

Information Technology and Its Role in Revitalizing the Tourism Sector in Iraq

Rasool Salim Maseer

House of Wisdom, Baghdad, Iraq

rasool.s.maseer@alsalam.edu.iq

General Background: Tourism is a strategic driver of sustainable development, yet the Iraqi tourism sector faces structural challenges in adapting to digital transformation. **Specific Background:** This study examines information technology through smart technologies, tourist impression, and tourist experience as determinants of tourism sector revitalization, including serious learning, socialization, stress reduction, and self-development. **Knowledge Gap:** Limited integration of digital tools in local tourism institutions and insufficient empirical models linking technological dimensions with psychological and social tourism outcomes remain unresolved. **Aims:** The research aims to analyze the role of information technology in revitalizing the tourism sector in Iraq based on employee perspectives in tourism and travel companies in Baghdad. **Results:** Using data from 117 valid responses analyzed via SPSS and SmartPLS, findings reveal a strong positive and statistically significant relationship, with information technology explaining 53% of tourism sector revitalization, while smart technologies, tourist impression, and tourist experience all show significant contributions. **Novelty:** The study presents an integrated applied model connecting technological dimensions with cognitive and social tourism outcomes within a local Iraqi context. **Implications:** The results highlight the necessity of strengthening digital infrastructure, supporting technology-based tourism services, and adopting e-tourism strategies to improve service quality, tourist satisfaction, and sectoral growth.

Highlights:

- Strong statistical relationship confirms digital systems as a key driver of tourism recovery
- Technological dimensions jointly explain more than half of sector development factors
- Employee perceptions indicate high readiness for adopting modern digital practices

Keywords: Information Technology, Tourism Sector Revitalization, Smart Technologies, Tourist Experience, E-Tourism

Introduction

Tourism is currently a strategic engine for sustainable development. But the tourism industry in Iraq still faces inherent challenges that prevent it from capitalizing on its enormous investment potential. A central aim of this research problem is to emphasize the crucial role of information technology in helping to renew this sector and to innovate around ageing business models. This study fills a research gap in the field by investigating the relationships between dimensions of smart technology (technology, impressions, and experiences) and psychological and social variables of tourists in local environment studies. This research seeks to fill this gap by providing an applied model that links theory with practical reality. This researcher faced some difficulties in the course of this work, the most prominent of which was the limited recent statistical data on digital transformation in local tourism companies, as well as the difficulty of communicating with some field bodies to obtain accurate responses that reflect reality. However, the notable significance of this research lies in its contribution to the academic literature and in providing a roadmap for decision-making in tourism institutions, with technology strategies that enhance customer loyalty and financially support the state economy. To reach these objectives, this research is divided into four interconnected parts. In the first section, we provided the methodological framework that defines the problem and hypotheses. In contrast, in the second section, we addressed the theoretical framework of dimensions of information technology and tourism promotion. The third and fourth sections of the research were devoted to the applied aspect and to statistical test results for field data, as well as to reviewing the most important conclusions and recommendations for improving the reality of digital tourism in Iraq.

Methodological Framework of the Research

A. The Research Problem

The theoretical problem of the research is a knowledge gap and a lack of trends in explaining how modern information technology dimensions / psychological and social variables of tourists interact in the context of Iraqi tourism. Some local academic libraries even lack sound theories and related approaches that link them to smart technologies and build mental impressions as a fundamental input to regenerate the tourism sector. This causes research efforts in this topical domain to be dispersed, neither surrounding nor integrated into any such strategic vision, which makes the purpose of digital transformation in impacting the tourist experience and realising cognitive and social sustainability of a tourist obvious.

The main research question can be formulated as: "What are the areas of information technology use in revitalizing the tourism sector?" This question branches into the following sub-questions:

- To what extent is information technology used in the studied companies, from the perspective of their employees?
- How active is the tourism sector in Iraq, from the perspective of employees in the studied companies?
- What is the role of smart technologies in the dependent variable of revitalizing the tourism sector in Iraq within the studied companies?
- What is the role of the tourist impression dimension in the dependent variable of revitalizing the tourism sector in Iraq within the studied companies?
- What is the role of the tourist experience dimension in the dependent variable of revitalizing the tourism sector in Iraq within the studied companies?

B. The Importance of the Research

Intellectual significance: The importance of this research is to enrich the Arab and Iraqi academic libraries with a modern theoretical framework that links the fast-growing supply of information technology indicators and strategies for reviving the tourism sector. This offers a more thorough understanding of the

role smart devices and uplifting perceptions play in constructing a 360° tourism experience, thus filling gaps in the literature by bringing together limited research on these aspects within local company sectors. The research provides practical guidance for tourism companies in Baghdad Governorate on how to use digital tools to improve service quality and streamline procedures, thereby attracting tourists and fostering their loyalty. It also informs decision-makers within government institutions and agencies with realistic statistics that help formulate policies for digital tourism transformation and activate the role of this sector in diversifying sources of state income and creating job opportunities, thus supporting Iraq's competitiveness in the regional and international tourism market.

C. Research Objectives

The main objective of this study is to identify the role of information technology in revitalizing the tourism sector. The following sub-objectives branch out from this main objective:

1. To identify the extent of information technology use in the studied companies from the perspective of their employees.
2. To identify the level of activity in the tourism sector in Iraq from the perspective of employees in the studied companies.
3. To identify the role of smart technologies in the dependent variable of revitalizing the tourism sector in Iraq within the studied companies.
4. To identify the role of the tourist impression in the dependent variable of revitalizing the tourism sector in Iraq within the studied companies.
5. To identify the role of the tourist experience in the dependent variable of revitalizing the tourism sector in Iraq within the studied companies.

D. Research Hypothesis and Research Model

Based on the theoretical framework presented, and to answer the research questions and achieve its objectives, the main research hypothesis and its sub-hypotheses were formulated as follows:

1. Main Research Hypothesis: There is a statistically significant wave-like effect of the independent variable, information technology, and its dimensions on the dependent variable, the activation of the tourism sector in Iraq, and its dimensions.
2. Sub-Hypotheses of the Research:
 - a. First Sub-Hypothesis: This hypothesis states that there is a statistically significant wave-like effect of the smart technologies dimension on the dependent variable, the activation of the tourism sector in Iraq.
 - b. Second Sub-Hypothesis: This hypothesis states that there is a statistically significant wave-like effect of the tourist impression dimension on the dependent variable, the activation of the tourism sector in Iraq.
 - c. Third Sub-Hypothesis: This hypothesis states that there is a statistically significant wave-like effect of the tourist experience dimension on the dependent variable, the activation of the tourism sector in Iraq.

The Figure below illustrates the hypothetical research model.

