ratio
Male	80	84.21%
Female	15	15.78%
Total	95	100%

- ✓ **Frequency distribution of individuals in the research sample according to academic achievement:** by transcribing data on the academic achievement of individuals in the research sample, as shown in Table (4):

**Table (4) shows the distribution of academic achievement according to years of service**

Achievement motivation	Frequency	Ratio
Preparatory school	18	18.94%
Diploma	10	10.52%
Bachelor's	34	35.78%
Higher Diploma	11	11.57%
Master's	12	12.63%
PhD	10	10.52%
Total	95	100%

- ✓ **Frequency distribution of the research sample according to years of service in the hotel sector:** It was revealed by translating data on years of service in the hotel sector and hotels to individualize the research sample, as in Table (5).

**Table (5) shows the distribution according to years of service**

Years of service	Frequency	Ratio %
1-5	23	24.21%
6-10	28	29.47%
11-15	25	26.31%
16-20	14	14.73%
21 and more	5	5.26%
Total	95	100%

#### **Fourth: Analyzing the opinions and responses of sample members regarding the research variables**

For this purpose, a five-point Likert scale was used, which is distributed from its highest percentage, which gave (5) a degree of representing the answer field (completely agree), to its lowest percentage, which gave (1) a degree to represent the answer field (completely disagree), and between them are other percentages, which are (2, 3, 4) to represent the answer fields (Neutral Agree, Disagree, respectively). On the other hand, the hypothetical arithmetic means of

(3) was adopted as a criterion and evaluation of the obtained score, noting that the hypothetical mean represents  $(1+2+3+4+5) / 5 = 3$ , and this section was divided into the following:

**A. Analysis of the opinions and responses of sample members about modern information systems (independent variable):**

**Table (6). Frequency distribution and arithmetic means of components of modern information systems**

Factor	Items	Completely agree	Agree	Neutral	Disagree	Strongly disagree	Arithmetic mean	Standard deviation	percentage %
Devices and equipment	X 1	43	27	16	4	5	4.22	0.75	84.42
	X 2	37	40	11	3	4	4.35	0.68	86.95
	X3	49	33	7	4	2	4.11	0.84	82.11
	X 4	55	32	4	3	1	4.26	0.79	85.26
	X 5	32	46	7	7	3	4.17	0.72	83.37
General rate							4.22	0.76	84.42
Software	X 6	45	30	8	7	5	3.81	1.16	76.21
	X 7	28	44	10	7	6	4.09	0.93	81.89
	X 8	21	41	12	10	11	3.23	1.34	64.63
	X 9	36	41	7	5	6	3.63	1.17	72.63
	X 10	25	50	9	3	8	4.38	0.67	87.58
General rate							3.38	1.14	76.89
Communications	X 11	29	48	8	6	4	4.18	0.81	83.58
	X 12	35	33	9	11	7	3.59	1.19	71.79
	X 13	27	39	0	12	17	4.08	0.92	81.68
	X 14	19	29	23	13	11	3.67	1.28	73.47
	X 15	33	39	11	5	7	3.46	1.16	69.05
General rate							3.79	1.12	76.64
Human resources	X 16	50	19	7	15	4	3.63	1.22	72.63
	X 17	29	48	12	4	2	4.29	0.87	85.89
	X 18	30	37	13	11	4	4.26	0.72	85.26
	X 19	41	31	13	5	5	4.22	0.88	84.42
	X 20	33	39	6	8	9	3.75	1.06	74.95
General rate							4.03	1.00	80.63
The overall index of components of modern information systems							3.98	1.00	79.58

Source: Prepared by the researcher based on the results of the electronic calculator.

From the above table, you notice the following:

**1. Devices and equipment:** The items on devices and equipment achieved a good level, as the arithmetic mean reached (4.22), which is greater than the hypothesized arithmetic mean of (3), with an agreement rate of (84.42%), which is in a very good range supported by a standard deviation (0.76), and that it is more The paragraphs that contribute to achieving this level were the first of which is that computer hardware requirements are constantly being updated and developed, represented by the factor (X2), with agreement (86.95%) of the respondents, with an arithmetic mean of (4.35) and a standard deviation of (.68), while the fifth factor was (X3), which is represented by (**Your organization has the financial capabilities to purchase the latest technical equipment**) with agreement (82.11%) of the individuals surveyed, with a mean (4.26) and a standard deviation (0.79).

