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The Role of Information and Communications technology and its Impact in Hotel Crisis Management: An Exploratory Study of Administrative Workers' Sample Opinions in First-Class Hotels in Baghdad Governorate

[1] **Dr. Hassan Odah Ghdaab**
[2] **Dr. ALI lSSA JASIM**

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[1] Middle Technical University – Technical College of Management - Baghdad
hassan85@mtn.edu.iq
[2] Middle Technical University – Technical College of Management - Baghdad
alialissa@mtu.edu.iq

ABSTRACT: The research aims to clarify the role of information and communications technology and its impact on hotel crisis management through an exploratory study of administrative workers' sample opinions in the first-class hotels in Baghdad Governorate. With the acceleration of the pace of technological progress, the scope of reliance on information and communications technology began to expand, to include various vital fields, including Hotel crisis management, as hotel organizations must benefit from applications of information and communications technology in managing the crises, they face in the hotel sector. The research dealt with theoretical and scientific analysis of each of these terms separately and the relationship of influence that exists between them. The research included the following domains: -

The first domain: - Research methodology.

The second domain: A conceptual framework for information and communications technology.

The third domain: A conceptual framework for hotel crisis management.

Fourth domain: The practical aspect.

The fifth domain: Conclusions and suggestions.

KEYWORDS: information and communications technology - hotel crisis management.

Introduction:

Information technology, with its rapid developments, constitutes the most prominent element in our present era to the point where it can be said that it has come to control the direction, unity, and period of crises and that the process of managing hotel crises is difficult and complex in which several factors, parties, and multiple systems intersect inside and outside hotel organizations, so overcoming the crisis or even its creation has today become a hostage. The strength and speed of the communication system are based primarily on information and communications technology. Therefore, hotel organizations of all types tend to rely heavily on information and communications technology solutions and techniques to develop and grow their business and consider it an essential tool for effective tourism management, providing services to guests, and enhancing their competitiveness.

The First Domain: - Research Methodology

First: The Research Problem

The research problem stems from the lack of a comprehensive perception by those in charge of hotel organizations of the important and positive role that information and communications technology plays in the success of hotel organizations and in avoiding crises, especially crises in the (hotel) sector, and its importance in avoiding losses resulting from the collapse of the system, which prompted the recognition of the role of information and communications technology. In early detection of crises, how to protect against them, and trying to develop solutions to avoid falling into these crises again. Accordingly, the research problem was represented by the following questions:

1. Is there a clear perception among the surveyed organizations about information and communications technology?
2. Is there a clear perception among the surveyed organizations about hotel crisis management?
3. What is the nature of the relationships and influence between information and communications technology and hotel crisis management?

Second: The Research Importance

The importance of the research stems from the fact that it deals with an important sector, which is the (hotel) sector, which is one of the sectors most exposed to crises, especially in difficult economic, political, and security conditions, which prompted the researcher to find out the extent of benefiting from the features provided by information and communications technology in hotel crisis management, which supports performance. Hotel management for the researched organizations leads to enhancing their ability to manage crises and benefit from them in the future to support the stability and growth of the researched organizations and avoid financial distress and bankruptcy.

