
ASSESSMENT OF ICT PRACTICES FOR THEIR MANAGEMENT AT A TYPICAL TOURIST DESTINATION IN INDIA

B. BHARGAVA TEJA

Management Consultant

Dr. B.R.A. Open University

Hyderabad

ABSTRACT

Rapid growth of internet practices and resulting web portals necessitated the author to find out inherent design patterns for developing easy navigation practices for effective management of ICT systems at a typical tourist destination. Alexa seven parameters index along with Australian five star judging criteria are selected for analyzing the design and developmental patterns of different websites and for evaluation of relative rankings of Tirumala Tirupati Devasthanams (TTD). The data pertaining to traffic statistics, search analytics, clickstreams along with demographics are investigated by comparing with an analogous destination – St. Peter's Basilica – for assessing their relative rankings. In addition, systematic studies have been carried out for finding out the nature and volume of internet subscribers, technologies involved and their rural and urban distribution along with foreign investments for examining their viability. The results of these studies revealed that internet practices in Tirumala are lagging far behind those of the Vatican in terms of percentage of users. Further the analysis of relative rankings of these destinations go on to show that young adults and males are the main driving force behind the visits to the Tirumala while the visitors to the Vatican are mostly senior citizens and women. Furthermore, the high traffic ranking of the website observed on the Vatican which is contrary to Tirumala is attributed to their functionality and content rather than the originality and inherent design. In the light of low literacy rates, high population figures and high quantum of mobile users irrespective of their literacy rates necessitated the author to study the suitable tool for advancing the internet by propagating through an appropriate media for their effective use. These findings suggest that mobile internet is an alternative conjunctive and cost effective technology to increase internet traffic for promoting a typical tourist destination along with the existing ICT practices.

Keywords: Destination, Demography, Traffic Stats, Functionality, Mobile Internet

1. INTRODUCTION

A destination is a geographical region from where someone is going to return to the original place [1] and is an amalgam of tourism products, facilities and services [2]. When the word *tour* and the suffixes, *-ist* and *-ism* are combined, they

suggest the act of leaving and then returning to the original starting point resulting in a round trip giving rise to the words 'tourist' and 'tourism'. Tirumala is regarded as a typical tourist destination in India by virtue of its location, antiquity, history, assets and large-scale attraction. It is situated in the thickly

wooded Eastern Ghats in the group of *seven principle peaks* each of which has a special significance and is an object of reverence. According to *ancient Indian scriptures*, Lord Vishnu himself descended on to the earth to reside on the holy hill Tirumala. Honours were rendered to the presiding deity by the rulers of ancient dynasties of southern India by embellishing the temple with offerings of silver and gold ornaments and contributions.

The consort of the presiding deity along with several other satellite temples of mythological significance are situated at the bottom of the hill side at the temple town Tirupathi. The twin temple

complexes at Tirupathi and Tirumala along with their allied and associated institutions are administered and managed by Tirumala Tirupati Devasthanams (TTD) Trust Board. The Trust Board is exercising its benign role as a part of its objectives by funding Vedic and oriental education besides supporting several other institutions of emerging education including engineering and health sciences. In addition the Board also undertake various other social, economic and environmental services. The unique characteristics of the temple that qualifies with its significance are analyzed, codified and presented in the Table 1 along with those of the analogous religious destination at the Vatican City.

Table 1: Significant Characteristics along with the Detailed Features of Tirumala and Vatican City