**2. Software:** The software items achieved a good level, as the arithmetic mean reached (3.83), which is greater than the hypothesized arithmetic mean of (3), with an expenditure percentage of (76.89%), which is in a good range supported by a standard deviation (1.14), and that most of the items contribute to Achieving the positivity of this variable was related to (**your organization has the financial capabilities necessary to purchase the latest software**), which is represented by the factor (X10) and with agreement (87.58%) supported by an arithmetic mean (4.38) and a standard deviation of (0.67). As for the factor represented by (X8) (**your organization depends on Expert systems in the process of providing hotel services to guests**) with agreement (64.63%) supported by an arithmetic mean (3.23) and a standard deviation (1.34).

**3. Communications:** The communications paragraphs achieved a good level, as the arithmetic mean reached (3.79), which is greater than the hypothesized arithmetic mean of (3), with an agreement rate of (76.64%), which is in a good range supported by a standard deviation (1.12), and that the paragraphs most contribute to Achieving the positivity of this variable was related to **(your organization uses the Internet to benefit from the experience of international hotel companies in the field of providing hotel services)**, which is represented by the factor (X11) and with agreement (83.58%) supported by an arithmetic mean (4.18) and a standard deviation (0.81), while the factor (X15) **(Your organization uses modern means of communication (such as websites and e-mail) that contribute to the speed of completing work)** with agreement (69.05%), supported by an arithmetic mean (3.45) and a standard deviation (1.16).

**4. Human Resources:** The human resources paragraphs achieved a good level, as the arithmetic mean reached (4.03), which is greater than the hypothesized arithmetic mean of (3), and it misses agreement (80.89%) and is in a good range supported by a standard deviation (1.00), and that most of the paragraphs A contribution to achieving the positivity of this variable was related to **(using modern information systems increased the profitability of the hotel organization)**, which is represented by the factor (X17) and with an agreement of (80.63%), supported by the arithmetic mean (4.29) and a standard deviation of (0.87). As for the factor (X16), which is represented by **(Your organization is interested in attracting and selecting the best expertise in the field of modern information systems)** came in last place with agreement (72.63%) supported by a mean (3.63) and a standard deviation (1.22).

From the above, the researcher notes that the overall index of components of modern information systems was at a good level, as its general arithmetic mean reached (3.98), which is higher than the hypothesized mean (3), and is attributed to agreement (79.58%), supported by a standard deviation (1.00), which is in a good range.

Accordingly, the management of the surveyed organizations shows good interest in this variable by constantly updating and developing computer hardware supplies, **possessing the necessary financial capabilities to purchase the latest software, and using the Internet to benefit from the experience of international hotel companies in the field of providing hotel services and using modern information systems to work to increase the profitability of the hotel organization.** After completing a description of the sample members' responses about the components of modern information systems (hardware and equipment, software, communications, and human resources), their relative importance must be determined to determine the organization's priorities, and Table (7) shows their relative importance.

**Table (7) The relative importance of components of modern information systems**

No.	Variables	Arithmetic mean	standard deviation	Pe84.42r centage	coefficient of variation %	order of importance
1	Devices and equipment	4.22	0.76	84.42	18.01	First
2	software	3.83	1.14	76.89	29.89	Third
3	communications	3.79	1.12	76.64	29.11	Fourth
4	Human resources	4.03	1.00	80.63	24.87	Second
	<b>Modern information systems</b>	<b>3.98</b>	<b>1.00</b>	<b>79.58</b>	<b>25.47</b>	

Source: Prepared by the researcher based on the results of the electronic calculator.

It is clear from the table above that the components of modern information systems in the organization under study were at a level of (3.98) on the five-point scale, and although its arithmetic mean exceeded the hypothesized mean (3) with a percentage of (79.58%), it is below the required level and needs more attention. By the management of the researched organization and an attempt to improve it in the future.

**B. Analysis of the opinions and responses of sample members about the functions of electronic tourism media (dependent variable):**

**Table (8) Frequency distribution and arithmetic means for electronic tourism media functions**

Factor	Items	Completely agree	Agree	Neutral	Disagree	Strongly disagree	Arithmetic mean	Standard deviation	percentage %
Media	X 1	29	47	9	6	4	3.68	1.27	73.68
	X 2	41	33	7	9	5	3.67	1.31	73.47
	X3	24	43	13	8	7	3.95	0.80	78.95
General rate							3.77	1.15	75.37
Interpretation	X 4	31	40	1	13	10	3.91	1.27	78.11
	X 5	41	29	4	9	12	3.85	1.25	77.05
	X 6	27	51	7	9	1	3.81	1.05	76.21
General rate							3.86	1.19	77.12
Spreading culture	X 7	34	39	8	5	9	3.84	1.08	76.84
	X 8	37	31	11	9	7	3.63	1.34	72.63
	X 9	45	30	3	11	6	3.87	1.12	77.47
General rate							3.78	1.19	75.65
Advertisement	X 10	29	37	9	12	8	3.86	1.18	77.26
	X 11	38	22	11	15	9	3.42	1.23	68.42
	X 12	27	29	23	3	13	3.57	1.13	71.37
General rate							3.62	1.19	72.35
The overall index for operations of electronic tourism media functions							3.76	1.18	75.12

Source: Prepared by the researcher based on the results of the electronic calculator.