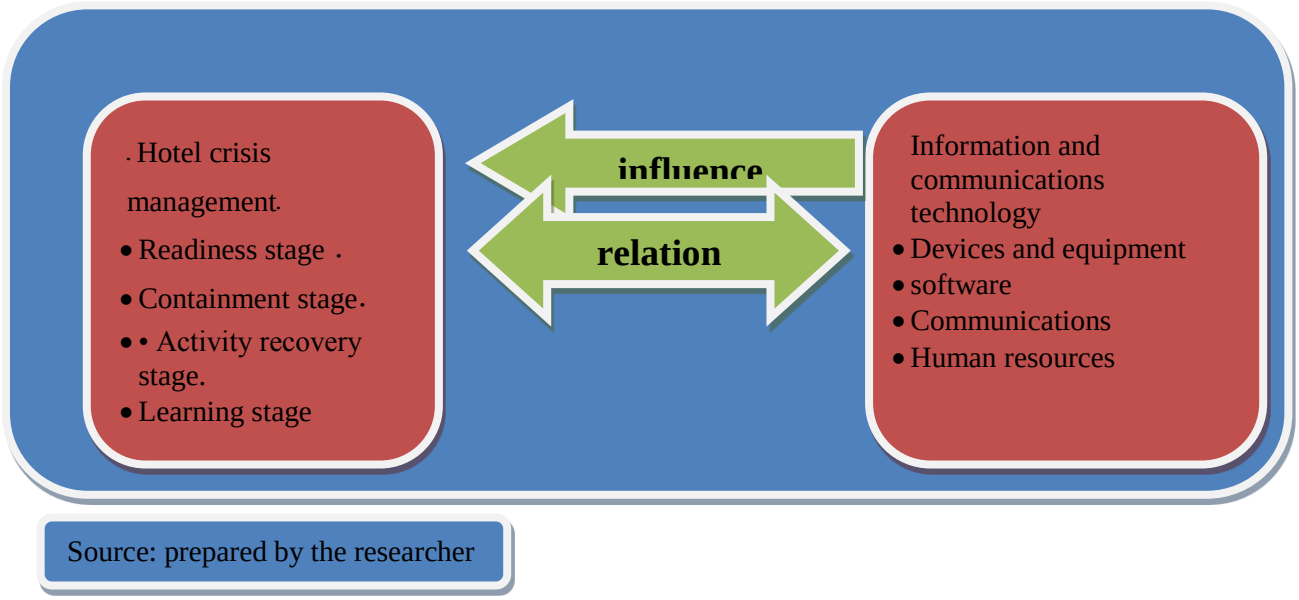
Third: Research Objectives

The research aims to clarify the role of information and communications technology in hotel crisis management, in addition to developing a theoretical framework for information and communications technology and hotel crisis management, and identifying the nature of the relationships (correlation and influence) between the two variables and trying to interpret them and benefit from the results in addressing one or more problems. In the researched organizations, presenting a set of proposals that effectively contribute to increasing the awareness and perception of administrative leaders about the concept of the research variables.

Fourth: Research Model

A hypothetical research model was designed as in Figure (1), which indicates the relationship (correlation and influence) between information and communications technology and hotel crisis management.

Figure (1) Hypothetical research model



Source: prepared by the researcher

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 the components of information and communications technology and hotel crisis management. This main hypothesis is divided into the following sub-hypotheses:

1. There is a significant correlation between devices and equipment and hotel crisis management.
2. There is a significant correlation between software and hotel crisis management.
3. There is a significant correlation between communications and hotel crisis management.
4. There is a significant correlation between human resources and hotel crisis management.

The second main hypothesis: There is no significant effect between the components of information and communications technology and hotel crisis management. This main hypothesis is divided into the following sub-hypotheses:

1. There is no significant effect between devices and equipment and hotel crisis management.
2. There is no significant effect between software and hotel crisis management.
3. There is no significant effect between communications and hotel crisis management.
4. There is no significant effect between human resources and hotel crisis management.

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 Baghdad Governorate, and due to the large variation in the quality of services, the research sample is (**Al-Rashid Hotel, Al-Mansour Hotel, Palestine Hotel, Ishtar Hotel, Babel Hotel**), which is a deliberate sample because it represents operating first-class hotels. In Baghdad currently, the research sample that was selected included five first-class hotels in Baghdad Governorate according to the 2023 census, and the total number of questionnaires that were distributed was (**95**) questionnaires, at a rate of (**25**) questionnaires for each first-class hotel, and the questionnaire was distributed to (**Chairmen and members of the Board of Directors - authorized**

directors - unit directors and department heads, assistant authorized director, department director, division director).

Eighth: The research Limits

They were represented as follows: -

1. The research was limited to five-star hotels in the Baghdad Governorate in the Kurdistan Region of Iraq, which are as follows (**Al-Rashid Hotel, Al-Mansour Hotel, Palestine Hotel, Ishtar Hotel, Babel Hotel**) due to the cooperation of the administrations of these hotels with the researcher.
2. The research period was extended from 4th January 2021 to 7th November 2022.

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: A Conceptual Framework for Information and Communications technology.

First: The Concept:

Information and communications technology represents the most important tool for the proper performance and implementation of the various tasks and activities carried out by tourism organizations, regardless of their types, sizes, and the nature of their activities. It is the most important focus that has been received by many researchers and organizations that seek development and advancement for its effective role in implementing plans and achieving the set goals. In this context**, (Shore, 1996:9)** emphasizes that information and communications technology is represented by some material and software requirements related to the means of communication and in all directions, whether internal or external. **(Gupta, 2010:3)** adds that it is a general term that describes the technology that is used to produce, process, store, communicate, or disseminate information, integrating computing with a high-speed communications loop that carries data, audio, and video, and it includes new formats for telephones and television, tools, and many handheld devices, in addition to personal computers. **(Masoudi, 2012:41)** explains that they are new methods and methods with high efficiency for exchanging information among all users using computers, wired phones, fax, and the Internet.