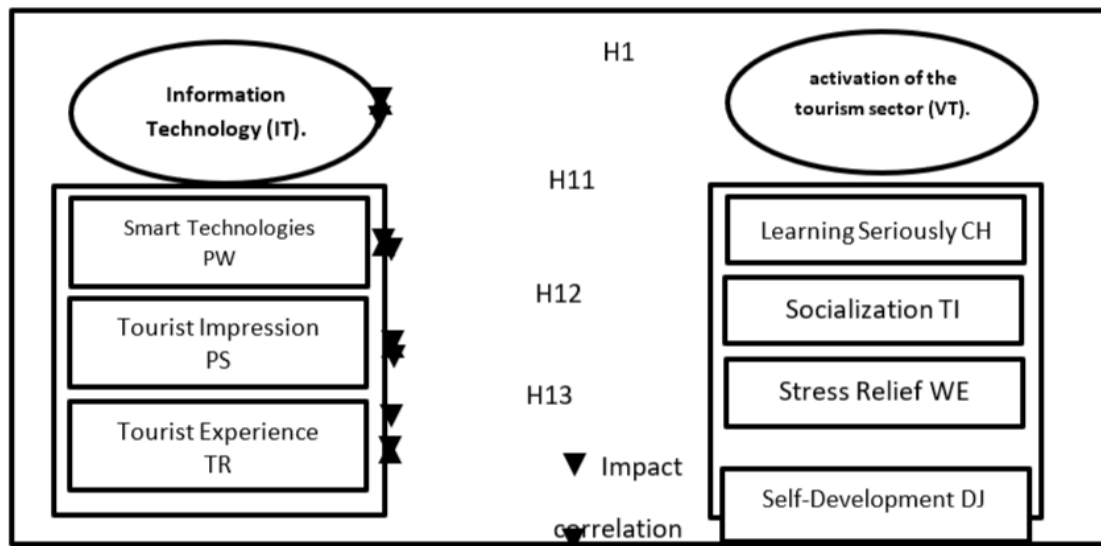


Figure 1. The hypothetical model for the study.

Prepared by the researcher based on the literature.

E. Research Population and Sample

The research population comprised 155 persons employed in tourism and travel enterprises within Baghdad Governorate who held a diploma or higher qualification. This decision was predicated on their superior capacity to respond to the questionnaire items and their direct relevance to the study's aims and difficulties. 10 major firms were represented: Al-Ta'ir Al-Hur Company, Al-Raham Company, Al-Naba' Company, Al-Bakhira Company, Oyoun Baghdad Company, Sama Al-Rasheed Company, Atard Company, Al-Qafila Company, Murooj Al-Rafidain Company, and Dar Al-Salam Company. These firms were chosen because they are the most representative of the commercial tourist sector in Baghdad and rely most on contemporary technology in their work. This makes them a good, representative group to use to determine how information technology may help the tourism industry. Krejcie and Morgan (1970)[1] say that a sample needs (111) replies to be a good representation of this group. So, the researcher decided to send out (121) questionnaires randomly. (117) of them were returned, and (4) were not. The (117) valid replies for statistical analysis constituted the study sample, with a response rate of (94%). Table 1 gives more information about the research sample:

Table 1. Information about the Research Sample

	Company Name	distributed questionnaires	returned questionnaires	Response rate	Company Address and Services
.1	Free Bird Company	18	17	94%	This company is a leading provider with several branches in Baghdad (such as Mansour and Jadriya). It specializes in organizing comprehensive tour packages to various countries worldwide.
.2	Al-Raham Company	15	14	93%	Located in the Mansour district, it is known for its flight booking and group tour services and has a strong reputation for customer service.
.3	Al-Naba Company	14	13	93%	Located in the Karrada district, it offers excellent ticketing and visa facilitation services for several international destinations.
.4	Al-Bakhira Company	13	13	100%	This well-known company in Baghdad is active in organizing Umrah pilgrimages and tourist trips to Turkey, the Gulf countries, and Europe.

.5	Baghdad Eyes Company	20	20	100%	Located on Palestine Street, it is famous for its competitive offers for family and youth trips and hotel services.
.6	Sama Al-Rasheed Company	11	10	91%	Located in the Salhiya/Karrada district, it provides flight booking services on various international airlines and diverse tour packages.
.7	Mercury Company	8	8	100%	Located in the Mansour district, it is a long-established company that provides comprehensive services to Iraqi travelers.
.8	Al-Qafila Company	9	9	100%	Located in the Yarmouk district, it focuses on organizing religious and tourist trips and providing logistical services for travelers.
.9	Meadows of the Two Rivers Company	7	7	100%	Located in the Zayouna district, it is distinguished by offering diverse tour packages that include transportation and accommodation in top international hotels.
.10	Dar Al-Salam Company	6	6	100%	Located in the Karrada district, it provides comprehensive solutions for travelers including hotel bookings, health insurance, and airline tickets.
the total		121	117	95%	

The following Table shows the demographic characteristics of the research sample (gender, age group, educational attainment, and years of experience):

Table 2. Demographic Characteristics of the Research Sample

Variable	Categories	number	%
Gender	Male	75	64.1%
	Female	42	35.9%
Total		117	100.0%
Age Group	Under 30 years	39	33.3%
	30-Under 45 years	55	47.0%
	45 years and over	23	19.7%
Total		117	100.0%
Educational Attainment	Diploma	20	17.1%
	Bachelor's degree	77	65.8%
	Postgraduate (Master's/PhD)	20	17.1%
Total		117	100.0%
Years of Experience	Under 5 years	32	27.4%
	5-Under 15 years	61	52.1%
	15 years and over	24	20.5%
Total		117	100.0%

The Table above provides statistical descriptors of the composition of the 117-member research sample and speaks to both gender balance and accumulated knowledge (and demonstrates that such attributes support the investigation of the objectives proposed in this study). There are 64.1% of males and 35.9% representation of females in the sample. Employment is predominantly within the 30-45 age group (47.0%), which is the most versatile in relation to modern technologies. This educational background is evident when you consider that the majority of the human resources of the tourism companies surveyed (83% in total) are holders of graduate and postgraduate degrees. This, guarantees enough attention for the significance of e-tourism and its strategic aspects. The image is also confirmed by measures of field experience: More than 50% of the sample have between 5 and 15 years of experience. This indicates a strong combination of accumulated skills and youthful energy, enabling the ability to lead digital transformation processes and reformulate the tourism sector in Baghdad Governorate with high efficiency.

F. Scope of the Research

The parameters of this study are defined by three fundamental dimensions that outline its scientific and field scope, as follows:

1. **Cognitive (Objective) Scope:** The study is limited to investigating the relationship and impact between two main variables: the independent variable, "Information Technology," with its three dimensions (smart technologies, tourist impression, and tourist experience), and the dependent variable, "Revitalizing the Tourism Sector," with its four dimensions (serious learning, socialization, stress reduction, and self-development).
2. **Spatial Scope:** The study was conducted in tourism and travel companies operating in Baghdad Governorate, and included a sample of leading companies: (Al-Ta'ir Al-Hur Company, Al-Raham Company, Al-Naba' Company, Al-Bakhira Company, Oyoun Baghdad Company, Sama Al-Rasheed Company, Atard Company, Al-Qafila Company, Murooj Al-Rafidain Company, and Dar Al-Salam Company).
3. **Time limits:** The data collection, fieldwork, and questionnaire distribution occurred from late 2025 to early 2026, the period during which the research sample interacted with the study tools.