We note from the above table the following:

**1. Media:** The media paragraphs achieved a good level, as the arithmetic mean reached (3.77), which is greater than the hypothesized arithmetic mean of (3), with an agreement rate of (75.37%), which is in a good range supported by a standard deviation (1.15), and that most of the paragraphs contributed to Achieving the positivity of this variable was related to (much of the information published through the electronic tourism media relating to tourist destinations in the Kurdistan region of Iraq is accurate). It is represented by the factor (X3) and has an agreement of (78.95%) supported by an arithmetic mean (3.95) and a standard deviation of (0.80). The factor that came in last place (X1) is (Is there within your organization a clear perception of tourism electronic media). There is agreement (73.68%), supported by an arithmetic mean (3.68) and a standard deviation (1.27).

**2. Interpretation:** The interpretation paragraphs achieved a good level, as the arithmetic mean reached (3.86), which is greater than the hypothesized arithmetic mean of (3), with an agreement rate of (77.12%), which is in a good range supported by a standard deviation (1.19), and that most of the paragraphs contribute to Achieving the positivity of this variable was related to (Is your organization able to provide the tourist public with hotel issues and problems). It is represented by the factor (X4), with an agreement of (78.11%), supported by an arithmetic mean (3.91) and a standard deviation of (1.27) and a standard deviation of (1.25). As for the last factor (X6) is represented by (adopting the Arabic language, Kurdish language, or multiple languages in delivering the tourism electronic media message). There is agreement (76.21%), supported by an arithmetic mean (3.81) and a standard deviation (1.05).

**3. Spreading culture:** The items on spreading culture achieved a good level, as the arithmetic mean reached (3.78), which is greater than the hypothesized arithmetic mean of (3), with an agreement rate of (75.65%), which is in a good range supported by a standard deviation (1.19), and that most of the items A contribution to achieving the positivity of this variable was related to (your organization seeks to participate in media campaigns dedicated to tourism culture), which is represented by the factor (X9) and with an agreement (77.47%) supported by an arithmetic mean (3.87) and a standard deviation (1.12). As for the last factor (X8) is represented by (Your organization seeks to develop tourism awareness through tourism seminars with

experts and officials in the tourism field), with agreement (72.63%), supported by an arithmetic mean (3.63) and a standard deviation (1.34).

**4. Advertisement:** The advertisement paragraphs achieved a good level, as the arithmetic mean reached (3.62), which is greater than the hypothesized arithmetic mean of (3), with an agreement rate of (72.35%), which is in a good range supported by a standard deviation (1.119), and that the paragraphs most contribute to Achieving the positivity of this variable was related to (your organization presents its services through newspapers and magazines appropriately), represented by the factor (X10) and with an agreement (77.26%) supported by an arithmetic mean (3.86) and a standard deviation (1.18). As for the last factor (X11) is represented by (Your organization is distinguished by its use of modern methods of promotion by offering services through its website), with the agreement (68.42%) supported by an arithmetic mean (3.42) and a standard deviation (1.23).

From the above, we note that the overall index of electronic tourism media functions operations was at a good level, as its general arithmetic mean reached (3.76), which is higher than the hypothesized mean (3), with an agreement rate of (75.12%), which is in a good range supported by a standard deviation (1.08). Accordingly, the management of the organizations pays attention to (much of the information that is published through the electronic tourism media regarding tourist destinations in the Kurdistan region of Iraq accurately, and can provide the tourist public with hotel issues and problems, and it seeks to participate in media campaigns dedicated to tourism culture, it displays its services through newspapers and magazines appropriately).

After completing the description of the responses of the sample members about the operations of the electronic tourism media functions (information, interpretation, publishing the story, and advertising), it is necessary to determine their relative importance to identify the priorities of interest of the organization's management, and Table (9) shows their relative importance.