Second: The Importance of Information and Communications Technology

The reasons for hotel organizations' interest in information and communications technology when implementing their strategies is the need for diversity and flexibility to work in light of the changes they confront, including the rapid changes in information and communications technology, which have become of wide importance at all levels to achieve competitive advantage and knowledge. In managing crises that occur and that reflect positively on the hotel organization, the importance of employing information and communications technology in completing hotel business comes through the following: -

1. **Coordination between departments:** Information and communications technology has been able to increase the coordination capacity between the organization's departments and other organizations alike, and this in turn leads to reducing the costs of personal interviews that may require the movement of individuals from one area to another.

2. **Controlling departments:** The organization can now collect huge amounts of information from distant and different places, control the processes of processing and storing it, and make it available to its beneficiaries at the appropriate time **(Daft, 2001:247) (Postnote, 2006:2)**.

3. Information and communications technology increases access to information and increases production capacity, as well as speed in decision-making **(Faisal, 2016: 235).**

4. **Providing hotel management with pictures and standards of the required information** needs to benefit from the ideas that require planning and managing them to serve the organization, in choosing among the various alternatives to achieve maximum benefit.

5. **Contributing to the administrative decision-making process:** supporting decision makers and helping everyone achieve their goals, as it provides the means and tools to help in this field, and the validity of the decision depends on the availability of information and the way it is processed, and presenting the various alternatives and the cost of each alternative and its implications with extreme accuracy which helps the administrator to compare between alternatives to make the appropriate decision **(Mohamed, 2001:27).**

Third: Components of Information and Communications Technology

The concept of information technology includes five basic components, which are hardware and equipment, communication networks, software, information bases, and human skills. They complement each other and are interconnected making the system work effectively, which are as follows:

A. **Devices and equipment:** Devices and equipment are defined as the group of physical and tangible structures or manufactured parts that are used in building and installing the computer, whether its internal or external parts, or they are those electronic computers and the physical parts attached to them, which are always in direct contact with data and updating stored information and process them and produce possible results, (**Al-Hayali, 2010:18**).

B. **Software:** Software of all kinds has witnessed extensive development, has become easier to use and more powerful, and has begun to cover a wide range of applications to form the field of simulation and artificial intelligence. Software is designed to direct computers in reading inputs, storing data, retrieving it, updating it, and transforming it into understandable and useful forms. Computer software consists of instructions. Programmed and detailed for controlling and coordinating the physical hardware components of an information system.

C. Databases: It is a group of interconnected data or information stored in data storage devices. The database can be a store of company or organization records, time standards for various organizational operations, cost data, or information related to the customer (guest) request, and it can be added or modified. And constantly updating the database to keep pace with emerging changes to help managers make their strategic decisions according to the correct foundations (**Al-Abdali, 2011:11).**

D. **Communications and networks:** Communications technology is the other complementary dimension to information technology. Communications technology has added great importance to the content of information and communications technology by providing communication costs, exceeding the limits of temporal and spatial considerations, and speed and accuracy of obtaining information upon

which decision-making in the tourism organization is based. It is defined as a group of computers and peripheral devices that connect and allow their users to share resources and devices connected to the network, such as the printer, modem, and CD-ROM drive.

E. Human Resources: Human resources are classified into two categories. The first consists of the majority of those who are called end users and who deal with application programs as beneficiaries of them and their applications without going into the precise details of their programming processes. As for the second category, they are computer specialists who design computers and develop various programs, whether applied or system programs, **(Yusri, 2019: 384).**

The Third Domain: A Conceptual Framework for Hotel Crisis Management

First: The concept: The issue of crisis management is one of the issues that greatly affect the life and survival of hotel organizations, as the ability of any organization to sense expected events in the surrounding environment, which is characterized by complexity and rapid change, will help the organization increase its capabilities to compete and adapt to the surrounding environment, and not the ability to follow a successful management methodology in crises results in a direct threat to the life and continuity of organizations. **(Ahmed, 2002:32)** indicates that crisis management is a purposeful activity based on research and obtaining the necessary information that enables management to predict the locations and trends of the expected crisis, and to create the appropriate climate for dealing with it. This happens by taking measures to control and eliminate the expected crisis or change its course in the interest of the organization. **(Lafta, 2001:10)** explains that the organization can deal with changes and emergencies efficiently and effectively to reduce losses and threats to individuals and funds, and negative effects on the organization's goals, activities, and operations.