Theoretical Framework of the Research

A. The Concept and Definition of Information Technology

The origin of information technology (IT) is linked to the term itself, which emerged with the first computers in organizations. IT facilitates the electronic processing and utilization of information in a timely and appropriate manner, thereby streamlining the work of organizations and individuals. Information technology has been defined as "the innovative, modern, and advanced methods and techniques for processing data using computers and a wide-area information network to obtain, store, and process information to achieve objectives with exceptional speed and high performance, ultimately fulfilling organizational goals." [2]. It is defined as "any type of information that relies on computer hardware" [3]. The Information Technology Association of America (ITAA) defines it as: "The study, development, design, implementation, support, and management of computer applications, software, hardware, and equipment of all types, auxiliary devices, and all related aspects." [4]

The OECD defines it as "the sum of economic sectors that work to image, process, store and disseminate information by electronic means." [5]

Information technology is therefore considered to be the various discoveries, innovations, and inventions that deal with data and information, including their collection, processing, organization, storage, and distribution, in a timely, appropriate, and available manner.

In general, information technology offers a number of benefits, the most important of which are: [6] [2]

1. **Accelerating the development of effective mechanisms for economic growth:** Encouraging sustainable development is achieved by transforming countries worldwide through the adoption of information technology. Information technology tools have important uses ranging from improving the quality of life and massive increases in economic productivity to reducing the costs of trade and commercial transactions.
2. **Improving decision-making:** Information technology often brings together large numbers of stakeholders and fosters more dynamic, long-term working relationships based on shared interests.
3. **Risk management:** Information technology enables organizations to manage and mitigate many potential risks through scientific research, organization, and organizational capabilities.
4. **Managing the future:** The subject of the future occupies a large space of intellectual and human effort in our contemporary world, and countries and societies compete with each other to innovate mechanisms and information technology that enable them to assume future formulas that are closer to finding a foothold for them in the world of tomorrow, and there will be a dire need to assign the primary role to the accumulation of knowledge and technological innovation, in contrast to the secondary role

that they played in the isolated market conditions.

B. Factors Leading to the Use of Information Technology

Studies on information and communication technology have identified several factors that have played a significant role in its use. Among the most important factors agreed upon in this field are the following: [7] [3]

1. Economic globalization and its accompanying breakdown of traditional barriers between markets, and the generalization of certain patterns of consumer behavior across all societies, despite the diversity of prevailing cultures and varying living standards. Researcher Francis Carncross believes that the two biggest drivers of global economic growth are the information revolution and globalization. In his view, the first factor generates the second, resulting in the collapse of borders for foreign and international trade.
2. The intensive use of information in production processes. This is primarily reflected in the increasing reliance on more advanced technologies and more complex work methods, which necessitate a growing need for specialized skills and diverse expertise to operate these technologies and manage these methods.
3. The significant developments in the current business environment have led to important changes in the structure of economic activities and the methods of their practice.
4. Rapid technological change and lower transportation and communication costs have made it more economical. Economically, this involves integrating geographically dispersed operations and transporting products and components across the globe to achieve greater efficiency.
5. Increased competition has forced economic units to discover new ways to enhance their efficiency, including utilizing new markets and relocating certain production activities to reduce costs.

C. The Importance of Information Technology

The technology industry is currently one of the largest industries in the world. This has led to an increased importance of information as a strategic resource for organizations, and information technology has become a fundamental source of organizational competitiveness. Modern organizational management recognizes the powerful impact of information technology and the importance of adapting it in light of the continuous changes in the external and internal environment in which the organization operates. [8] Integrating information and communication technology (ICT) into the tourism sector poses a real strategic challenge, as its tools enable high flexibility and responsiveness across its various functions. It enables value creation within the organization if used effectively. [9] The importance of ICT (computers, software, communications, and the internet) lies in increasing the effectiveness and efficiency of the modern tourism sector by simplifying procedures, saving time and effort, reducing costs, improving process speed and accuracy, and boosting administrative productivity. [10]

Information technologies are not limited to any particular era; rather, their importance grows daily, especially as the information society has become a tangible reality. The development of nations confirms that information technology has been a vital element of growth and prosperity and an effective tool for global advancement. Today, they further solidify their unique position by assuming a decisive role in shaping the future and building the new world, in addition to their contribution to facilitating people's lives, raising living standards, and creating a society based on the digital economy. Information and communication technologies have become an essential component in all economic sectors, including industry, services, trade, and finance.[5]

D. The Dimensions of Information Technology in the Tourism Sector

In fact, Information and communication technology (ICT) underpins digital transformation in the contemporary tourism industry. No longer a collection of technical tools, it has blossomed into an embedded system for managing tourism information and guiding visitors to their desired destinations. The new form of this technology is undergoing strategic dimensions in a synchronous, interactive manner for a smart

tourism environment [6]. It starts with delivering (high) technological infrastructure, continues by developing positive mental images and impressions (in the tourist mind), and ends with augmenting the touristic experience (more sustainable, interactive). The integration of these dimensions directly improves the efficiency of tourism institutions in Iraq and their competitiveness in a changing global digital economy [11].

1. Smart Technologies

Smart technologies comprise a wide range of tools and equipment that utilize artificial intelligence and the Internet of Things (IoT) to enable tourists to access services and information with remarkable accuracy and speed. By using computers and wide-area information networks, these technologies digitize the operations of tourism establishments, store vast quantities of data (processing and retrieval), and allow access to that enormous amount of data when needed to achieve the objectives set forth by the institution with a high level of efficiency [5]. It also facilitates administrative procedures, rationalizes operating costs, and builds a flexible work environment that can respond to the needs of modern tourists seeking speed and ease in completing their tourism and hotel transactions through smart systems [12].

2. Tourism Impression

The tourism impression consists of mental images and sensory impressions of a tourist destination or institution, derived from various electronic media. The use of information technology in this context is vital for creating a stronger brand image for the tourism institution, as it can deliver an extensive and effective portrayal of what it has to offer while presenting its services through various marketing channels [1]. E-tourism gives laypeople access to visual and textual data that allow them to take a virtual tour of the place before going, which helps build tourist loyalty, increase their confidence in the service, and sustain a strong incentive to choose a particular tourist site over others [11].

3. Tourism Experience

The result of interactions between tourists and the environment in this technological ambience is a tourism experience. Information technology's goal is to enhance this experience and create an environment that supports this process, making it ever more dynamic and tailor-made [3]. By using mobile phones and electronic calendars, tourists can plan their schedules and compare services to match their individual needs, thereby turning them from passive users into active developers of services. The interconnected digital experience not only fulfills the essential needs of tourists but also enhances their well-being and pleasure through interactive services that add value to the trip and make it special and hard to forget [10].

