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RESEARCH ARTICLE

IMPLEMENTATION OF NEW ICT STRUCTURE IN E-TOURISM INDUSTRY: SAMPLE APPROACH IN KINGDOM OF SAUDI ARABIA

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ABSTRACT

Tourism has become the world's largest industry, composing of numerous enterprises such as airlines, hoteliers, car rentals, leisure suppliers, and travel agencies. With increasing complexity of tourism business models and tasks, there is a clear need of the next generation e-Tourism infrastructure to support flexible automation, integration, computation, storage, and collaboration. The impact of ICT on tourism industries has been widely recognized as one of the major changes in the last decade: new ways of communicating with prospective tourists and of providing services and products became part of these industries' key role. Understanding how travellers behave is of critical importance to travel suppliers and tourism authorities for formulating appropriate marketing strategies so as to fully exploit the potential of this channel. Our proposed architecture will increase the accessibility of e-tourism facility by the customer with the help of ICT development structure.

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INTRODUCTION

The revolution in ICTs has profound implications for economic and social development. It has pervaded every aspect of human life whether it is health, education, economics, governance, entertainment etc. Dissemination, propagation and accessibility of these technologies are viewed to be integral to a country's development strategy. The most important benefit associated with the access to the new technologies is the increase in the supply of information. Information is shared and disseminated to larger audience. Secondly it reduces the cost of production. Knowledge is produced, transmitted, accessed and shared at the minimum cost. With the reduction in the transactional costs, there is also a reduction in the degree of inefficiencies and uncertainty. Thirdly it has overcome the constraints of distance and geography. ICTs have cut across the geographic boundaries of the nation states. Buyers and sellers are able to share information, specifications, production process across the national borders (Deepthi Shanker 2008). Electronic tourism is the application of ICTs on the tourism industry suggests that e-tourism reflects the digitization of all processes and value chains in the tourism, travel, hospitality and catering industries. At the tactical level, it includes e-commerce and applies ICTs for maximizing the efficiency and effectiveness of the tourism organization. At the strategic level, e-tourism revolutionizes all business processes, the entire value chain as well as the strategic relationships of tourism organizations with all their stakeholders (Dimitrios Buhalis 2001).

E-tourism determines the competitiveness of the organization by taking advantage of intranets for reorganizing internal processes, extranets for developing transactions with trusted partners and the Internet for interacting with all its stakeholders and customers. The e-tourism concept includes all business functions as well as e-strategy, e-planning and e-management for all sectors of the tourism industry, including tourism, travel, transport, leisure, hospitality, principals, intermediaries and public sector organizations. Hence, e-tourism bundles together three distinctive disciplines: business management, information systems and management, and tourism (Dimitrios Buhalis 2001). It enables all to know the comparative advantage in the market economy. It leads to the larger markets and increased access to global supply chains. Fourthly it has led to more transparency. Networking and information sharing definitely leads to demands for greater openness and transparency to the e-tourism sector. Whether you want to know the status of the central banks' foreign exchange agency or the cost prize of potatoes in the local market, ICTs empowers the individual with the information access, which is transparent. Efforts are under way to integrate ICTs to all sectors and developmental activity. Tourism is one such potential area. Tourism and economy are closely interconnected (Deepthi Shanker 2008). Contemporary information society has made Tourism a highly information-intensive industry as ICT has a potential impact on tourism business. The role of ICT in tourism industry cannot be underestimated and it is crucial driving force in the current information driven society. It has provided new tools and enabled new distribution channels, thus creating a new

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business environment. ICT toolshave facilitated business transaction in the industry by networking with trading partners, distribution of product services and providing information to consumers across the globe. On the other hand consumers are also using online to obtain information and plan their trip and travel. Information is the key element in the tourism industry (Deepthi Shanker 2008).

