Role of Information and Communication Technologies in the Tourism Industry of Vellore District

Balamurugan Nadesan, Research Scholar – IT, Dravidian University,
Kuppam, Andhra Pradesh, India

Dr. K. Dhanapackiam, Guest Faculty in Tourism Department,
Mother Teresa Women's University, Kodaikanal, Tamil Nadu, India

Abstract— The Information Communications Technologies (ICT) plays a major role in tourism, travel and hospitality industry. The Integration of ICT in the tourism industry is an essential for success of tourism enterprise. ICT facilitates an individual to access the tourism products information from anywhere any time. Tourism enterprises can also reach the targeted customers across the globe in a single click on the keypad after emergence of mobile computers, web technologies etc.This paper discusses field related to tourism and various information technologies available to enhance the existing infrastructure of tourism industry. Tourism is an information intensive industry and information and communication technology is a key driver for developing countries in organising and marketing their tourism products. To assess the use of ICT in the tourism industry in Vellore District in Tamil Nadu, over 150, tour operator, travel agencies, and hotel were surveyed.

Keyword: Information technology, Tourism, communication, Vellore

Introduction

Tourism is generally referred to the travel undertaken for recreational, leisure, or business purposes, usually of a limited duration. Tourism is commonly associated with trans-National travel, but may also refer to travel to another location within the same country. The World Tourism Organisation (WTO) defines tourists as people "traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes". The tourism industry can be seen as one of the first business sectors where business functions are almost exclusively using information and communications technologies (ICT). Information Technology (IT) and ICT has played an important role in the development of tourism. Computerised reservations Systems (CRS) were among the first applications of IT worldwide. The industry is one of the more successful areas of e-commerce because it is largely consumer oriented and since services and the provision of information is at its centre.Tourism is a hybrid industry since even though it is dominated by the provision of information, essentially it is about a physical product. This requires the "seamless integration of information and physical service,

with flexible configurations of the physical and the informational parts".

Today, tourism is major source of income for many countries, and affects the economy of both the source and host countries, in some cases it is of vital importance. Tourism brings in large amounts of income into a local economy in the form of payment for goods and services needed by tourists, accounting for 30% of the world's trade of services, and 6% of overall exports of goods and services. It also creates opportunities for employment in the service sector of the economy associated with tourism.

The service industries which benefit from tourism include transportation services (such as airlines, cruise ships, trains and taxicabs); hospitality services (such as accommodations, including hotels and resorts); and entertainment venues (such as amusement parks, restaurants, casinos, shopping malls, music venues, and theaters). This is in addition to goods bought by tourists, including souvenirs.

