



## A STUDY ON EXPLORING THE DETERMINANTS OF E-COMMERCE USAGE IN THE HOTEL INDUSTRY IN INDIA

L.Shebin\*                      Dr. R. Kannan\*\*

\*Associate Professor, Srinivas College of Hotel Management, Srinivas Campus, Mangalore.

\*\*Director i/c & Associate Professor, Centre for Tourism and Hotel Management, Madurai Kamaraj University, Madurai.

### Abstract

The use of the Internet for communicating and transacting with customers has been growing rapidly in the worldwide tourism industry. However, there is a large variation in the intensity of use of e-commerce in the travel and tourism industry. While the Internet usage varies across countries, even within a country there are large variations amongst enterprises. These variations are mainly due to the impact of several factors associated with the internal and external environment of the enterprise. This study attempts to explore the impact of various factors on the Internet usage rate. The factors are classified into three broad groups: viz. factors associated with the location of the enterprise, internal factors of the enterprise and technological factors. A study conducted with 95 hotels in seven locations in India is used to assess the impact of the factors.

**Key Words:** E-Commerce Usage, Organizational Factors, Hotel Industry, India.

### Introduction

As the tourism industry expands globally, the need for expanding the communication networks to connect the customers and the service providers has increased. The World Wide Web has been utilized as a means for communication widely over the past decade in the travel and tourism industry. It has been instrumental in helping the tourism sector to expand its markets across the continents and has played a major role in helping the growth of the industry. The World Wide Web is a cost effective means for enterprises in the travel and tourism sector to directly market their offerings to a large customer population across the globe. It is also a very convenient means for the customers to gather information and compare between alternatives in an interactive manner.

According to O'Connor (1999), the main advantages that the internet provides as a marketing medium for travel and tourism sector are: (i) the global market reach, (ii) the customers who access the web-sites are much more interested rather than in a conventional marketing communication where, the message is targeted indiscriminately, (iii) the web-sites are not affected by capacity constraints, and (iv) the possibility of two-way communication offered by the internet. The UNCTAD (2000) background paper on e-commerce and tourism states that "the internet and its inherent interactivity empowers people to find information quickly and precisely on any destination or recreation that is capturing their interest". The internet has also presented the travel and tourism sector with the possibility of both connecting as well as transacting with global customers on a real time basis. The extent of the use of e-commerce by the tourism industry has increased considerably over the years. Forrester (2004) estimates that in 2004, in the United States alone the travel and tourism transaction through the world wide web will be worth US\$ 53 billion. The growth in the adoption of e-commerce in the travel and tourism sector has been facilitated by a number of factors including technological advancements, greater internet penetration among households, heightened competition in the travel and tourism sector etc. The adoption and usage of e-commerce in the travel and tourism sector however has not been very uniform. The extent of adoption and usage has varied across countries as well as amongst enterprises within a country. It has been observed that the adoption of e-commerce is determined by factors like the size of the enterprise and the target market of the enterprise. A limited number of studies have focused on this aspect in the travel and tourism related literature [eg. Wei et al (2001), Ozturan and Roney (2004), Buhalis and Deimezi (2004)]. The present study looks at the factors that influence the adoption and usage of e-commerce among the enterprises in the hotel industry. The hotel industry in India is selected as a setting to explore the relative influence of factors in determining the adoption of e-commerce.

India has developed into a major destination for tourists from around the world, attracting about 7.68 million tourists in the year 2014. The majority of the tourists come from East Asia and Europe. The tourism industry is expected to directly contribute about 5.4% of the GDP which translates into about US\$ 29.4 billion. India has been ranked 7<sup>th</sup> globally. India has also been ranked amongst the first three tourist destinations in Asia in terms of the number of tourist's arrivals. The e-commerce sector is also witnessing a substantial growth in India; India is a growing market in terms of the e-commerce usage in travel and tourism. However the travel and tourism enterprises in the country are at different stages of utilization of the internet in their business activities.

### Factors Determining the Intensity of E-Commerce Usage in Hotels

E-commerce mainly helps in the generation of leads, presenting information about the tourism product to the customers, and facilitating the transaction process electronically mainly using the world wide web. Thus the travel and tourism based enterprises are expected to achieve significant benefits by way of growth in sales and profits through the increasing



utilization of the internet. Both external and internal factors affect the utility of the internet in providing these benefits in the hotel industry. A hotel's actual usage of the internet therefore varies on the basis of the internet's ability to help the hotel in connecting to more customers and thereby increasing the sales and profits. Due to various reasons, if the internet cannot contribute significantly in this direction, the hotel would rely more on other sources like travel agents or telephone enquiries for attracting customers. For instance, the viability of the internet as a medium for marketing is severely affected by the extent of use of the internet by the hotel's target customers. Therefore if the hotel mainly caters to a population where the internet penetration is very low, its dependence on e-commerce is also expected to be low. Other contextual factors relating to the competitive environment and the organization would also affect a hotel's intensity of usage of e-commerce. Environmental factors like the level of competition between existing players, organizational factors like the scope of the activities in which the hotel is involved in etc. are also expected to impact a hotel's usage of the internet.

The technology-organization-environment framework introduced by Tornatzky and Fleischer (1990) provides a convincing theoretical rationale for considering the importance of contextual factors in the adoption of e-commerce based technologies. The framework groups the significant contexts into three classes: (i) the organizational context (ii) the technological context and (iii) the environmental context. This framework has been applied across several Information technology domains over the past decade (Zhu et al, 2002). Several authors have found considerable support for the framework in their studies. Notable ones amongst them are Mukhopadhyay et al. (1995), Iacovou et al. (1995), Kuan and Chau (2001), Zhu et al (2002). In most of these empirical studies, the specific factors identified within the three contexts have varied. These variations were reflective of the organizational or market contexts in which these studies were conducted. E-commerce Based on the technology-organization-environment framework, the intensity of use of e-commerce in a hotel is expected to be determined by a set of factors associated with the hotel, and the location where the hotel exists.