ICT pervades almost all aspects of tourism and related industry. The use of Geospatial Information Technologies in the recent years across the globe for varied purposes is popularly known and Tourism industry has not been an exception in availing its advantages. It can be used by tourist professionals to define the boundaries of the proposed tourist site as well its surrounding areas and the communities living in it. The role of ICT tools in the industry for marketing, operation, and management of customer is widely known. Marketing techniques can be more innovative through ICT tools. The table below reveals the potential use of ICT tools in the industry (Deepthi Shanker 2008). Tourism as an information intensive industry can gain important synergies from the use of the Internet. The tourism sector has been a pioneer in adopting and developing ICT applications and today is rated among the top product or service categories purchased via the Internet in Saudi Arabia and other nations.

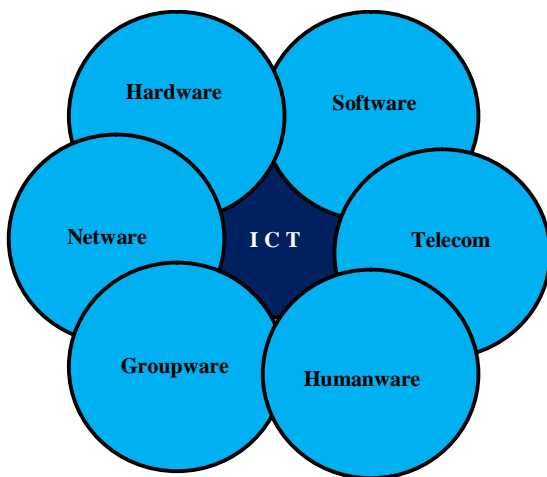


Figure 1. Typical ICT Structure

Hardware is physical equipment such as mechanical, magnetic, electrical, electronic or optical devices. Software is prewritten detailed instructions that control the operation of a computer system or of an electronic device. Software co-ordinates the work of hardware components in an information system. Software may incorporate standard software such as operating systems or applications, software processes, artificial intelligence and intelligent agents, and user interfaces. Telecommunications technology used for transmission of signals over long distances, including not only data communications but also the transmission of images and voices using radio, television, telephony and other communication technologies. Netware is an equipment and software required to develop and support a network or an interconnected system of computers, terminals and communication channels and devices.

Groupware is a communication tool, such as email, voice mail, fax, videoconferencing that foster electronic communication and collaboration among groups. Human ware is the intellect required for the development, programming, maintenance and operation of technological development. Human ware incorporates the knowledge and expertise pool of the society

LITERATURE REVIEW

Dimitrios Buhalis, Maria Cristina Licata(2001)discussed the travel distribution role has been performed by traditional Outgoing Travel Agents (OTAs), Tour Operators (Tos) and Incoming Travel Agencies (ITAs). They were supported by Computer Reservation Systems, Global Distribution Systems (GDSs) or tour operators' Videotext systems. These traditional electronic intermediaries particularly GDSs, progressively consolidated their position (Dimitrios Buhalis 2001). Deepthi Shanker (2008) analyzed the revolution in ICTs has profound implications for economic and social development. The most important benefit associated with the access to the new technologies is the increase in the supply of information. Information is shared and disseminated to larger audience. Secondly it reduces the cost of production. Knowledge is produced, transmitted, accessed and shared at the minimum cost. ICTs have cut across the geographic boundaries of the nation states. Buyers and sellers are able to share information, specifications, production process across the national borders. It enables all to know the comparative advantage in the market economy (Deepthi Shanker 2008). Lorenzo Cantoni, Nadzeya Kalbaska, Alessandro Inversini (2009) this research investigates the role of new media in education in these areas, harvesting and categorizing online courses according to sub-domains in order to provide a clear overview of the field. The impact of ICT on tourism and hospitality industries has been widely recognized as one of the major changes in the last decade: new ways of communicating with prospective tourists and of purchasing products became part of these industries' everyday lives. Little attention has been paid to the role played by new media in education in these fields (Lorenzo Candtoni *et al.*, 2009). Garín-Munoz, Teresa, Pérez-Amaral, Teodosio (2010)This study explores the factors influencing Internet usage for travel information and shopping by using representative annual panel data from 2003 to 2007 on the 17 Spanish Autonomous Communities. The importance of Internet for the travel and tourism industry has increased rapidly over the last few years. Understanding how travellers behave is of critical importance to travel suppliers and tourism authorities for formulating appropriate marketing strategies so as to fully exploit the potential of this channel (Garín-Muñoz *et al.*, 2010). Sergey Balandin, Santa Laizane (2013) tourism in recent times has brought fundamental changes in the industry and our perceptions of its nature. Adoption of new technologies has reshaped the entire process of tourism service development, management and marketing, as well as entire tourism industry as a whole. Due to the increasing impact on efficiency and effectiveness of tourism organizations, ICTs may be perceived as an integral part of the contemporary tourism business (Sergey Balandin and Santa Laizane 2013).