Long-Term Outlook

International tourist arrivals worldwide are expected to increase by 3.3% a year between 2010 and 2030 to reach 1.8 billion by 2030, according to UNWTO's long-term forecast report Tourism Towards 2030. Between 2010 and 2030, arrivals in emerging destinations (+4.4% a year) are expected to increase at twice the rate of those in advanced economies (+2.2% a year). The market share of emerging economies increased from 30% in 1980 to 45% in 2016, and is expected to reach 57% by 2030, equivalent to over 1 billion international tourist arrivals.
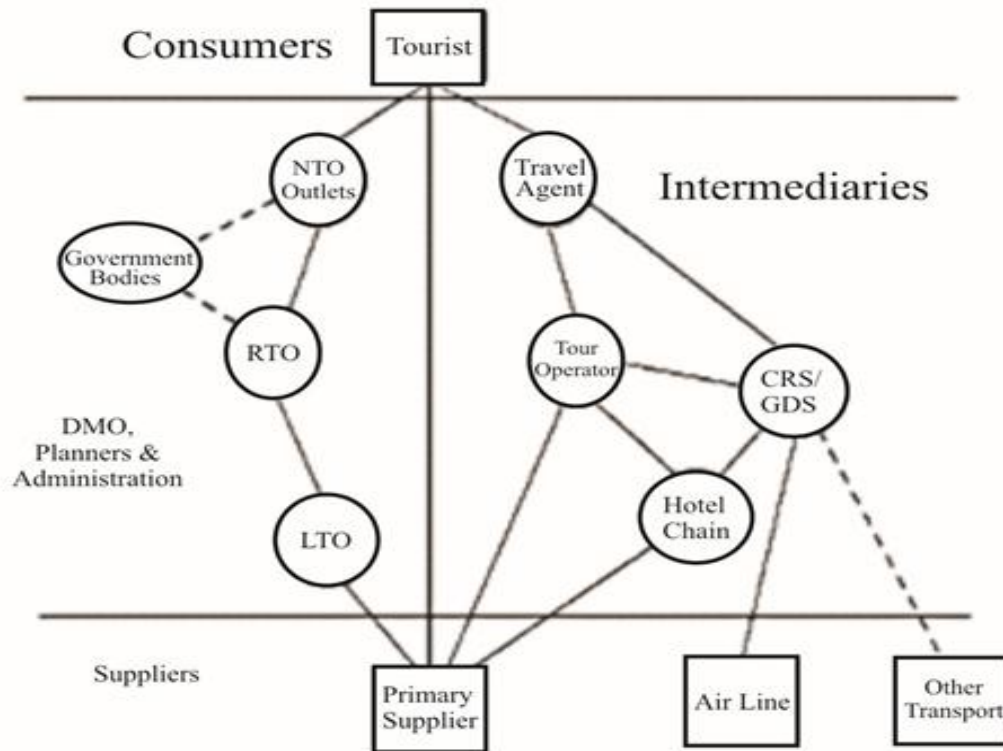
Figure: 1.1 Tourism at A Glance

Source: UNWTO Report 2017

The following diagram depicts the groups of players involved in the industry.

Diagram:2.1 Overview of Players Involved in Tourist Industry

Source :Werthner & Klein, 1999, p. 257

(Note – NTO, RTO and LTO represent tourist organisations on a National, regional and local level)

Review of use of Information TechnologyIn Tourism

Travel and tourism has not only become one of the world's largest industry but also grows consistently every year. Between 1990 and 2000, tourist arrivals worldwide grew at an average rate of 4-3 percent per annum. Travel and tourism represent approximately 11% of the worldwide GDP, according to the World Travel & Tourism Council. World Tourism Organisation predicts one billion international arrivals in the year 2010 and has forecasted that by 2020, international tourist arrivals to Asia and Pacific region would experience over 400 percent growth from 105 million in 2000 to 438 million in 2020.

As the world is being ushered into the information age, adoption of the information technology (IT) is rapidly increasing. Internet has transformed the world into a global village that can be navigated at the click of a mouse. It provides potential tourists with immediate access to textual and visual conformation on destinations throughout the world. The Internet has also become an essential tool in business to business (B2B) and business to consumer (B2C) transactions, the distribution of products, networking of

business partners, and is an instantaneous means of accessing knowledge on all kinds of subjects including travel and tourism information. The Internet can be accessed through mobile telephones, cable-television, fixedtelephones using traditional personal computers and laptops. Information is readily available 24/7 and the resulting cost transparency enables consumers to make more informed choices (Sinha, 2000).

This ease of access and depth of information has stimulated the emergence of a new breed of travel consumers who are independent and prefer to search for holidays themselves online, rather than through travel agents. And the majority of the people connected to the Internet happen to be from the world's top three tourism spending markets - Germany, USA and UK. The Internet is already the primary source of tourist destination information in these major markets. It has outpaced traditional sources of information on tourist destinations within the short period of its existence. Its audiovisual presentation of information on destinations outdoes the glossiest and most colorful print, and the quality of the presentation plays a decisive role in the endconsumer's choice of one destination over another.