Second: Objectives of Hotel Crisis Management: The objectives of hotel crisis management are as follows:

1. Preventing the crisis.
2. Confronting the hotel crisis efficiently and effectively.
3. Reducing loss of life and property to the minimum possible.
4. Reducing the negative effects caused by crises by reducing their frequency.
5. Reducing the frequency of crises through careful monitoring, gathering information, recognizing and evaluating crises, and responding to warning signals.
6. Reducing the consequences, severity, and intensity of crises.
7. Identifying ways in which crisis data and their results can be utilized as a stage for learning and determining the system **(Saadia et al., 2017: 50).**

Third: Stages of Hotel Crisis Management

Researchers and writers in the field of crisis management have presented multiple models for the stages of tourism crisis management. These models are built on objective and applied aspects. They aim to address and dismantle the components and causes of crises. Any failure of these stages will lead to an exacerbation of the crisis and thus Failure to solve it, these stages are as follows:

A. **Crisis avoidance stage:** In this stage, the occurrence of the crisis is avoided by anticipating the occurrence of the crisis, and tourism administrative leaders work to direct the energies of workers towards directly preventing its occurrence, as well as collecting data and information about the various phenomena due to which a crisis is expected to occur.

B. **Preparing to manage and recognize the crisis:** Preparing in advance to manage the crisis is done by establishing centers to manage it within the researched organizations, providing integrated

information, preparing trained tourist teams, and a rapid communications system, preparing emergency plans, organizing training programs to confront it when it occurs, recognizing it, and taking the necessary measures in terms of harnessing it. Material and human capabilities (**Saad, 2014:98**).

C. **The stage of containing the crisis**: It requires taking quick decisions to contain it and strip it of its strength, while forming a work team to confront it quickly, in addition to putting plans into effect and using the necessary means to limit the spread of the crisis.

D. The stage of restoring activity: This stage includes an attempt to compensate for what was lost in the previous stage, as well as re-planning and analyzing the harm and damage that befell the organization's departments and parts, with the formation of study teams, setting goals for development and rebuilding, setting development plans to restore activity, implementing them, and monitoring them (**Al-Dhahabi &Al-Obaidi, 2002:218).**

E. **The stage of benefiting from the crisis:** The period after getting rid of the crisis, which is characterized by reconsidering the crisis and managing it again to benefit from the lessons, and experiences expected from it, such as the process of evaluating plans and developing the information and communications system, as well as developing and training work teams to give them immunity and prevent an upcoming crisis, and re-evaluation to improve what it has been accomplished. Among the methods that help the organization to benefit from the crisis and form effective behavioral patterns in the face of future crises, whether similar or not, such as (annually celebrating the anniversary of the crisis, continuous and permanent training for individuals on how to pay attention to early warning signals, how to estimate losses, and how to manage crises, presenting Material and moral incentives for attending training programs and crisis study meetings to confirm their benefit (**Abdalla et al., 2018: 257**).

Fourth Domain: - The Practical Aspect

First: Description of the Research Community

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

Table (1)

Questionnaires were distributed to the investigated hotels

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No.	The names of hotels	The number of distributed forms	Number of reviewed forms suitable for analysis
1	Al Rasheed Hotel	**30**	**21**
2	Al Mansour Hotel	**29**	**18**
3	Palestine Hotel	**30**	**19**
4	Ishtar Hotel	**28**	**18**
5	Babel Hotel	**28**	**19**
Total		**145**	**95**

Source: Prepared by the researcher

Second: The research sample: consists of:

Table (2)

Research sample	Number	ratio
Chairman of Board of Directors	**35**	**36.84%**
Authorized manager	**17**	**17.89%**

Unit manager and department heads	**43**	**95.26%**
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 (4) 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	**4**	**4.21%**
Diploma	**14**	**14.73%**
Bachelor's	**40**	**42.10%**
Higher Diploma	**11**	**11.57%**
Master's	**16**	**16.84%**
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 the components of information and communications technology (the independent variable):

Table (6)