PURPOSE OF THIS STUDY

Based on the literature review, the absence of an extensive research on eLearning in adoption of new ongoing technology like mobile communication, WiFi communication and Wimax technology was identified, as well as the lack of a map of online supportive, as a result, the general purpose of this study is to implement the advanced technologies in the field of e-tourism., in order to understand their main characteristics, settings, intended users as well as the key aims of creating those courses by providers of the educational services. E-tourism in Saudi Arabia The penetration of the ICT development in the Saudi travel industry has been historically lower than in other countries. However, it is increasingly gaining ground to the detriment of visitor travel except pilgrim's holy travel and workers. One of the possible reasons for the low level of penetration of eTourism in comparison with other countries may be the weakness of usage of ICT sector not used efficiently. Thus, the main research objectives were to identify the presence of online new technology in the supporting and tourism domain. Also proposed technique identifies the user friendly technology and try to eliminating barriers on the ICT sector to establish strong communication between the travel group and travel agency.

PROPOSED ARCHITECTURE

In order to meet these objectives, as well as to consider the various types of existing elements of e-tourism and new technology like WiMax programmes in the tourism industry, a multiple research approach was used. The multiple research method was considered to be suitable for the study, which involves extensive support in this e-tourism industry. In order to select a representative sample for the research, an opportunistic model was used. Web addresses of courses were collected by the authorization, Services, Resources, Database. The domain travel agency connected with the Regional, Local agency in the sense of extending support to the customer. In the following figures Travel Agency connected with the National Level Agent and further it connected with Regional and local agency with the help of WiMax technique.

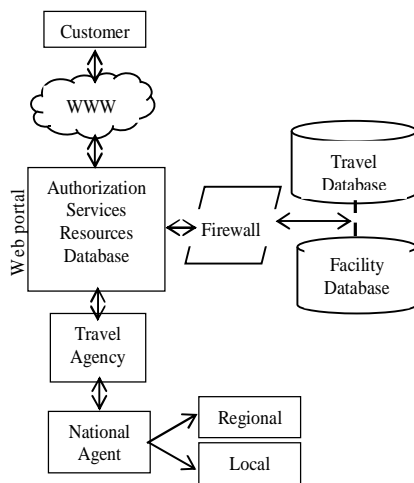


Figure 2. Proposed ICT Structure connected with Regional, Local Agent

BENEFITS OF THE PROPOSED STRUCTURE

The development of the Internet and ICTs has made many significant impacts on the operation, structure and strategy of e-tourism organizations, as well as communication with consumers. The enhancements in ICTs capabilities like WiFi and WiMax, in combination with the decrease of the size of equipment and ICTs costs, improved the reliability, compatibility and inter-connectivity of numerous terminals and applications. The benefits of the above structure were as follows

A. Benefits to Web portals

The Internet and ICTs have enabled tourism organizations to develop their processes and adapt their management to take advantage of the emerging digital tools and mechanisms to: Increase their internal efficiency and manage their capacity and yields better. Revolutionize tourism intermediation and increase the points of sale. Dominant global Web portals, offering an one-stop-shop for consumers.