Internet also offers tourism destination and businesses the means to make information and booking facilities available to millions of consumers around the world at a relatively low cost, while at the same time enabling them to cut down drastically on amounts invested in the production and distribution of promotional materials. Travel and tourism are fast becoming the largest category of products sold on the Internet, which must therefore be seen as the new marketing battlefronts for tourism destinations in Asia-Pacific. Apart from the Internet, technological advances gave rise to other electronic distribution platforms such as interactive satellite television and mobile devices. The expected proliferation of satellite TV and m-commerce will gradually intensify competition among intermediaries who will have to reengineer their business processes and evolve new business models in order to survive and remain competitive (Buhalis & Licata, 2002)

It is therefore, in the best interest of the Asia-Pacific region to keep abreast with time and step up its use of IT to satisfy the thirst for instantaneous tourism information on destinations. The stage is now set for National, regional, local tourist organisations, intermediaries, and administration and policy framing bodies in the Asia-Pacific region to rise to the challenge and understand, adopt and use the full potential of ICT to satisfy the thirst for instantaneous tourism information on destinations by not only marketing various tourism products and destinations to potential tourists, but also monitor and build a relationship with the tourists in the entire tourist life cycle.

Tourism Sectors

Tourists generally need both static and dynamic information. It includes details information about location, climate, attraction features, history, facilities available, etc. Information about airline, train and bus schedules, tariffs of transport and accommodation units and current availability of such facilities is considered as dynamic as they can change very frequently. These items of information have to be gathered, stored and disseminated on a real time basis. All types of reservation systems including air, railway and accommodation sectors contain such information.

The tourism industry is made up of three major components: Namely,

a) Transport sector

b) Accommodation sector

c) Attraction sector

Need of Information in Tourism

Travel is a basic human nature. Technological revolutions in the last few decades and the resulting changes in the social systems go faster its intensity in the current century. Thus, tourism is presently a mass phenomenon involving every human being in the world. They need detailed information about each place they intend to visit. The specific elements of such information needs are:

- Geographical information on location, landscape and climate, etc.
- Information Needs in Tourism, Accommodation, restaurant and shopping facilities, Accessibility though air, railway, water and road and availability of scheduled means of transport, Social customs, culture and other special features of the place, Activities and entertainment facilities, Seasons of visit and other unique features, Quality of facilities and their standard prices including exchange rates

Though the ultimate users of this information are the tourists, the actual benefits in money terms accrue to the tourism industry consisting of the destination managers and service providers. The travel intermediaries like travel agents, tour operators, and reservation system store such information in respect of each destination to service their clients and improve their business. They need the information in the easiest retrieval format so that the information needs of the clients are met as quickly as possible.

Information Technology and Tourism Industry Components

Transport sector, The travel services, all over the world and in many parts of India are fully computerised. The travel services, such as, railways, car rental, bus/coach hire or trip and airlines tickets, all are computerised and thus, proper information management is possible. Information regarding the tourists or passengers of yesterday, today and tomorrow is now readily available through the data generated by various tourism organisations.

The various fields of travel services using computer applications

- ❖ **Car Rental** is a big business world over and in the metropolis and big cities. The main clients of car rental are the corporate or business travellers along with the tourists wanting better service and comforts while travelling. The car rental business is fully computerised abroad, specially in America and Europe, and the Informationand Reservation System, such as that of Amadeus, Sabre, etc. are being used for car rental and information.

- ❖ **Railways** is the most favoured form of travel. The computerisation of the railway services was introduced a few years back. The software package used in ticketing and other customer services has been specially designed and developed for Railways. The computerised system broadly centers around the PNR (Passenger Name Report) number provided on each ticket of the customers. Each one of these PNR number is unique and identifies not only the person travelling on the ticket along with the passenger's personal details but also the train and the destination of travel. Now a person

can book tickets well in advance of the date of travel and get reservation on the spot. The computerised ticketing system has also shown way to computerised customer service facilities.