**Table (9) The relative importance of electronic tourism media functions**

No.	Variables	Arithmetic mean	standard deviation	Percentage	coefficient of variation %	order of importance
1	Media	3.77	1.15	75.37	11.26	Third
2	Interpretation	3.86	1.19	77.12	12.10	First
3	Spreading culture	3.78	1.19	75.65	11.12	Second
4	Advertisement	3.62	1.19	72.35	8.77	Fourth
Electronic tourism media functions		3.76	1.18	75.12	10.81	

Source: Prepared by the researcher based on the results of the electronic calculator.

It is clear from the table above that the electronic tourism media functions in the surveyed organizations were at a good level on the five-point scale with a seminal percentage (75.12), and despite exceeding the hypothesized mean (3), it is still below the required level and needs more attention from the organization's management to maintain and try to improve it in the future.

**Fifth: Analyzing and selecting the correlations between the components of modern information systems and the functions of electronic tourism media.**

This paragraph is concerned with measuring the correlation relationships between the research variables included in the first main hypothesis for each component of modern information systems, through the use of the Pearson correlation coefficient to discover the nature of the relationship contained in the first main hypothesis and the sub-hypotheses emerging from it, which stipulate the existence of a significant correlation relationship. Statistics between the components of modern information systems and electronic tourism media, and Table (10) shows the results of the correlation analysis of the components of modern information systems and electronic tourism media.

**Table (10): Results of the analysis of correlations between components of modern information systems and electronic tourism media**

Dependent variable	Tourism knowledge management				degree of confidence
	R	Calculated T	Tabular T	level of significance	degree of confidence
<b>Independent variable Information Technology (X)</b>					
<b>Devices and equipment</b>	<b>0.93</b>	<b>3.402</b>	<b>2.39</b>	<b>0.05</b>	<b>95%</b>
<b>Software</b>	<b>0.98</b>	<b>3.121</b>			
<b>Communications</b>	<b>0.96</b>	<b>3.245</b>			
<b>Human resources</b>	<b>0.90</b>	<b>3.542</b>			
<b>Total index</b>	<b>0.95</b>	<b>3.275</b>			
<b>Decision (result)</b>	<b>The correlation between the two variables is positive, strong, and significant</b>				

Source: Prepared by the researcher based on the results of the electronic calculator.

It is clear from Table (10) that there is a direct (positive) correlation between the components of modern information systems and electronic tourism media, in general, and it is statistically significant at the level (5%), as the value of the simple correlation coefficient between them reached ( $R = 95\%$ ), which is a very good value. The strength of this relationship reflects statistical significance between the two variables, and what supports this is the calculated (T) value of (90.29%), which is greater than the tabulated (T) value of (2.39) and a degree of confidence (95%), and this means the existence of a positive and strong correlation relationship. It is statistically significant between the components of modern information systems and electronic tourism media in general.

The results of testing the components of modern information systems and electronic tourism media individually support this result as follows:

A. There is a strong linear correlation between devices and equipment and electronic tourism media, as the value of the correlation coefficient reached (0.93%), which is a very good value, as the calculated (T) value indicates (3.402), which is greater than its tabulated value (2.39) at a significant level (5%) i.e. a degree of confidence (95%). This refers to the strength of the relationship between the two variables.

B. There is a statistically significant linear correlation between software and electronic tourism media, as indicated by the correlation coefficient of (0.98%), which is a very good value that reflects the strength of the relationship between the two variables, as the calculated (T) value of (3.121) indicates, which is greater than its tabulated value of (2.39) at a significant level of (5%), that is, with a degree of confidence (95%).

C. There is a statistically significant positive linear correlation between communications and electronic tourism media, as indicated by the correlation coefficient value of (0.96%), which is a positive value that reflects the strength of the relationship between the two variables, as the calculated (T) value indicates (3.245), which is greater than tabulated value of (2.39) at a significance level of (5%) with a degree of confidence (5%).

D. Human resources and electronic tourism media are linked with a significant linear correlation. The value of the correlation coefficient between them reached (0.95), which is a good value, as the calculated (T) value reached (3.542), which is greater than its tabulated value of (3.39) at a significance level (5%). That is, with a degree of confidence (95%). This explains that the more individuals working in the organization can make optimal use of modern information systems,

the greater their ability in electronic tourism media to perform their work and the management's work to encourage the creative workers in the organization, based on previous results that prove the existence of a significant correlation. Statistics between the components of modern information systems (in general and in detail) and the functions of electronic tourism media. Accordingly, the first main hypothesis is accepted.