S.No	Characteristic Features	Description of the Features of the Typical Destinations	
		Tirumala, Andhra Pradesh, India	St. Peter's Basilica, Rome, Italy
1	Location	Situated at an altitude of 3,200 mts on a principle peak from among the group of hills that are thickly wooded in the Nallamalla forest range occupying an area of 700 hectares in Eastern Ghats.	Situated on the Vatican hill covering an area of 2.3 hectares across the river Tiber in the sovereign Vatican City.
2	Antiquity	The earliest references are found in Sangam literature dating back 500 BCE to 300 CE. The icon of Lord Venkateshwara is found some time in first century CE by Tondaman king.	Built in 64 CE followed by massive renovations during 4 th century CE where Saint Peter is buried.
3	History	Pallavas of Kancheepuram 9 th century CE, Cholas of Thanjavur 10 th century CE and Vijayanagar kings 14 th -15 th century CE have embellished from time to time.	Pope Julius II started the new basilica during 14 th century, Pope Nelson V rebuilt and enlarged during 15 th century. Pope Urban VIII dedicated church during 16 th century.
4	Assets	Over 100 billion rupees of movable and immovable assets throughout the India; 6.5 billion voluntary donations per annum; 15 tonnes of gold and jewellers.	52 billion dollars of treasure of solid gold has been estimated by the UN. 350 million dollars to the pope's works of charity and 83 million dollar under voluntarily donations
5	Management	Executive Officer (a civil servant) in association with drawn from polity, public life and government representatives assisted by 10,000 regular employees, seconded by another 3,000.	The pope is the bishop who exercises the authority related to sacraments assisted by 800 employees working in Curia and 1,909 employees of the state while over 300 working in diplomatic mission.
6	Daily Visitors	About 20 million visitors per annum	About 10 million visitors per annum
7	Significance	<p>The presiding deity is seated beneath the golden spire of length 200 m separated by three chambers in a temple complex of 10,000 sq m with two gateway towers of ranging heights</p> <p>All the 365 days in a year are festival and celebration days to the presiding deity making everyday eventful.</p> <p>A unique semi circular three-level queue complex accommodating over 20,000 pilgrims at a time and regulating through 36 compartments.</p>	<p>The basilica is in the cruciform in shape covered by a dome 42 m in diameter and reaching 138 m in height with 218 meter elongated nave comprising 45 altars.</p> <p>The Holy See is recognized as a sovereign entity headed by the pope for diplomatic relations and other subjects of International law</p> <p>Five million visitors visit the Vatican Museum every year ranking sixth among all museums in the world</p>

The table indicates that the location is on a magnificent group of hills in the Eastern Ghats that run along coastal Andhra Pradesh. The location is remarkable for its serenity and sanctity and is steeped in antiquity and history and has been described in traditional and modern literature. The religious destination attracts over 20 million visitors annually from around the globe. Several millions of pilgrims climb the seven hills by foot each year and leave their traditional offering of shorn hair at the Lord's feet. The fabulous income of over 6 billion rupees is drawn annually from the panorama of daily services (*Sevas*), festivals and celebrations along with donations that are offered by devotees.

For effectively managing [3] the multifarious activities of the temple trust and related events, modern communication tools [4] were adopted in the early 2000s by using *Internet* [5]. However, the main aim is to serve the pilgrims with Information and Communication Technologies (ICT) in a trans-sector partnership [6] and changing the course of administration at the pilgrim destination [7]. The ICT technology involves computers, network hardware and necessary software which were initially installed at TTD in 1998 along with several other private providers. Later in 2002, an online communication portal was introduced to help the pilgrims directly interact with the temple authorities for various services to the presiding deity for meeting their needs such as accommodation, *darshan* and other *sevas*. In addition, these services are being extensively used for processing financial and administrative requirements of the trust board. The schematic representation of the entire information and communication system is presented in Figure 1.