❖ **The airlines** have seen the maximum computerisation in the travel segment. Computer Reservation System (CRS) is widely used to book tickets in all the airlines. The CRS helps in generating a higher rate of occupancy and also provides a better scope of marketing and distribution to the airlines. The increasing popularity of air-travel globally, gave rise to the need of a better and efficient distribution mechanism. In the 1970s, the first Information and Reservation System (IRS) was developed in U.S. This system provided both information of tourism industry, including that of airline industry and also provided CRS for direct booking on the airline of choice.

❖ **Accommodation** sector the structure of the tourism industry meant that businesses in the accommodation sector lacked direct access to travellers and consumers. E-Business has changed the way firms in this sector can do business. In fact, groups in the hotel sector are developing communications networks designed to compete with Global Destination Systems (GDS)-A system containing information about availability, prices, and related services for Airlines, Car Companies, Hotel Companies, Rail Companies, etc. and through which reservations can be made and tickets can be issued. A GDS also makes some or all of these

functions available to subscribing travel agents, booking engines, and airlines. The GDS leaders are Amadeus, Apollo/Galileo/Worldspan, Sabre. These GDS are important technology solutions for information management and are used primarily by travel agencies and airlines. To cope with this new competition, the GDS have become suppliers of technology solutions directed at accommodation. Expedia and E-Travel target leisure and business.

❖ **Attraction** sector in the case of attractions both manmade and natural attraction owners need to communicate or inform their customers and potential customers about their production. Information about the kind of attraction, where they are located and how to get there is of vital importance. The attraction owners particularly the national tourist offices discharge their duty of promoting their country's tourist attractions using the information.

Study Area

Vellore is located at 12.92°N 79.13°E ,in the north-eastern part of Tamil Nadu covering an area of 5920.18 sq. kms with an average elevation of 216 metres. Vellore is located in the Eastern Ghats region and Palar river basin where the topography is almost plain, sloping from west to east. Black loam soil is found in parts of Vellore Taluk although the most common type of soil gravelly, stony and sandy of the red kind.

Vellore district is the part of Tondaimandalam and one of the 32 district in the Tamil Nadu. The total population of the district is 3,936,331 (2011 Census of India). The district finds an important place in the indian freedom

struggle .The Sepoy Mutiny of 1806 that took place inside the Vellore fort was seen as a prelude to the Revot of 1857. After the Indian independence in 1947, Vellore became a part of the erstwhile Madras state. The modern Vellore District was formerly North Arcot District, which was established by the British in the 19th century had Chittoor as its headquarters. On 1 April 1911, district was split into Chittoor district and North Arcot.

The Vellore Fort is the primary tourist attraction in the district headquarters Vellore. Vellore Fort is the most prominent landmark. During British rule, Tipu Sultan's family and the last king of Sri Lanka, Vikrama Rajasinha, were held as royal prisoners in the fort. It houses a church, a mosque and a Hindu temple, the latter known for its carvings. The first rebellion against British rule erupted at this fort in 1806, and it witnessed the massacre of the Vijayanagara royal family of Emperor Sriranga Raya.

Reserch Methodology

We have started our work as positivistic research method. After in depth study, we analysed the background of the research problem to create a base for the questionnaires and interviews. This was followed by a year long field work which consisted of identifying and interviewing tour operators, travel agents and hoteliers in vellore and made observations in a constructive approach to understand the situation. The questionnaires were made available on the internet to be filled by the participants of the survey and wherever response was not received the questionnaires were filled by visiting the participating agencies in person.

Collection of Data

We used the methods like questionnaires, interviews, simple observation and the literature survey to capture both qualitative and quantitative data which are essential for an accurate approach. With the qualitative data method, it was possible to grasp a holistic picture and obtained a better overview of the problem, as the interviewed person were given a chance to share their views and opinion on the issue.