Frequency distribution and means of ICT components

Factor	Items	Completely agree	Agree	Neutral	Disagree	Strongly disagree	Arithmetic mean	Standard deviation	percentage %
Devices and equipment	X 1	30	41	16	5	3	4.22	0.75	84.42
	X 2	35	40	20	0	0	4.35	0.68	86.95
	X3	31	45	12	7	0	4.11	0.84	82.11
	X 4	33	49	7	6	0	4.26	0.79	85.26
	X 5	23	46	21	4	1	4.17	0.72	83.37
General rate							4.22	0.76	84.42
Software	X 6	45	38	6	4	2	3.81	1.16	76.21
	X 7	39	33	10	7	6	4.09	0.93	81.89
	X 8	24	29	18	15	9	3.23	1.34	64.63
	X 9	19	48	11	8	9	3.63	1.17	72.63
	X 10	38	40	9	1	7	4.38	0.67	87.58
General rate							3.38	1.14	76.89
Communications	X 11	37	33	14	8	3	4.18	0.81	83.58
	X 12	40	19	13	11	12	3.59	1.19	72.79
	X 13	29	42	12	9	3	4.08	0.92	81.68
	X 14	19	28	21	14	13	3.67	1.28	73.47
	X 15	31	21	19	16	10	3.46	1.16	69.05
General rate							3.79	1.12	76.64
Human resources	X 16	37	26	15	10	7	3.63	1.22	72.63
	X 17	48	33	12	0	2	4.29	0.87	85.89
	X 18	35	44	7	6	3	4.26	0.72	85.26
	X 19	39	31	17	5	3	4.22	0.88	84.42
	X 20	25	39	20	8	4	3.75	1.06	74.95
General rate							4.03	1.00	80.63
The overall index of information and communication technology							3.98	1.00	79.56

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 first items contribute to achieving this level: The use of modern technical devices contributes to the development of your organization and its competitive position, which is represented by the factor (X2), with agreement (86.95%) of the respondents, with an arithmetic mean (4.35) and a standard deviation (0.68), while the fifth factor was (X3). It is represented by (**your organization has the financial capabilities to purchase the latest technical equipment)** and was agreed upon by (82.11%) of the individuals surveyed, with a mean of (4.26) and a standard deviation of (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), 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 follows up on software development. Which is used to perform its work continuously and 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 items most contribute to achieving the positivity of this variable was related to the fact that your organization and its various departments are connected to an internal computer network (LAN), which is represented by the factor (X11), with agreement (83.58%) supported by an arithmetic mean (4.18) and a standard deviation of (0.81). As for the factor (X15), which is represented by (**your organization uses means of communication Modern methods (such as websites and e-mail) 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 items a contribution to achieving the positivity of this variable was related to (**in your organization there are employees in the specializations of systems analysis and design and they are relied upon to build new systems in addition to developing the general systems in them**), which is represented by the factor (X17) and with agreement (80.63%) supported by the arithmetic mean (4.29) and a standard deviation (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 information and communications technology**), it came in last place, with agreement (72.63%), supported by a mean (3.63) and a standard deviation (1.22).

From the above, we note that the overall index of information and communications technology was at a good level, as its general arithmetic mean reached (3.98), which is higher than the hypothesized mean (3), and the mean agreement (79.58%) is 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 through the use of modern technical devices in developing your organization and its competitive position. The organizations possess the financial capabilities necessary to purchase the latest software. The

organizations are linked to their various departments by an internal computer network (LAN), and there are employees in the specializations of systems analysis and design. They are relied upon to build new systems in addition to developing their general systems.

After completing the description of the sample members' responses about the components of information and communications technology (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 ICT components

No.	Variables	Arithmetic mean	standard deviation	Percentage	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
information and communications technology		3.98	1.00	79.58	25.47	

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

It is clear from the table above that information and communications technology in the organization under study was at a level of (3.98) on the five-point scale, and although its arithmetic mean exceeded the hypothesized mean (3) with a percentage (79.58%), it is below the required level and needs more attention than before managing the researched organization and trying to improve it in the future.