The adoption and usage of information technology and other associated technologies has received significant attention in the travel and tourism related literature in recent years. Studies have considered information technology related variables both as a Dependent as well as an independent variable. For instance Ozturan and Roney (2004) and Wei et al (2001) look at the application of internet in the travel and hospitality industry by looking at the critical factors that lead to greater adoption. Martorell (2002), Connolly and Olsen (2000) and Bloch and Segev (1996) on the other hand consider e-commerce adoption as an independent variable that could affect and transform hospitality industry in the future. The main focus of these studies is to analyze and explain the main outcomes of rapid use of e-commerce in the travel and tourism industry. Both these streams have highlighted the variations in the use of internet across destinations and across enterprises, and tried to explain these variations from different perspectives. In the present study, a similar framework is adopted to assess the importance of certain contextual factors in the intensity of usage of e-commerce in the hotel industry in India. The factors considered in this study have been mentioned in several other studies as possible influencers of e-commerce or IT adoption in the travel and tourism sector. The factors considered are classified into three major groups: (i) the location related factors (ii) the firm related factors and (iii) the technological resources of the firm. The study attempts to see the impact of these factors on the intensity of e-commerce usage in the hotel industry in India.

The location related factors considered are the characteristics of the hotel's location which could influence its intensity of use of e-commerce. The location related factors considered are: (i) the percentage of consumers who visit the hotel's location from high Internet penetration countries, (ii) the overall market size of the hotel's location, and (iii) the level of competition between the hotels in the locality.

Unless the target consumers access the Internet and use the Internet as a medium for transaction, the service providers are not in a position to rely heavily on the Internet for its marketing activities. Thus hotels in locations where most of the visitors come from a country with a high level of Internet penetration are expected to use the Internet to a greater degree than hotels in locations where the major part of the tourists are from countries where the Internet penetration is low.

High internet penetration countries are defined as those countries where the access to personal computers and the Internet are high (EIU 2003). Regardless of their country of origin tourists may of course have access to the Internet. It is however assumed that the practice of booking rooms online is widely prevalent only in the high internet.

Penetration countries The market size of a location will also be a significant factor since hotels in smaller underdeveloped locations may try to use the Internet to reach out to the global population more than hotels located in a developed location.

The competition level amongst the hotels in a location, considered as part of the locational factor, can also influence the intensity of use of the Internet by a hotel. Many empirical studies (e.g. Crook and Kumar 1998, Grover 1993, Iacovou et al 1995) have found evidence to suggest that competitive pressure drives innovation. In this study this factor is measured as

the occupancy rate in the location where the hotel exists. High levels of occupancy rate imply that the hotels can expect to get their rooms filled with relative ease without much competition, while low levels of occupancy point towards higher levels of competition to attract customers between the hotels in the location.

The enterprise related factors considered are: (i) the size of the hotel in terms of the number of rooms, (ii) the scope of activities of the hotel in terms of activities that the hotel is engaged in, (iii) the type of the hotel in terms of economic segment it is targeting and (iv) the age of the hotel. The survey conducted by Weiet al (2001) amongst the managers in the hotel industry supports the fact that the size of the hotel and the scope of activities of the hotel have considerable influence on the usage of e-mail and internet. In a study conducted with manufacturing enterprises, Zhu et al, (2002) found that the size of the enterprise influences the intensity of use of e-commerce based facilities and processes.

The Information and Communication Technology resources of the enterprise is also considered as a factor that could impact the intensity of use of e-commerce. Zhu et al, (2002) has found that the technological capabilities of manufacturing enterprises positively affect an enterprise's usage of e-commerce. The ICT resources of an enterprise is defined here as the enterprise's possession of a variety of ICT technologies and has to be distinguished from the intensity of use of e-commerce. ICT technologies, like Global Distribution Systems and Information Systems for back office operations, have been used in the tourism industry even before the advent of the internet and e-commerce. Hotels with high levels of ICT adoption are expected to be more interested and more capable of utilizing the possibilities presented by the internet in communicating and transacting with the potential customers than firms with low levels of ICT adoption.

### Conclusion

With the rapid penetration of the Internet, its use as a medium for communication and transaction is increasing. The study attempts to understand the factors that influence the usage of e-commerce in the hotel industry. India being an important tourist destination in the world provides an excellent context for the study. Further, India being a developing country, the extent of use of the Internet is in its growth phase. While all the hotels that were surveyed had a web- site and had an e-mail service to connect to the customers, there existed a large variation in their reliance on the internet to communicate and transact with the customers. The study tries to find the underlying reasons for this phenomenon. The results that have emerged from the study endorse some of the beliefs about the Internet usage in the travel and tourism industry. It is important to find out more about the factors that influence the usage intensity of e-commerce in the hotel industry. The study gives a general idea about the impact of the various factors on the intensity of use of e-commerce. However further studies that explore the reasons in depth would give a clearer picture in this respect. It is also important to look into the other variables that may influence the e-commerce usage intensity. Since the sampling methodology deviates from the strict conditions of random sampling, the results need to be generalized with caution. This is one of the limitations of the study. The study also does not consider the impact of the membership of an established hotel chain on the hotel's e-dependence.

The study attempts to link external and internal factors related to a hotel to its dependence on e-commerce. In terms of managerial implications, the study gives an insight towards the reasons behind e-commerce usage in the hotel industry. This will be very useful for e-intermediaries in assessing new opportunities for expansion and market growth.

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