Questionnaires

A web-based multiple choice questionnaire was developed for the tourism companies to obtain important information about each company and also to gain strict raw facts. However, the majority of the companies did not answer the web-based questionnaires, so they were instead filled up by personally visiting the respondents. The questionnaires were structured containing multiple choice questions where questions are predetermined and the data from different respondents is easy to analyse and compare

Limitations of the Study

Since we have applied both quantitative and qualitative method to our work, the possibility of performing a large number of interviews and observations was limited. Hence there was a risk that the results would not be representative for all tour operators, travel agents and hotels in Vellore. Another risk with the chosen method is th we have performed interviews with could pressure to some degree and therefore have no honest with their statements. Others were to answer immediately and to be able to think the answer.

Data Analysis

Chart:3.1
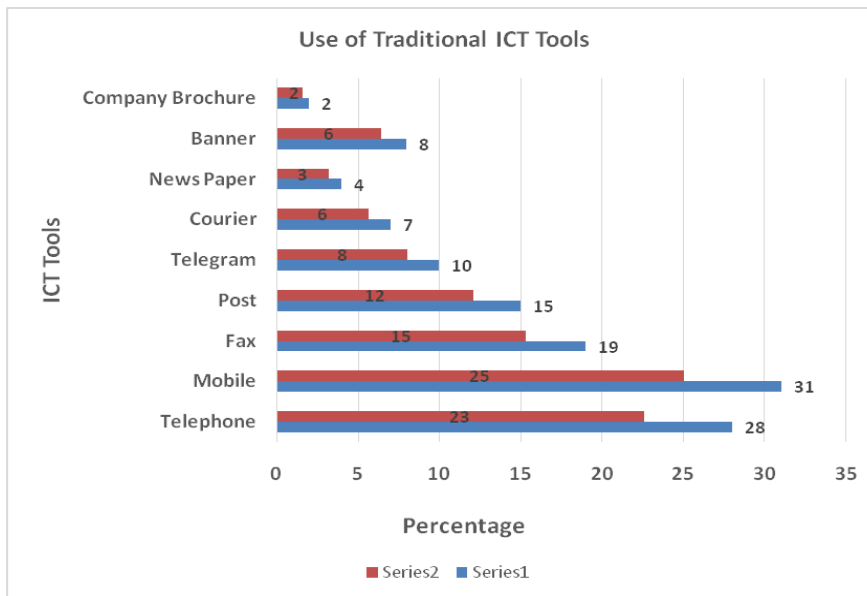
Source : Primary Data

Chart: 3.1 shows the category wise participants from which the survey is conducted. As it is observed in the table out of the 124 tourism sectors, 21 tour operators, 35 travel agencies and 68 hotel were participated in and around vellore .

Chart:3.2

Chart: 3.2 depicts the use of traditional ICT tools and it can seen that the tourism Industry is mostly relying on the electronic media like telephone, mobile, followed by fax and telegrams for instant data transmission. The courier service are offering fast and reliable communication service to the customers. The survey results shows that depending on the urgency of transfer of documents fax, courier, postal services are used. Information brochures are used heavily by agencies to advertise and market their products. It also observed that a very small amount of tourism industry prefers using newspaper to market their products.