B - Analyzing the opinions and responses of sample members about the stages of hotel crisis management (dependent variable):

Table (8): Frequency distribution and arithmetic means for the stages of hotel crisis management

Factor	Items	Completely agree	Agree	Neutral	Disagree	Strongly disagree	Arithmetic mean	Standard deviation	percentage %
Readiness stage	X 1	30	35	15	13	2	3.68	1.27	73.68
	X 2	41	29	11	9	5	3.67	1.31	73.47
	X3	29	39	23	1	3	3.95	0.80	78.95
General rate							3.77	1.15	75.37
Containment stage	X 4	36	40	9	4	6	3.91	1.27	78.11
	X 5	41	28	11	7	8	3.85	1.25	77.05
	X 6	29	49	8	6	3	3.81	1.05	76.21
General rate							3.86	1.19	77.12
Activity recove	X 7	44	29	13	5	4	3.84	1.08	76.84
	X 8	39	27	9	8	12	3.63	1.34	72.63
	X 9	26	45	14	3	7	3.87	1.12	77.47
General rate							3.78	1.19	75.65
Learning	X 10	37	29	21	1	7	3.86	1.18	77.26

	X 11	**20**	**38**	**15**	**11**	**11**	**3.42**	**1.23**	**68.42**
	X 12	**24**	**27**	**26**	**15**	**3**	**3.57**	**1.13**	**71.37**
General rate							**3.62**	**1.19**	**72.35**
The overall index for hotel crisis management							**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. **Readiness stage:** The items in the preparation stage 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 items Contributions to achieving the positivity of this variable were related to (your organization prepares information to understand the crisis), which is represented by the factor (X3) and with an agreement (78.95%) supported by an arithmetic mean (3.95) and a standard deviation (0.80). As for the factor that ranked last (X1), which is represented by (**There is cooperation between departments in your organization to deal with crises**), with agreement (73.68%), it is supported by an arithmetic mean (3.68) and a standard deviation (1.27).

2. **The containment stage:** The items in the containment stage 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 items contributing to achieving the positivity of this variable were related to (**your organization deals with the crisis when it occurs to prevent its spread**), which is represented by the factor (X4) and with an agreement (78.11%) supported by an arithmetic mean (3.91) and a standard deviation (1.27) and a standard deviation (1.25). As for the last factor (X6), which is represented by (the time factor is taken accurately for your organization to deal with the crisis), with agreement (76.21%) supported by an arithmetic mean (3.81) and a standard deviation (1.05).

3. **The activity recovery stage**: The items in the activity preparation stage 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 the items that contributed most to achieving the positivity of this variable were related to (**Your organization has responsible and aware leadership to contain the crisis**), 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), which is represented by (**your organization recovers quickly from the effects of the crisis**), with agreement (72.63%), supported by an arithmetic mean (3.63) and a standard deviation (1.34).

4. The learning stage: The items in the learning stage 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 most of the items contributing to achieving the positivity of this variable were related to (**your organization evaluates its performance during the crisis**), work, which is represented by the factor (X10), with agreement (77.26%), supported by an arithmetic mean (3.86) and a standard deviation (1.18), and as for the last factor (X11), which is represented by (Your organization has a database regarding crises and

their causes, with 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 for tourism crisis management came at a good level, as its general arithmetic mean reached (3.76), which is higher than the hypothesized mean (3), and with an agreement rate of (75.12%), which is in a good range. It is supported by a standard deviation (1.08). Accordingly, the management of organizations pays attention to (preparing information to understand the crisis), (the crisis is dealt with when it occurs to prevent its spread), (there is responsible and aware leadership to contain the crisis), and (the organization evaluates its performance during the crisis).

After completing the description of the responses of the sample members regarding the stages of tourism crisis management (the preparedness stage, the containment stage, the activity recovery stage, and the learning stage), their relative importance must be determined to identify the priorities of interest of the organization's management, and Table (9) shows their relative importance.

Table (9)

The relative importance of the stages of hotel crisis management

No.	Variables	Arithmetic mean	standard deviation	Pe84.42rcentage	coefficient of variation %	order of importance
1	Readiness stage	3.77	1.15	75.37	11.26	Third
2	Containment stage	3.86	1.19	77.12	12.10	First
3	Activity recovery stage	3.78	1.19	75.65	11.12	Second
4	Learning stage	3.62	1.19	72.35	8.77	Fourth
Hotel crisis management		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 stages of hotel crisis management in the surveyed organizations were at a good level on the five-point scale, with a seminal percentage of (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 of the governorate and tries to improve it in the future.

Fifth: Analyzing and selecting the correlations between the components of information and communications technology and hotel crisis management

This paragraph is concerned with measuring the correlation relationships between the research variables included in the first main hypothesis for each component of information and communications technology, 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 information and communications technology and hotel crisis management, and Table (10) shows the results of the correlation analysis of the components of information and communications technology and hotel crisis management.