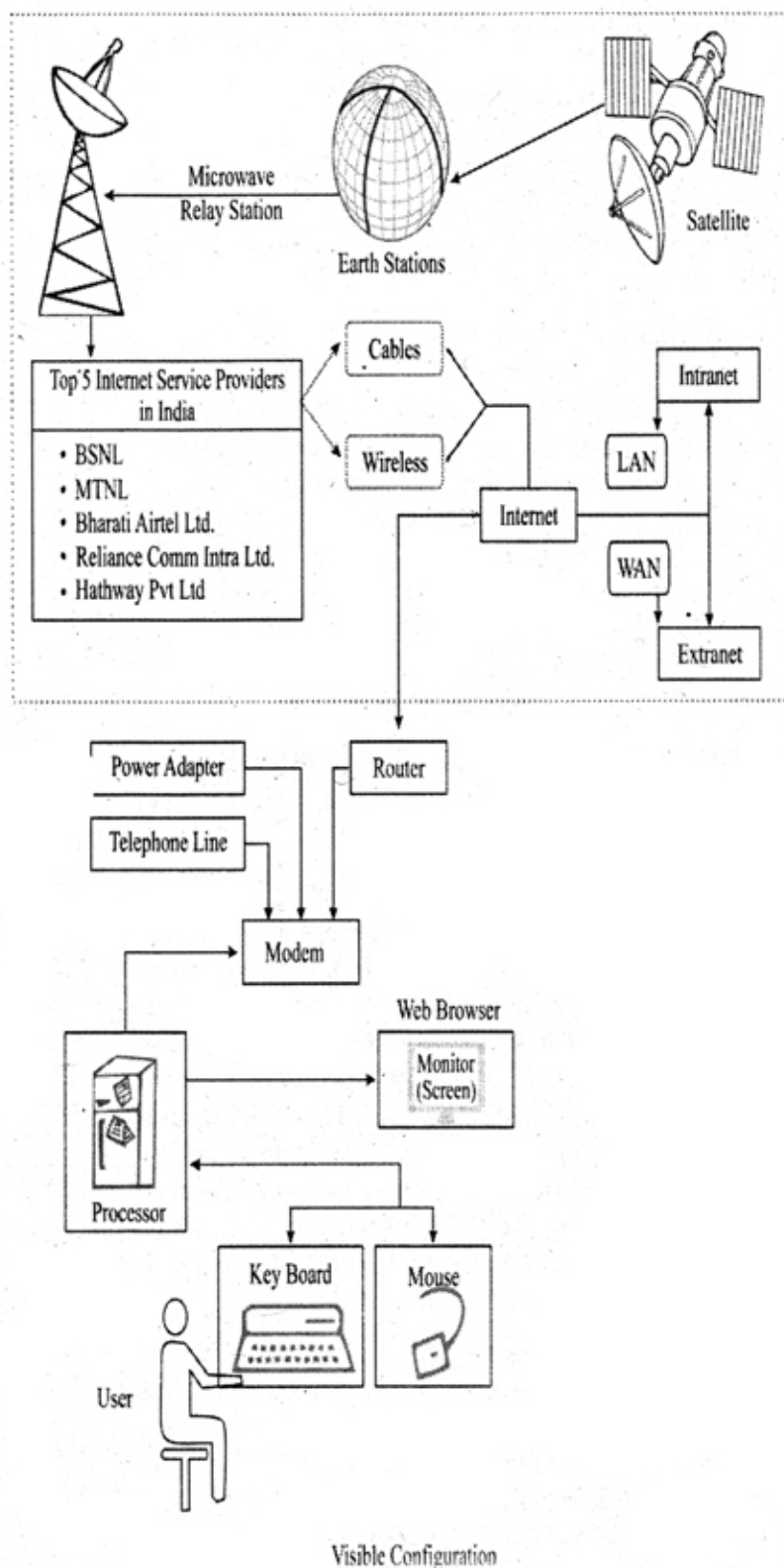


Fig. 1: Block Diagram of Internet Configuration

It can be observed from the figure that a microwave radio relay receives the signals from communication satellite (COMSAT) through earth station for onward transmission to different internet service providers. Landline cables and/or wireless communication are utilized for connecting greater geographical areas through wide areas networks (WAN) and limited geographical areas through local area networks (LAN).

There are several websites on the internet which disseminate information about the TTD temple and its related activities. These sites include two official websites hosted by the TTD Trust Board itself. All these sites have been carefully examined, to assess their relative rankings, in terms of their inherent design patterns, systematic coordinated human effort and resources [8], the purposes for which they have been created and the achievement of their objectives [9]. The details of all these studies are discussed in the following sections.

2. ASSESSMENT OF THE WEBSITES AND THEIR EVALUATION THROUGH RELATIVE RANKINGS

Web is a system of information sharing through the medium of the internet that provides the material as requisitioned by the user. It is an abstract, imaginary cyberspace offering a broad range of resources, links and services which are made up of graphic text and files. Alexa [10] provides current standing of one lakh websites found in cyber space that is based on a seven parametric index. These seven parameters include Traffic Statistics, Search Analytics, Audience, Contact Information, Review, Related Links and Clickstreams for indicating the navigation efficiency of the search engines.

All the websites on the TTD, which are in operation, are analyzed for their relative rankings based on these parameters along with the analogous destination at Vatican City. It was observed during the studies that only 11 websites are operative out of 14; and out of the 11 operational websites, 2 sites belonging to TTD are among those ranked within the first one lakh along with the Vatican City website. Accordingly the data pertaining to all seven parameters are analyzed along with the index

page popularly known as home page. The detailed features of home pages of both the TTD sites along with related links and other graphic information is presented in Figure 2. Several of the links found on the home page are reclassified according to service products [11] such as core service, facilitating service, supporting service and augmenting services in the Figure 2 along with their content.