B. Benefits to Agency

Provide Location Based Services by incorporating data, content and multimedia information on Google Maps and Google Earth. Support efficient cooperation between National level, Regional and local level agents. Enhance the operational and geographic scope by offering strategic tools for global expansion.

C. Benefits to Consumers

Interact effectively with consumers and personalize the product. It enables the customer to undertake a number of processes, including booking, ticketing, check-in and seat and meal selection, from the convenience of their computer.

D. Benefits to Government

IT education and training for policy makers, managers and key factor of organizing e-tourism industry. Integration of various sectors like transport, lodge, community services and legal advises etc. Establish electronic linkage between all related government sector like bank, telecommunication, Airline etc.,

CONCLUSION

The findings of the study will facilitate an understanding of the factors associated with the adoption of the new Internet technology such as WiFi, WiMax channel for travel related purposes. In terms of implementation of new technologies, our results suggest that Internet usage for travel related purposes is heavily dependent on the Internet perception rate. This result is equally valid either for planning, booking or purchasing a trip. Our findings suggest those transportation mode and travel destinations are good predictors of Internet usage for visiting purposes. These results will help Web portals, agency and policy makers to better develop appropriate strategies to enhance and promote e-tourism to future users while retaining

existing customers. Moreover, if public authorities KSA government wish to encourage a higher use of Internet for travel related purposes, then it seems that increasing the Internet perception rate may be an effective way to obtain that goal.

REFERENCES

- Deepthi Shanker, "ICT and Tourism: Challenges and Opportunities", Humanities and Social Sciences, Indian Institute of Technology, Conference on Tourism in India – Challenges Ahead, IIMK, India 15-17 May 2008.
- Dimitrios Buhalis, Maria Cristina Licata, "The Future eTourism intermediaries", ENTER2001 conference in Montreal, Canada, 2001.
- Essawy, M., "Testing the Usability of Hotel Websites", The Springboard for Customer Relationship Building, Leeds, 2005.
- Garín-Muñoz, Teresa; Pérez-Amaral, Teodosio, "Internet Usage for Travel and Tourism. The Case of Spain", 21st European Regional ITS Conference, Copenhagen 2010.
- Gursoy, D., and McCleary, K., "An integrative model of tourism information search behaviour", *Annals of Tourism Research*, Vol 31 No 2, 353- 373, 2004.
- Hsiao, C., "Analysis of Panel Data", second edition, Econometric Society Monographs, Cambridge University Press, 2003.
- Hueng, V. C., "Internet usage by international travellers: reasons and barriers", *International Journal of Contemporary Hospitality Management*, Vol 15, No 7, pp 370- 378, 2003.
- Kamarulzaman, Y., "Adoption of travel e-shopping in the UK", *International Journal of Retail & Distribution Management*, Vol 35, No 9, pp 703- 719, 2007.
- Kao, Y., Louvieris, P., Powell-Perry, J., and Buhalis, D., "E-Satisfaction of NTO's Website Case Study: Singapore Tourism Board's Taiwan Website", in Frew, A., (ed), *Information and Communication Technologies in Tourism 2005*.
- Lewis, I., Semeijn, J., and Talalayevsky, A., "The impact of information technology on travel agents", *Transportation Journal*, Vol 37, No 4, pp 20- 25, 1998.
- Lorenzo Cantoni, Nadzeya Kalbaska, Alessandro Inversini, "E-learning in tourism and hospitality: A map", *Journal of Hospitality, Leisure, Sport and Tourism Education*, Vol. 8, No. 2. ISSN: 1473-8376.-2009.
- Sergey Balandin, Santa Laizane, "e-Tourism: The Role of ICT in Tourism Industry", *Proceeding of the 13th Conference of Fruct Association*, 2013.