E. Areas of Information Technology Use in Revitalizing the Tourism Sector

The use of information technology has become imperative for tourism establishments to benefit from modern technology's advantages. These establishments are now competing to acquire and develop technology to provide the best services to their customers, thereby gaining their satisfaction and loyalty. [11]

1. E-Tourism

The convergence of the modern technology and tourism sectors has led to the emergence of a new sector called "e-tourism." The concept of e-tourism is a modern one that has become closely intertwined with e-commerce. Many researchers and experts consider it an integral part of e-commerce, constituting its largest segment. Discussions about it have sparked the interest and curiosity of many researchers across the fields of tourism, marketing, and economics [12]. E-tourism can be defined as the services provided by information and communication technologies; To accomplish and promote tourism and hotel services through various open and closed networks, based on the principles and foundations of e-commerce, and in reality, its concept goes beyond that, as it includes even mobile/mobile tourism using mobile electronic devices such as mobile phones, portable electronic notebooks, and others. Thus, information and communication technologies are used by all partners of the tourism sector, including institutions, bodies, and individuals. These technologies may be exploited in the construction and establishment of tourism

entities, the operation of which also requires a degree of technological knowledge among its patrons, such as smart hotels that rely on modern technologies in their construction, operation, and management [11]. E-tourism emerged with the advent of the World Wide Web, coinciding with the rise of internet use for business-to-business (B2B), business-to-consumer (B2C), and consumer-to-consumer (C2C) transactions. Decrivator was the first tourism website, launched in 1990. E-tourism is the largest segment of e-commerce, with global revenues exceeding \$89 billion in 2004. In France, e-tourism accounted for 45% of e-commerce in 2005, and it continues to grow. (2) It is worth noting that the Arab Tourism Organization stated in a report that 40% of the total number of tourists worldwide, 938 million, used e-tourism services, either to inquire about or purchase travel services. Visitors to global websites such as Expedia reached 50 million, Orbitz 35 million, and Yahoo! Travel 80 million. [13]

The e-tourism industry sector accounts for a significant percentage of the market. 24% of revenue from various online advertising platforms is generated through e-tourism. According to the Forrester Research Institute's e-marketing report, e-tourism revenue from air and sea travel tickets, hotel bookings, and car rentals in 2008 amounted to \$32.8 billion for air travel and \$16.4 billion for hotels [12]. The practical implementation of e-tourism requires four essential stages in digital content creation [13]:

- a. Gathering tourism data (offers, prices, maps, reports, etc.).
- b. Digitizing the collected data using various technological means.
- c. Publishing the collected information electronically via the web, through multimedia, and in multiple languages.
- d. Providing tourism and hospitality establishments, agencies, departments, and institutions with a reliable, high-speed internet connection (and email, as well as telephone and fax services) distributed across a network, suitable for their size.

In fact, e-tourism should be overseen by a national authority through a comprehensive electronic portal encompassing various tourism products and services, both directly and indirectly related (such as banks, financial institutions, and land, sea, and air transportation).[14]

F. The Importance of E-Tourism

The importance of e-tourism stems from the immense benefits it offers both tourism service providers and tourists. It helps overcome traditional barriers in conventional tourism transactions. Among the most important of these benefits are [11] [15]:

- a. Tourist consumers can now access all the data and information they need about tourism products online. This includes information on flights, hotels, tour programs, and places that meet their basic needs, such as car rentals, etc. This helps fulfill tourists' desires and satisfy their basic needs by enabling them to compare different tourist sites and choose the most suitable one without having to travel from place to place. The internet facilitates this through various formats, including detailed written and visual information, allowing tourists to visit sites or browse products virtually. They can even design their own tour program without being bound by a pre-set itinerary, all within their budget [10].
- b. The use of e-tourism reduces the costs of tourism services, which in turn lowers prices. E-tourism reduces the costs of tourism marketing (contacting tourists and disseminating tourism information), production costs (facilitating and accelerating communication between tourism service providers and intermediaries), and distribution costs (facilitating transactions with a large segment of the target market). It also reduces the workforce, resulting in additional savings in production and distribution costs [6].
- c. It facilitates the development of tourism products and the emergence of new tourism activities that cater to different tourist segments. This is achieved through opinion polls that reveal new tourism trends and the essential and complementary services tourists require [7].
- d. It increases the competitiveness of tourism establishments, thereby boosting sales, revenues, and profits. This ultimately translates into a higher contribution of the tourism sector to GDP.

Finally, the widespread use of e-tourism is an indicator of technological infrastructure and e-services advancement in a country. This, among other factors, contributes to increased foreign investment and

enhances the credibility of both public- and private-sector businesses in international reports.

Thus, it can be said that the benefits and goals that e-tourism generally seeks to achieve are no different from the aims and benefits of traditional tourism, as each complements the other, since both aim to attract capital into the country, provide hard currency, provide jobs, and achieve development in the country targeted for tourism[11].

It is a strategic goal to develop the tourism sector in Iraq by transforming historical and religious assets into economic and sustainable products, in addition to cultural experiences that maximize tourism's contribution to GDP. Revitalization is not just about the number of visitors, but also about building the cognitive, social, and psychological dimensions of tourism and establishing a stronger commitment to the destination. This resurgence is driven by information technology, and digital interaction platforms offer unique opportunities for the tourism consumer to learn, socialize, and relieve some of the burdens of day-to-day stressors while enhancing their personality. Such aspects will, in turn, contribute towards improving the image and competitiveness of tourism businesses in the world market [16].

1. Serious Learning

The serious learning dimension generally refers to the tourist's desire to gain comprehensive knowledge and skills about archaeological and cultural sites rather than just surface-level observation. This tendency was accompanied by the desire to acquire scientific knowledge about Iraq before visiting it, which information technology plays a role in achieving through rich databases and extensive, accurate electronic information on the history and civilization of Iraq, thereby turning the tourist trip into a continuous learning process [7]. How multilingual content and interactive media enrich the tourist experience. This is the core of modern tourism, where a unique knowledge product is tailored to meet the needs and ambitions of touristic explorers and researchers [8].

2. Socialization

The socialization side indicates the impact of tourism in overcoming conventional cultural borders and fostering greater humanity between tourists and the local community [2]. The communication tools and opportunities offered by modern technologies create an interactive environment that allows individuals to exchange experiences and opinions about tourist destinations, thereby fostering more dynamic social relationships. The ability to activate tourism services through social media tools helps build and enhance the tourism establishment's image and create a digital community of tourists who share their experiences and impressions. All this contributes to attracting new tourists and retaining existing ones by strengthening social identification with the tourist destination and creating common sets of tourist consumption[17].

3. Stress Relief

Tourism motivation: one of them is to relieve pressure or escape the routine burdens of life. Tourists travel to reestablish their mental and physical equilibrium. Through streamlining booking and travel processes, time- and effort-saving automation, and minimizing the stress of planning traditional trips, information technology plays a role in this [2]. Smart hotels and destinations that use modern technologies create a comfortable environment where services of internationally accepted quality are delivered in a very short time, helping tourists relax and achieve the desired state. The provision of tourism services in electronic form allows for their delivery under optimal conditions, which undoubtedly has a positive effect on tourists' mental state and even their quality of life [17].

4. Self-Development

The self-development aspect is related to the long-term effects of tourism, emphasizing the creation and development of a tourist personality, as well as intellectual and creative features, according to exposure to diverse features [7]. In fact, when planning their own trips according to their preferences, tourists develop decision-making and digital independence skills; this trend is supported by information technology. Interaction with information and communication technologies in tourism underlies the creation of an

information society, as tourists gain technical and cognitive skills useful for personal experience. Thus, tourism becomes a means of sustainable human development and serves to enrich human cultural and technological awareness in line with the requirements of the modern digital age[11].