It can be observed from the Figure that the addresses of these sites are indicated by means of *Universal Resource Locator* (URL) while the links are shown through the *hypertext* for *darshan*, accommodation, etc. These links help the user to move from one location to another on the same page or from one page to another page within the website as per the individual requirements of the visitor. Further, the user, with the help of a *Web browser* (which is a interface program) can look into the graphic text and files and hear audio files that translate the required information that appears on the monitor. Thus, the entire data is based on the seven parameters and is processed along with pictures/photos (if any) and are integrated for interactive communication to multimedia protocol for TTD, known as *World Wide Web* (WWW) www.tirumala.org or www.ttdsevaonline.com. Only the data pertaining to four significant parameters indicating the navigation efficiency of the search engines namely traffic statistics, search analytics, clickstreams along with origins and number of visitors per day are codified and presented in Table 2 since the other three parameters are only informative in nature.

It can be observed from the table that the Vatican website has comprehensive information at a single source containing 1300 pages of upload with well-configured 30,000 links. On the contrary, the official websites of TTD are bifurcated with redundant links like e-seva and e-hundi, though all these three sites were started around the same time. The analysis of the traffic statistics revealed that the average load time and page view are more or less same for all these three sites and they are approached with popular phrases like either 'Vatican' or 'TTD' to reach the sites of their preference through a particular search engine. It is interesting to note that more than 75% of the site visitors use