Table (10): Results of the analysis of correlations between ICT components and hotel crisis management

Dependent variable	Tourism knowledge management				degree of confidence
Independent variable Information	R	Calculated T	Tabular T	level of significance	degree of confidence

Technology (X)					
Devices and equipment	**0.93**	**3.402**	**2.39**	**0.05**	**95%**
Software	**0.98**	**3.121**			
Communications	**0.96**	**3.245**			
Human resources	**0.90**	**3.542**			
Total index	**0.95**	**3.275**			
Decision (result)	**The correlation between the two variables is positive, strong, and significant**				

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 information and communications technology and hotel crisis management, 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. There is a statistical significance between the components of information and communication technology and hotel crisis management in general. The results of the test of information and communication technology and hotel crisis management separately support this result as follows:

A. There is a strong linear correlation between devices and equipment and hotel crisis management, 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 hotel crisis management, 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 value. The tabular value of (2.39) is at a significance level of (5%), that is, with a degree of confidence (95%).

C. There is a positive, statistically significant linear correlation between communications and hotel crisis management, 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 the largest from its tabular value of (2.39) at a significance level of (5%), that is, with a degree of confidence (5%).

D. Human resources and hotel crisis management 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 the individuals working in the organization can make optimal use of information and communications technology, the greater their ability to manage the crisis, 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 statistically significant correlation between information and communications technology (in general and in detail) and the stages of hotel crisis management, the first main hypothesis is therefore accepted.

Sixth: Testing the second main hypothesis

This paragraph is concerned with measuring the influence relationships between all components of information and communication technology and hotel crisis management, 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 information and communication technology and hotel crisis management and Table (11). It explains the results of the analysis of the impact relationship between the components of information and communications technology and hotel crisis management.

Table (11)

Estimation results of a simple linear regression model for the components of information and communications technology and hotel crisis management

(In general, and in detail)

Intentional variable Independent variable	Hotel crisis management			
	R2% Interpretation factor	Calculated F	Tabular F	level of significance
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 information and communications technology components in general and in detail on hotel crisis management variables, as the coefficient of determination (F2) indicates that the percentage of variance explained in hotel crisis management by information and communication technology is no less than (90.29%), which is an excellent percentage 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) is (9.71%). It is attributed to other reasons not included in the current research.

The results of the influence relationship between information and communications technology variables individually and hotel crisis management were as follows:

A. There is a very good effect, as indicated by the coefficient of determination between devices and equipment and hotel crisis management, which is a percentage that indicates that information and communications technology can explain (85.87%) of the changes occurring in the hotel crisis management variable and that the remaining percentage is (14.13%). It is due to other variables not included in the current research, and 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 the software and hotel crisis management, 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 the hotel crisis management variable, while the remaining percentage (3.78%) is due to other external variables that are not included in the current research.

C. The coefficient of determination (R2) 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 (R2) 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 information and communications technology (in general and in detail) and the stages of hotel crisis management, 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 hotel crisis management among workers in the surveyed organizations was high according to the research scale.
2. The research showed that the surveyed organizations are committed to the components of information and communications technology that have been studied at a high level.
3. There is a statistically significant relationship between the components of information and communications technology in its various dimensions and hotel crisis management among administrative leaders in the organizations studied.
4. There is a significant, statistically significant effect between information and communications technology with its various components and hotel crisis management among the administrative leaders in the organizations studied.
5. The answers of the individuals surveyed tend towards agreement on most of the paragraphs related to the components of information and communications technology and hotel crisis management at the level of the surveyed organizations.

Second: Recommendations and Suggestions

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

1. Increased interest in information and communications technology because it is considered the backbone of hotel work, and increasing the effectiveness of the system gives the researched organizations the ability to avoid crises, hedge against them, and mitigate their negative effects if they occur. Any defect, no matter how simple, exposes the researched organizations to crises.
2. The necessity of having ready-made plans and scenarios for hotel crisis management, which are continuously updated and tested to ensure their validity.
3. Seeking the assistance of companies and experts specialized in the field of information and communications technology and crisis management, and training administrative leaders and employees on how to manage hotel crises.
4. The researched organizations must have a database of previous crises to benefit from it in facing future crises.
5. The necessity of managing and protecting information security from loss, hacking, or eavesdropping, and storing information directly in safe places, and the necessity of providing backup devices ready for use in the event of failure of the physical and software equipment for any reason.

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