**Sixth: Testing the second main hypothesis**

This paragraph is concerned with measuring the influence relationships between all components of modern information systems and electronic tourism media, through the use of a simple linear regression model to discover the nature of the relationship contained in the second main hypothesis, which states that there is a relationship (influence between modern information systems and electronic tourism media. Table (11) explains the analysis results of the influence relationship between the components of information systems and electronic tourism media.

**Table (11) Estimation results of a simple linear regression model for the components of information technology and tourism knowledge management**

(In general, and in detail)

Intentional variable Independent variable	Tourism crisis management			level of significance
	R2% Interpretation factor	Calculated F	Tabular F	
Devices and equipment	85.87	18.24	10.1	0.05
software	96.22	36.42		
communications	91.37	31.47		
Human resources	81.43	13.15		
Total index	91.29	27.90		

Source: Prepared by the researcher based on the results of the electronic calculator

It is clear from Table (11) the result of measuring the impact of the components of modern information systems in general and in detail on the variables of the functions of electronic tourism media, as the coefficient of determination (F2) indicates that the percentage of variance explained in the functions of electronic tourism media by modern information systems is no less than (90.29%). This is an excellent percentage, which supports the choice of (F). The calculated value of (F) reached (27.90), which is greater than its tabulated value of (10.1) at a significance level of (5%). This means that the remaining percentage of the value of the coefficient of determination (R2 = 9.71%) is attributed to other reasons not included in the current research.

The results of the influence relationship between the variables of modern information systems individually and electronic tourism media were as follows:

A. There is a very good effect, as indicated by the coefficient of determination between devices and equipment and electronic tourism media, which is a percentage that indicates that modern information systems can explain (85.87%) of the changes occurring in the variable and electronic tourism media and that the remaining percentage (14.13%) is due to other variables are not included in the current research. The calculated F value of (18.24) indicates that the relationship between the two variables is significant at the level of (5%).

B. There is a significant effect between software and electronic tourism media, as the value of the coefficient of determination reached (96.22%), supported by the calculated (F) value (36.42) at a significant level (5%), which is greater than its tabulated value of (10.1), and this percentage indicates the ability of the software to explain the changes occurring in a variable and electronic

tourism media, while the remaining percentage (3.78%) is due to external variables other than those included in the current research.

C. The coefficient of determination ( $R^2$ ) between the communications variable was about (91.37%), while the remaining percentage (8.63%) is due to variables not included in the current research, and the calculated ( $F$ ) was (13.15), which is greater than its tabulated value of (10.1) at a significant level (5%).

D. The coefficient of determination ( $R^2$ ) between the human resources variable was about (81.43%), while the remaining percentage (18.57%) is due to variables not included in the current research, and the calculated ( $F$ ) was (13.15), which is greater than its tabulated value of (10.1) at a significance level (5%).

Based on previous results that prove the existence of a statistically significant effect between modern information systems (in general and in detail) and functions and electronic tourism media, the second main hypothesis is therefore accepted.

## **Fifth Domain**

### **Conclusions and Suggestions**

#### **First: Conclusions**

A set of conclusions can be summarized as follows:

1. The research showed that the level of functions and electronic tourism media among workers in the surveyed organizations was high according to the research scale.
2. The research showed that the investigated organizations adhere to the components of modern information systems, which have been studied at a high level.
3. There is a statistically significant relationship between the components of modern information systems in their various dimensions and electronic tourism media among employees of the organizations studied.
4. There is a significant, statistically significant effect between modern information systems with their various components and electronic tourism media among employees of the researched organizations.
5. The answers of the individuals surveyed tend towards agreement on most of the items related to the components of modern information systems and electronic tourism media at the level of the researched organizations.

#### **Second: Suggestions**

To complete the methodological requirements, the researcher found it useful to present the following suggestions:

1. Working to develop the capabilities and skills of workers in the field of using information systems by enrolling them in training courses that enable them to deal with modern devices and communication networks.
2. Prepare a comprehensive plan to determine the needs of the surveyed organizations for machines, equipment, and modern technologies to raise the level of technology used compared to competitors.
3. The necessity of establishing a special department for electronic tourism media in the Tourism Directorate in Sulaymaniyah Governorate to promote existing tourist areas.
4. The necessity of working to create a department or unit in the organizational structure of the surveyed organizations concerned with electronic tourism media, and appointing a director for it who holds a doctorate in tourism media.

5. It is necessary to develop the media used in tourism media in the surveyed organizations in Sulaymaniyah Governorate in terms of content and design, and for their content to provide a true message about domestic tourism.

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