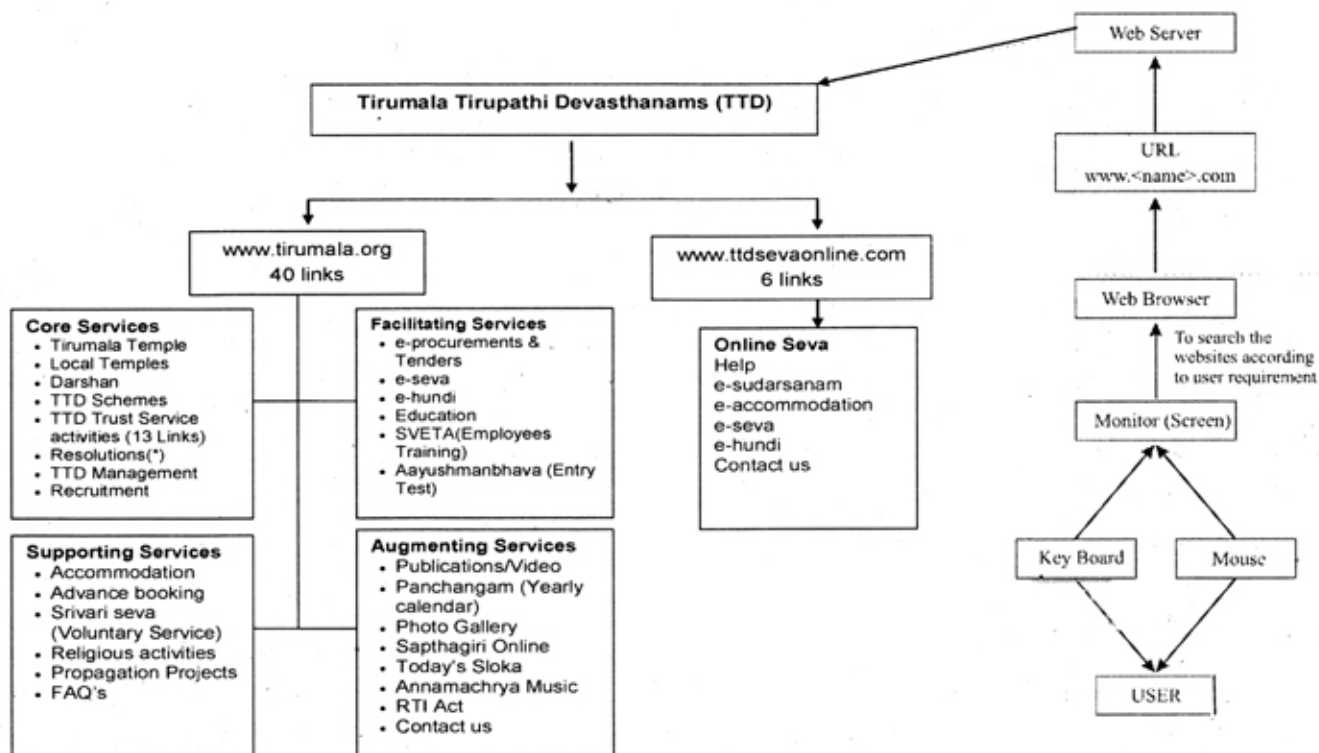


Fig.2 : A Typical Home Page Configuration

Table 2 : Web analytics for Vatican and Tirumala websites

S. No	Item/ Source	www.vatican.va	www.tirumala.org	www.ttdsevaonline.com
1	Genesis (www.archive.com)			
	a. Starting Upload	1998, 3 pages	1999, 2 pages	2002, 12 pages
	b. Maximum upload	2005, 398 pages	2005, 201 pages	2005, 137 pages
	c. Latest Pages	2009, 4 pages	2008, 1 page	2008, 62 pages
	d. Total Pages	1303	493	378
2	Traffic Stats			
	a. Average Load Time (in sec)	0.56	0.39	0.78
	b. Page views/user	3.54	3.4	1.
	c. Time on site (in minutes)	3.19	2.83	6.95
	d. Sites Linking in	29785	537	180
	e. Bounce (%)	46.9	44.8	39.9
	f. Traffic Rank	12,736	66,236	54,235
3	Search Analytics (Top 3 queries in percent): Phrase (Impact Factor)	Vatican (10.22), Musei vaticani (7.38), Vatican City (6.20)	TTD (19.54), Tirupati (14.69), Tirumala Tirupathi Devasthanam (5.49)	TTD online (17.63), eseva (8.51), TTD (7.12)
4	Click streams (Top 3 search engines in percent)			
	i. Upstream	21.83	16.12	24.03
	a. Google.com			
	b. Google.co.it/in	11.32	57.88	32.17
	c. Yahoo	5.80	1.47	6.98
	ii. Downstream			
	a. Google.com	17.61	20.59	22.32
	b. Google.co.it/in	8.81	35.71	25.89
	c. Yahoo	8.12	1.68	9.86
5	Number of Visitors to the site per day (www.statbrain.com)	36,541	8,454	7,745

the services of Google followed by Yahoo. Further, the number of visitors for the Vatican site are found to be five times more than the visitors of the Tirumala site. Similarly the traffic ranks are observed to be over 12,000, 50,000 and 60,000 respectively for Vatican, TTD and TTD online corresponding to their site visitors at 36,541, 8454, 7768 respectively.

The contrasting phenomenon observed between the Tirumala and Vatican websites (Tirumala having a relatively high number of total visitors with low percentage of internet usage, and the Vatican having a higher percentage of internet usage though the number of visitors is just about one-third of the number of visitors to Tirumala) made the author undertake a detailed study into the design and other ingredients of these websites. Various websites that are providing highest possible standards of web architecture and program linking

patterns [12] are investigated. During the study it was found that Creative Management Consultants, Australia [13] which provides a two-level filtering corresponds to the Alexa seven parametric ranking. It is proposed that a 100-point factor scoring system divided into five major categories such as functionality, design, content, originality and professionalism & effectiveness be designed with each parameter indicated by a star. Each star is further divided into five objective sub-contents with each scoring four points leading to total score of 100 factors. All the three websites relating to Tirumala and Vatican City are systematically assessed and evaluated and the corresponding scores obtained for each of the sites along with the criteria is presented in Table -3.

It can be observed from the table that the Vatican City website scored 74% through the

Table 3 : Websites Assessment using CMC Judging Criteria

SNo	Content Criteria	Score Awarded		
		www.vatican.va	www.tirumala.org	www.ttdsevaonline.com
I	Functionality			
	i. Accessibility	4	3	3
	i. Speed & Bandwidth Sensitivity	4	3	2
	i. HTML Quality	4	3	4
	i. Navigation & Links	4	0	3
II	i. Legality	3	4	3
	Design			
	i. Graphic Design	2	0	0
	i. User Friendliness	3	1	2
	i. Aesthetics & Beauty	4	3	1
III	i. Alignment & Layout	1	2	2
	i. Integration	4	3	1
	Content			
	i. Purpose	1	4	1
	i. Human Interactivity	1	0	2
IV	i. Information Process	3	3	1
	i. Verbal Expression	3	4	4
	i. Attention to detail	3	2	2
	Originality			
	i. Innovation & Lateral Thinking	4	3	3
V	i. Creativity	3	0	0
	i. Technology	3	1	2
	i. Distinctiveness	3	4	3
	i. Vision	2	0	0
	Professionalism & Effectiveness			
	i. Customer Service & Client Respect	1	0	2
	i. Values	4	4	2
	i. Focus	4	4	4
	i. Advanced Components	3	1	1
	i. Overall Site Effectiveness	3	4	2
Total Score Awarded (%)		74	56	50

assessment while Tirumala website scored 56% and ttdsevaonline 50% . It is interesting to note from different criteria of Table 3 that TTD websites suffer from relatively low average scores of 10 which mainly relate to originality, professionalism and effectiveness. Further it was observed that the factors such as graphic design, creativity, easy navigation links and customer service are totally missing with zero scores for the Tirumala sites. The poor grading and corresponding low traffic rankings of the Tirumala sites are attributed to the constraints in the navigation efficiency which led the author on to further studies aimed at improving the number of site visitors within the existing status and limits.