Chart: 3.3 In the case of use of Modern tool like computers, internet, email, websites and software it was observed that nearly all tourism sector it 30% have computer. It is seen that 29% of internet, 16% of email were used. 12% of tourism sector had websites. Whereas 18% used some kinds of software.
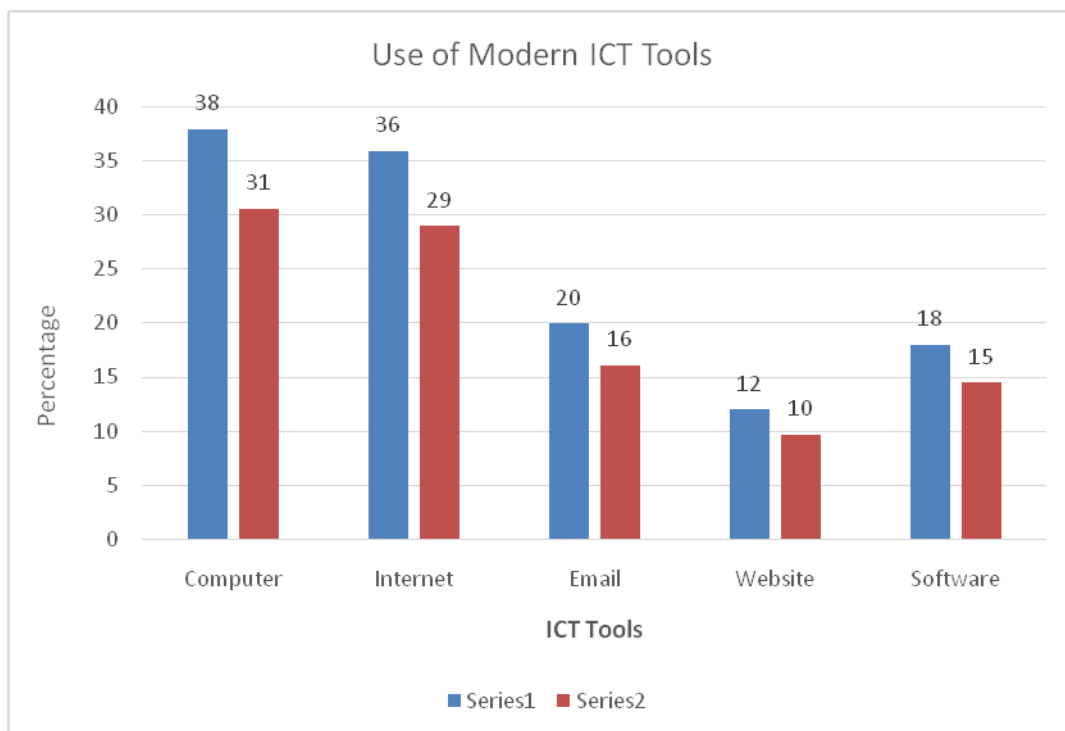

Chatr:3.3

Chart: 3.4 shows that the prime purposes of most of the operators using internet for the purpose of searching information (44%) and online booking (18.5) 14.5% of the operators claimed to use internet for promoting and marketing their business. 22.5% internet for communicating with their customers.
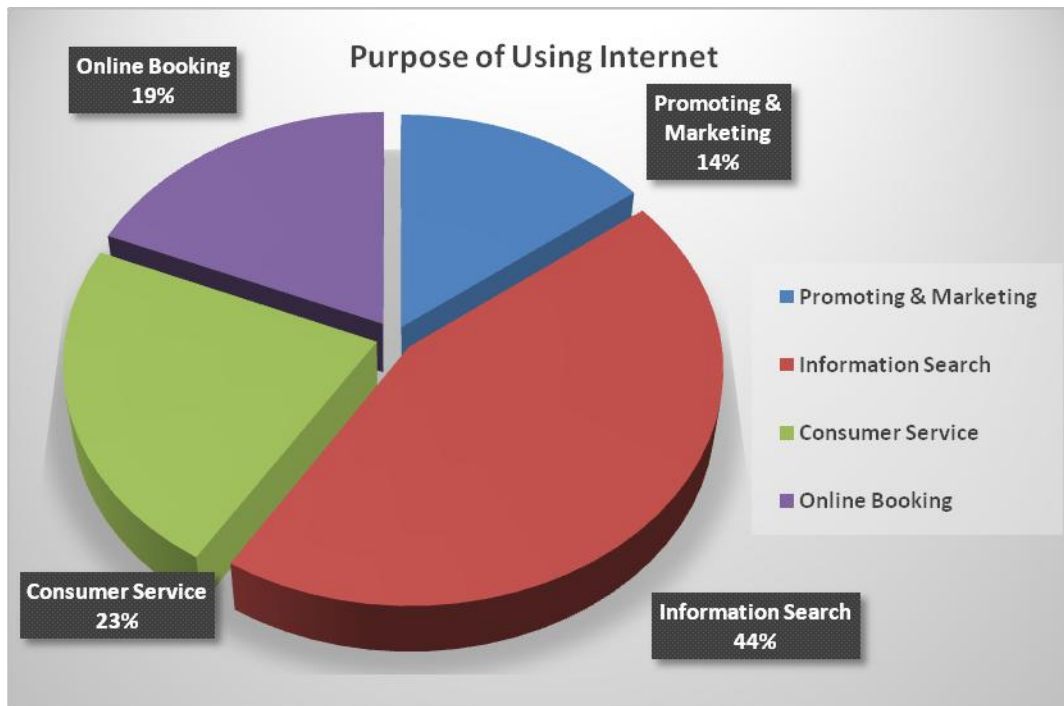
Chart: 3.4