G. The Role of Information Technology in Revitalizing the Tourism Sector

National and regional tourism authorities. These intermediaries' role was limited to connecting tourism service providers (hotels, restaurants, airlines, car rentals, tourist attractions, entertainment centers, etc.) and selling them as complete tour packages to tourists. The internet facilitated direct communication between tourism service providers and tourists, reducing the need for intermediaries and their role in the tourism industry. [11]

Technological changes and advancements in information and communication technology have introduced modern forms of interaction across the services sector, especially in e-tourism services, which have become indispensable for any tourism activity. This has led to the emergence of various tourism websites on the internet, which are not only used for e-marketing but also enable electronic booking and payment for tourist trips. The use of information and communication technology and e-commerce in the tourism industry has had several impacts on this industry, the most important of which are: [18] [19]

1. The tourism sector has become the largest user of information and communication technology in the service sector, leading to the emergence of a new term in business and e-commerce: e-tourism. This has resulted in tremendous growth in the spread of e-tourism worldwide, especially amid the rapid pace of technological development [11].
2. E-tourism has changed the traditional structure of the tourism sector, and the entities most affected are the traditional intermediaries in the public and private sectors, namely [12]:
 - a. Tour operators.
 - b. Travel and tourism agents.
 - c. International booking and distribution networks.
 - d. National and regional tourism authorities.

These intermediaries' role was limited to connecting tourism service providers (hotels, restaurants, airlines, car rentals, tourist attractions, entertainment centers, etc.) and selling them as complete tour packages to tourists. The internet facilitated direct communication between tourism service providers and tourists, reducing the need for intermediaries and their role in the tourism industry. [11]

The Applied Aspect of the Research

A. Testing the Validity and Reliability of the Measurement Instrument

The PLS-SEM analysis evaluates the measurement model for convergent validity, factor saturation, scale reliability, composite reliability (CR), and extracted mean variance (AVE), as shown in Table 3 and Figure () below.

Table 3. Results of the Measurement Model Test and Research Scales

PATH		Outer loadings	Cronbach's alpha	Composite reliability (CR)	Average variance extracted (AVE)	Research metrics
The independent variable is Information Technology (IT).						(Tulung et al.,2025) [20]
Smart Technologies PW	PW1 <- PW	0.776	0.813	0.877	0.642	
	PW2 <- PW	0.867				
	PW3 <- PW	0.806				
	PW4 <- PW	0.750				
Tourist Impression	PS1 <- PS	0.801	0.924	0.937	0.624	
	PS2 <- PS	0.808				

PS	PS3 <- PS	0.771			
	PS4 <- PS	0.829			
	PS5 <- PS	0.846			
	PS6 <- PS	0.803			
	PS7 <- PS	0.681			
	PS8 <- PS	0.723			
	PS9 <- PS	0.834			
Tourist Experience TR	TR1 <- TR	0.694	0.882	0.909	0.589
	TR2 <- TR	0.780			
	TR3 <- TR	0.839			
	TR4 <- TR	0.835			
	TR5 <- TR	0.764			
	TR6 <- TR	0.751			
	TR7 <- TR	0.695			
The dependent variable is the activation of the tourism sector (VT).					
Learning Seriously CH	CH1 <- CH	0.867	0.787	0.863	0.613
	CH2 <- CH	0.807			
	CH3 <- CH	0.749			
	CH4 <- CH	0.698			
التنشئة الاجتماعية TI	TI1 <- TI	0.734	0.730	0.748	0.613
	TI2 <- TI	0.811			
Socialization TI	WE1 <- WE	0.878	0.795	0.879	0.708
	WE2 <- WE	0.787			
	WE3 <- WE	0.856			
Self-Development DJ	DJ1 <- DJ	0.839	0.627	0.842	0.728
	DJ2 <- DJ	0.867			
)Seyitoglu, 2020) [21]					

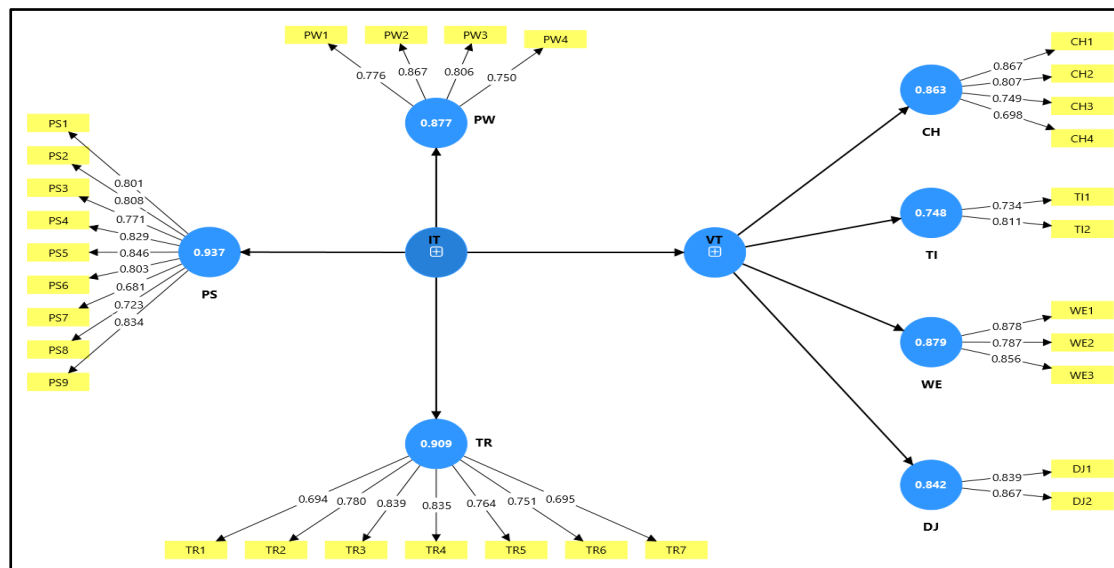


Figure 2. Results of the measurement model evaluation

Table 3. and Figure 2. of Indicator Reliability refer to the Outer Loading box. According to Hair et al. (2017), there are three procedures for dealing with item load values, as follows [22]:

1. Load greater than or equal to (0.7): In this case, the item is retained.
2. Load between (0.4) and (0.7): In this case, the researcher can examine the effect of deleting the item on the remaining criteria for evaluating the measurement model. If this leads to improvements in the remaining criteria, the item is deleted. However, if deleting it would negatively affect the remaining criteria, the item should be retained.
3. Load less than (0.4): In this case, the item is deleted.

Therefore, the researcher decided to retain all items, as deleting any would affect the scale's structure.

B. Descriptive Statistics for Research Variables and Normal Distribution

1. Descriptive Statistics for the Information Technology Variable

The descriptive analysis of the information technology variable at the macro level shows a positive response and high employee awareness in the questioned companies—mean score: 3.175 (relative importance of 63.5%). A comparison of this mean with the hypothetical mean of 3 shows a significant difference, indicating that tourism companies in Baghdad Governorate have a clear propensity to adopt and use information technology in their administrative and service operations, exceeding the average level. This is further evidenced by a notably homogeneous response rate, as reflected in the low average deviation of 0.275.

In second place, smart technologies (PW) had a mean score of 3.163 and a relative importance of 63.3%. This means companies want to deliver innovative new technologies and products able to store and retrieve the same tourism industry information as quickly and accurately as customers require. This dimension was the tourist impression (PS), and it had the highest mean score of 3.219 with a relative importance above 60% (64.4%). Indeed, this reflects a very well-informed understanding among the surveyed employees of the mental image technology creates for tourists and of how available digital information can boost the trust and credibility of the services offered by these companies.

Third, the mean value for the tourist experience (TR) dimension was 3.144 with a relative importance of 62.9%. This was the dimension that scored the least, even though companies are trying to take advantage of technology to enrich and make the tourists' journey more interactive, yet respondents offer varying views.