Chart: 3.5 shows that purpose of using email. Out of these 39% operator claimed that they are using email for making queries while 27 used it for the purpose of booking 34% companies used email for communicating with their customers.
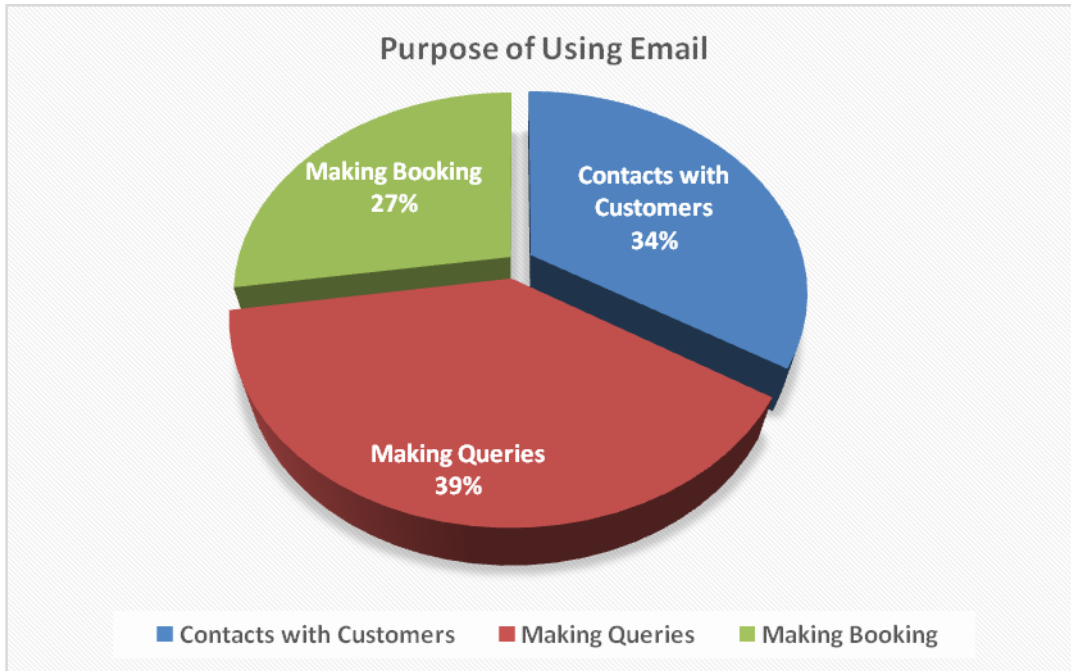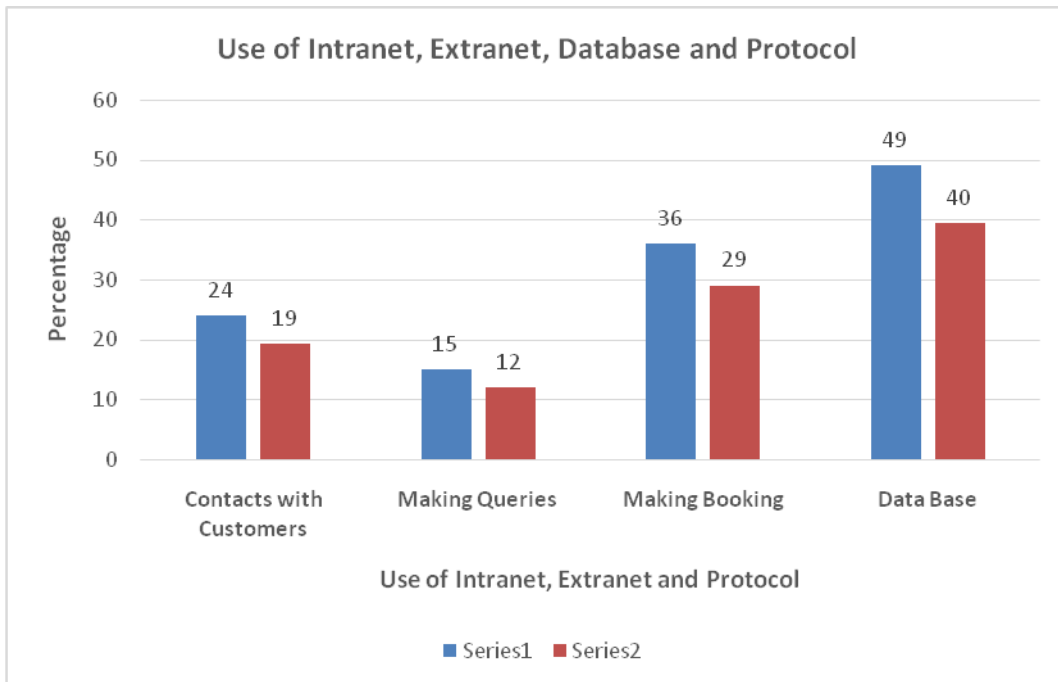
Chart: 3.5

Chart:3.6

Chart: 3.6 depicts the use of Intranet, database and portals by the tourism organisation. It is seen that only less numbers of organisation used 12% Intranet and 19% make use of Extranet respectively. 29% of organisation have participated in some web portal for their business. 40% organisation were using database for business. Use of Intranets and extranet is not popular in the tourism industry in Vellore.

Conclusion

The tourism sector of Vellore has thus failed to utilise the far reaching impact of the information and communication technologies which directly affects in the dull pace of revenue generation in the economy of the state. As tourism is a leading earner of foreign exchange for India and in turn also mobilises the economy of the states, it is expected that the government should participate into this activity by providing skilled trainers and appropriate funds to develop the infrastructure. ICTs can be used as a powerful tool in tourism industry for monitoring, forecasting, location identification, online payments, information gathering and management. A coordinated effort is essential to educate, train and modernise the services offered by the tourism industry to put ICT to effective use. The state need to effectively prepare themselves to make use of Internet and other enabling technologies to make them the most sought after destination in the world. We also feel that there is a need to develop an ICT based business model that will support integration of information in variety of sectors.

It is essential that the current information and communications technologies should be updated, upgraded and seamless integration both internally and externally should be done to improve the tourism business operations. The integration of ICT in tourism would benefit both, service providers and customers bringing together other stakeholders as well, on a common platform. The selection of right information communications technology tool is crucial to match the customer requirements with service dimensions. The proliferation of technology throughout tourism distribution channels and professionals use the new tools in order to retrieve information, identify suitable products and perform reservations. ICTs integration provides a powerful tool that brings advantage in promoting and strengthening tourism industry.

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