For the normality test of the data, results for skewness and kurtosis values met the permissible range in all variables and dimensions as absolute limits (± 1.96) did not exceed them according to (Hair et al., 2017), confirming that the data were accurate, free from extreme dispersion, and appropriate for inferential statistical analysis.

Table 4. Descriptive Analysis of the Information Technology Variable

Coding	mean	standard deviation	relative importance %	Order of importance	kurtosis	skewness
Smart Technologies (PW)	3.163	0.494	63.3%	2	-0.275	-0.452
Tourist Impression (PS)	3.219	0.386	64.4%	1	-0.274	-0.728
Tourist Experience (TR)	3.144	0.579	62.9%	3	-0.435	0.376
Information Technology (IT)	3.175	0.275	63.5%		-0.41	0.59

2. Descriptive Statistics for the Variable: Tourism Sector Activation

The descriptive analysis of the tourism sector activation variable at the macro level provided an unambiguous positive response from our sample. It has been observed that the overall mean score of this variable was 3.213, with a relative importance of (64.3%). On average, compared to the hypothetical mean (3), you will find a significant advantage, which definitely reflects the effective role of tourism practices in the surveyed companies in activating tourism. The low standard deviation of (0.321) means that the respondents had a good degree of consistency in their answers.

With a mean of 3.340 and relative importance of (66.8%) the "Learning Seriously" CH dimension ranked first. This is evidence of the strong interest of tourism companies in Baghdad in cognitive and cultural aspects, where tourists are provided with comprehensive and accurate information about tourist attractions. This adds value to the touristic experience, turning it into an educational journey full of discovery. The second-ranked dimension, the socialization dimension (TI), with a mean of 3.252 and a relative importance of 65.0%, confirms employees' awareness of the importance of tourism in building social bridges and

activating human interaction between tourists and local society. It helps create an environment in which the tourism sector becomes more interactive, attracting more visitors and fostering a desire to revisit.

The stress reduction dimension (WE) was ranked third, with a mean of 3.187 and a relative importance of 63.7%. This signifies that the tourism services provided were tailored to suit the tourist who desires to flee daily-life burdens and attain psychological comfort, to the extent that there was a slight divergence in attitudes amongst respondents, as evidenced by the standard deviation of 0.646.

In fourth place was the Self-Development (DJ) dimension, with a mean of 3.175 and a relative importance of 63.5%. Although it was ranked lower than the other two dimensions, the value was still higher than the hypothetical mean, showing that companies are focused on providing experiences that enhance tourists' personalities and develop their intellectual skills through exposure to a diversity of tourism experiences.

One assumption of the analysis is normality of the distribution; in this case, the skewness value was 0.269 for all dimensions, which is considered acceptable. Moreover, the kurtosis values were within the statistically acceptable range. They did not exceed Hair et al. (2017), with a confidence level of ± 1.96 in general, ensuring that the data were valid for performing inferential analysis and hypothesis testing.

Table 5. Descriptive Analysis of the Tourism Sector Activation Variable

Coding	mean	standard deviation	relative importance %	Order of importance	kurtosis	skewness
Learning Seriously (CH)	3.34	0.381	66.8%	1	0.269	-0.75
Socialization (TI)	3.252	0.467	65.0%	2	0.269	-0.868
Stress Relief (WE)	3.187	0.646	63.7%	3	0.269	4.585
Self-Development (DJ)	3.175	0.524	63.5%	4	0.269	-0.789
Information Technology (IT)	3.213	0.321	64.3%		0.269	0.085

C. Testing the Main and Sub-Hypotheses of the Research

The impact hypothesis testing process involves evaluating the structural model using four criteria, as shown in Table 6. The following is an explanation of these four criteria:

Table 6. Structural Model Evaluation Criteria

	Criteria	Acceptable threshold
.1	Linear Correlation Assessment (VIF)	Variable Inflation Factor (VIF) < 5
.2	Path Coefficient Significance (P)	$P < 0.05, t > 1.96$
.3	Coefficient of Determination (R ²)	0.25, 0.50, 0.75 indicate small, medium, or large effect
.4	Effect Size (f ²)	0.02, 0.15, 0.35 indicate small, medium, or large effect

Hair, J., Hult, T., Ringle, C. & Sarstedt, M. (2017). A primer on partial least squares structural equation modeling (PLS-SEM). Los Angeles: Sage. [22]

1. Collinearity Assessment

Collinearity occurs when there is a high correlation between two independent variables. It is measured using the Variance Inflation (VIF) factor, which should not exceed 5, according to the rule of [22].

2. Path Coefficients

Path coefficients represent the direct effects between model variables and have values of ± 1 . Therefore, a significant effect is present when the path coefficient is greater than zero, and a negative sign is present when the path coefficient is less than zero. To verify the significance of the path coefficient, a bootstrapping procedure is performed. This results in calculating the t-value, which should be equal to or greater than ± 1.96 , and the p-value, which should be equal to or less than 0.05 [22].

3. Coefficient of Determination (R^2)

The Coefficient of Determination (R^2), also known as the explanatory coefficient, determines the extent to which the independent variable can explain the dependent variable. Its value ranges from 0 to 1. The closer the coefficient of determination is to 1, the greater the ability of the independent variable to explain the dependent variable.

4. Effect Size (f^2)

Effect Size (f^2) measures the extent to which a variable contributes to the Coefficient of Determination. Therefore, effect size is crucial in measuring the contribution of each dimension to the Coefficient of Determination. To interpret effect size results, Hair et al. (2017:201) indicated that values of 0.02, 0.15, and 0.35 represent small, medium, and large effect sizes, respectively [22].

D. Testing the Main Research Hypothesis

This hypothesis states that (there is a significant wave-like effect of the independent variable, information technology, and its dimensions on the dependent variable, the activation of the tourism sector in Iraq and its dimensions). This hypothesis indicates a significant effect of information technology and the activation of the tourism sector in Iraq from the perspective of working individuals. A structural equation model was designed to determine the effect of the aforementioned variables, as shown in Figure 3. This test is illustrated as follows:

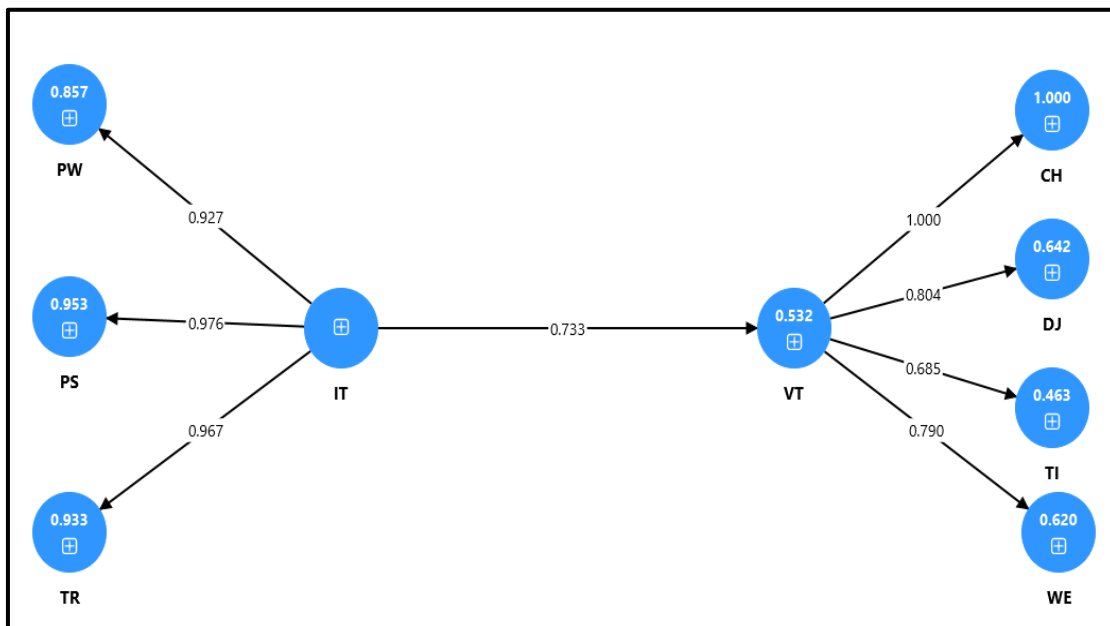


Figure 3. Testing the first main hypothesis

Figure 3 was acceptable according to the conformity quality indicators for this model. Based on these conformity indicators, the model is suitable for testing the impact of information technology on revitalizing the tourism sector in Iraq. The effect value between the research variables was (0.7330), as shown in the Table below. The significance level was (0.000), indicating acceptance of the hypothesis. The coefficient of explanation (R^2) was 0.532, showing that the information technology variable explains (53%) of the factors that explain the tourism sector revitalization variable. The remaining percentage is related to factors

not identified in the current research.

Table 7. Impact Coefficient of Information Technology and Tourism Sector Revitalization

The path	VIF	Path coefficient	t value	p Value	Effect size f2	R ²	R2 Modified	Result
IT → VT	1	0.733	13.740	0.000	0.927	0.532	0.532	Acceptance

Table 7 above, along with the results of the statistical analysis, clearly demonstrates a strong, positive, and significant impact of information technology on revitalizing the tourism sector in Iraq. This is at a significance level of (0.000), which means this hypothesis is accepted.

Having completed the testing of the main hypothesis regarding the impact of information technology on revitalizing the tourism sector, we now move on to testing the sub-hypotheses derived from it, as shown in Figure 4 and Table 8, as follows:

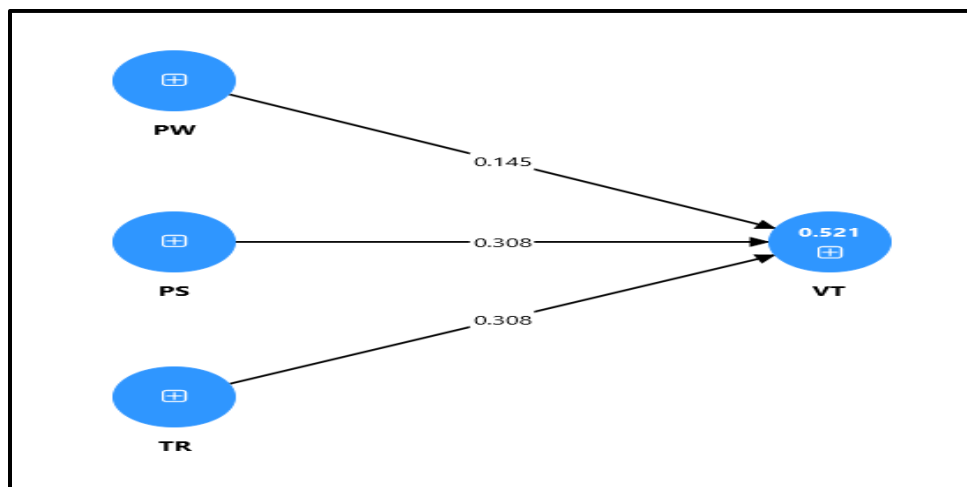


Figure 4. Testing the research sub-hypotheses

Table 8. Testing the research sub-hypotheses

The path	VIF	Path coefficient	t value	p Value	Effect size f2	R ²	R2 Modified	Result
PW → VT	1	0.145	2.037	0.00	0.126	0.521	0.521	Acceptance
PS → VT	1	0.308	3.413	0.00	0.068			Acceptance
TR → VT	1	0.308	3.221	0.00	0.031			Acceptance

The first sub-hypothesis states that there is a statistically significant wave-like effect of the smart technologies dimension on the dependent variable, tourism sector activation, in Iraq. After reviewing Figure 4 and Table 8, a positive effect of (0.145) is found. Since the achieved t-value is (2.037), which is greater than (± 1.96) at a significance level of (0.00) and less than (0.05), and the effect size is (0.126), which is a moderate effect size. The coefficient of variance inflation is acceptable; this hypothesis is considered valid at the research level. This means that smart technologies can help activate the tourism sector in Iraq.

The second sub-hypothesis states that there is a statistically significant wave-like effect of the tourist impression dimension on the dependent variable of tourism sector activation in Iraq. After reviewing Figure 4 and Table 8, a positive effect of (0.308) is found. Since the achieved T-value is (2.037), which is greater than (± 1.96) at a significance level of (0.00) and less than (0.05), and since the effect size is (0.068), which is an acceptable effect size, and the coefficient of variance inflation is also acceptable, this hypothesis is considered acceptable at the research level. This means that the tourist experience contributes to revitalizing the tourism sector in Iraq.

Third Sub-Hypothesis: This hypothesis posits a statistically significant relationship between the tourist experience dimension and the dependent variable, the revitalization of the tourism sector in Iraq. After reviewing Figure (4) and Table (8), it is clear that there is a positive effect of (0.308). Since the achieved T value is (3.221), which is greater than (± 1.96) at a significant level of (0.00) and less than (0.05), while the effect size was (0.031), which is an acceptable effect size, and the coefficient of variance inflation is also acceptable, then this hypothesis is considered acceptable at the level of research, that the tourism experience contributes to supporting the tourism sector in Iraq.

Conclusions

Descriptive analysis shows that tourism companies in Baghdad Governorate have a mature technological infrastructure and a clear strategic orientation toward digitalization. Preliminary findings suggest that employees had a strong awareness of the need to integrate technology into both administrative and field operations. The positive means, higher than hypothetical averages, are added to the intuitiveness of desire to optimise performance efficiency and improvement in service quality by making use of smart technologies. Thus, the blending of the new information technology field and modern tourism enterprises is enhancing their identities and sustaining their competitiveness.

Sector-based responses suggest that tourism leaders in Iraq can revive the sector through a range of on-the-ground options, including engaging companies that provide interactive backdrops for these tourists to enjoy their lives, along with opportunities to learn and socialize. The outcomes reveal that employees focus on the cognitive and social elements of tourism, indicating an evolution from the classical perspective to a more global aim: enriching tourists' identities and easing their pressure. This indicates a credible signal for enhancing the local tourism scene, provided these dimensions are integrated systematically.

The p-value results of the first sub-hypothesis indicated that using innovative tools and equipment enabled by artificial intelligence was the most crucial technological force for tourism revitalization. Business Process Automation (BPA) is one such technology that helps accelerate achievement and minimize human error. This demonstrates that the effect of an investment in smart technologies is not just a matter to be considered from a technological perspective, but also one of the most efficient ways to facilitate tourists' access to services. Such flexible work will effectively and urgently meet the requirements of modern digital tourism in Iraq.

In conclusion, it demonstrated that creating a favorable mental image in tourists' hearts through online platforms and the accessibility of information is the foundation for attracting guests and rejuvenating tourist destinations. The first keeps a strong impression -- which serves as a psychological motivator for choosing to visit. Acceptance of this hypothesis indicates that the credibility of the presentation of tourism information on electronic media enhances trust between tourists and institutions. This, halfway, keeps the trail as a tourism destination and attracts high visitor numbers through the public's positive sensory perceptions.

Based on the statistics and analysis of this data, it appears that enhancing and tailoring the experience through technocentric approaches would play a direct role in sustaining the tourism industry. Tourism goes from a passive observer to an active participant in the event production. Following this hypothesis, the enhanced well-being and enjoyment of the integrated digital experience corroborate that information technology has achieved its task, as it benefits both tourist loyalty and repeat visits while concurrently

fostering a national economic revival in tourism.

Recommendations

- a. **Improving Infrastructure and Technological Literacy:** The existing tourism ecosystem requires greater investment to upgrade digital systems and train human resources on the latest information technology applications. This ensures the continuity of this high level of awareness among employees and its transformation into actual technical practices that serve as a mirror, allowing for improvement in the scope needed for institutional performance quality.
- b. **Institutionalization of Tourism Promotion Dimensions:** To uplift the tourism sector, integrated programs addressing the cognitive, social, and psychological dimensions of a tourist are to be formulated. In this regard, enabling digital interaction channels could facilitate learning, social communication, and the creation of deep social ties between tourists and the local host community.
- c. **Ever-Evolving Smart Technologies:** To facilitate tourism procedures, it is vital to stay up to date with the ever-evolving state of artificial intelligence and the Internet of Things. Implementing authorities provide advanced tools that reduce human effort and speed up responses to customer requests, thereby positioning companies among the world's leading tourism institutions.
- d. **Promoting and Protecting Digital Image:** To attract tourists, it is essential to use credible promotional measures, such as advertising tourist destinations. This will build a strong, fruitful impression, foster confidence in services, and encourage the target audience not to think twice before choosing Iraqi tourist destinations.
- e. **Tailoring an enriching tourism experience in the digital era:** Design needs to focus on personalized, interactive elements that foster tourist loyalty. This means using intelligent applications to encourage tourists to plan their own travel and offering digital services that turn the trip into an unmissable memory that will last in their home country, thereby benefiting both citizens and the national economy.

References

1. R. V. Krejcie and D. W. Morgan, "Determining sample size for research activities," *Educational and Psychological Measurement*, vol. 30, no. 3, pp. 607–610, 1970.
2. E. N. El-Din, *Knowledge Management and Modern Technology*. Amman, Jordan: Osama Publishing and Distribution House, 2010, p. 108.
3. A. Ben Abdallah, "Investing in Information and Communication Technology in the Public Service Sector: Weak Institutional Performance as an Incentive for Investment (An Exploratory Study on the Biometric Passport Project in Algeria)," *Journal of Human Resources Development*, University of Setif 2, Algeria, vol. 8, no. 2, p. 179, Dec. 2017.
4. R. M. S. Al-Alfi, *A Proposed Model for Building Brand Value: Application to Information Technology Services*. Cairo, Egypt: Arab Organization for Administrative Development Publications, 2016, p. 121.
5. B. Kaouja, "The Role of Information and Communication Technology in Improving Internal Communication in Algerian Public Hospitals," Master's thesis, Faculty of Law and Economics, University of Ouargla, Algeria, 2013, p. 24.
6. F. Ben Abdelaziz, "Investment in Information and Communication Technology Infrastructure: A Complementary Determinant for Institutional Innovation," *Journal of Studies in Economics, Trade and Finance*, vol. 6, no. 1, 2017.
7. K. Asim, "The Role of Information and Communication Technology in Improving Information Quality and its Implications for Economic Development," *Baghdad College of Economic Sciences Journal*, University of Baghdad, Iraq, vol. 4, special issue, pp. 234–235, 2013.
8. Y. Hawasni, "Marketing Vigilance and its Role in Economic Development in Light of Information and Communication Technology," *Journal of Economics and Development*, University of Medea, Algeria, vol. 5, no. 1, p. 52, 2017.
9. S. Belkaidoum, "The Most Important Strategic Roles of Information and Communication Technology in Business Organizations," *Journal of Industrial Economics*, University of Batna 1, Algeria, vol. 5, no. 2, p. 354, 2015.
10. A. Rifai, "The First International Symposium on the Arabization of Information and Communication Technology," presented at the Int. Symp. Arabization of ICT, Tunisia, Mar. 5–6, 2003.

11. A. Q. Musa, *Information Technology and Its Role in Traditional Marketing*. Cairo, Egypt: Itrak Publishing and Distribution, 2007.
12. J. Khallout, "The Contribution of Information and Communication Technology to Marketing the Tourism Product," Ph.D. dissertation, Mohamed Khider University, Biskra, Algeria, 2020.
13. Y. Ibrahim and S. M. Fawazi, "The Role of Information Technology in Developing the Tourism and Hospitality Sector," *Al-Bahith Journal*, no. 7, p. 276, 2010.
14. A. Nakhla, "Electronic Services and the Transformations in Information Technology," in *Proc. Arab Scientific Conf. Prospects of E-Business and the Arab Economy*, Beirut, Lebanon, Apr. 18–19, 2002.
15. M. Yahiaoui and M. Hamdi, "The Use of E-Tourism in Travel Agencies - A Case Study of Timgad Travel Agency," *Journal of Economic, Management and Commercial Sciences*, University of M'sila, Algeria, vol. 4, no. 6, p. 28, 2011.
16. L. Hossam El-Din, *The Impact of Advances in Information Technology on the Qualitative and Quantitative Characteristics of Human Resources*. Cairo, Egypt: Arab Organization for Administrative Development, 2011.
17. M. A. A. Tawfiq, *The Tourism Industry*. Amman, Jordan: Zahran Publishing House, 2008.
18. M. E. Mohamed, "The Impact of Information and Communication Technology on the Tourism Sector," *Lecture Notes*, Dept. Tourism Studies, Benha University, Egypt, 2018, pp. 10–11.
19. D. Buhalis and R. Law, "Twenty years of e-Tourism and ICT technology: A commentary," *Journal of Hospitality and Tourism Technology*, vol. 11, no. 3, pp. 385–392, 2020.
20. F. Seyitoglu, "Cappadocia: The effects of tourist motivation on satisfaction and destination loyalty," *Journal of Tourismology*, vol. 6, no. 1, pp. 35–48, 2020.
21. L. E. Tulung, S. L. J. Lapian, V. P. Lengkong, and M. V. Tielung, "The role of smart tourism technologies, destination image and memorable tourism experiences as determinants of tourist loyalty," *Revista de Gestão Social e Ambiental*, vol. 19, no. 4, pp. 1–26, 2025.
22. J. Hair, T. Hult, C. Ringle, and M. Sarstedt, *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Los Angeles, CA, USA: Sage, 2017.