3. MANAGEMENT OF TECHNOLOGIES AT TOURIST DESTINATION

Both management and tourism are people centric where the former focuses on the use by the people for the accomplishment of results while the latter seeks to attract people through different kinds of tourism packages [14] pointing out the specifics of a particular site. Therefore aspects related to gender, age, education, income, family background and their psychological dispositions [15] are borne out of audience demography. Detailed investigations are carried out on all these parameters by systematically collecting and codifying the data and presented it in Table 4a.

It can be observed from the table that the choice of the Vatican City site is predominantly of

females from high income groups browsing from homes and senior citizens unaccompanied by children. On the contrary, middle class young Indian males in the age group 18-35 who are in low income groups accompanied by children who choose the Tirumala destination and its services both from homes and workplaces. Another common feature for both the Vatican City and Tirumala sites is that most people visiting them are mostly graduates. It is interesting to note that browsing location, selection of destination and accompanying family information clearly brings out the psychological dispositions of Indian family structures as observed during earlier studies.

The creation and use of technical means for information dissemination and communication through the internet brought over 100 million together making India rank fourth [16] in the world while wireless technologies in the form of mobiles are stand in second position [17]. However, the audience demography during the present study indicates that whereas 9000 are utilizing internet services for Tirumala, the actual visitors to the destination are on average found to be over 55,000.

The wide disparity found between the actual visitors and internet users made the author undertake detailed studies on internet subscribers from different sources along with technologies that have been used for the years 2004-2010. These are presented in Table 4b. It can be readily observed from Table 4b that for both wire-line and wireless

Table 4: Alexa Categories of Audience Demography along with growth of Telecom Sector

a. Audience Demographics for Three Websites

Audience	www.vatican.va	www.tirumala.org	www.ttdsevaonline.com
Browsing Location	Browsing from home	Browsing from work location	Browsing from home and work locations
Age	Age groups of 45-54, 55-64 are lagging behind 65+	18-24 are leading more when compared to 25-34	25-34 are leading more when compared to 35-44
Education	Graduated are more compared to Jr. College Some	Graduates and Jr. Graduates are representing more	Graduates are representing more
Gender	Female are more when compared to Males	Males are very high compared to females	Males are very high compared to females
Children	No	Yes	Yes
Income	Income between \$ 30,000 - \$ 60,000 per year are representing more	Income less than \$ 30,000 per year are representing more	Income less than \$ 30,000 per year are representing more

b. Growth and Development of Telecom Sector along with Foreign

Year	Classification of Telecom Subscribers (in millions)		Internet Subscribers (in millions)	Division of Subscribers (in millions)		Annual Availability of Computers (Sales) (in lakhs)		Cyber cafes	Share of FDI in Telecom sector (%)	Total FDI (in US \$ million)	Total FII (in US \$ million)
	Wire-line	Wireless		Rural	Urban	Desktops	Laptops				
2004	40.92	35.61	3.25	25.89	78.40	26.7	1.1	43565	15.4	4322	10918
2005	41.42	56.95	5.55	28.65	105.98	36.3	1.7	50000	14.3	6051	8986
2006	40.23	101.86	7.25	33.78	126.54	46.1	4.3	76514	22.7	8961	9926
2007	40.77	165.09	9.27	45.74	161.78	54.9	8.5	102654	13.5	22825	3225
2008	39.41	261.08	11.10	116.63	207.77	55.2	18.2	145778	7.6	34835	20328
2009	37.97	391.76	13.54	136.27	328.55	52.7	15.1	180000	11.3	37838	15017
2010	36.96	584.32	16.18	200.81	420.27	55.2	25.0	235654	9.1	37763	29048

telecom usage, internet subscribers have been continuously increasing irrespective of rural and urban divide, with availability of desktops, laptops, cyber cafes. it is also further noticed that the steady inflow of *Foreign Direct Investments*(FDI) and *Foreign Institutional Investment* (FII) resulted in slashing of telecom call rates (TRAI, 2010). This has led the author to explore the suitability of mobile technology for enhancing the internet accessibility. Accordingly a detailed analysis of literacy rates, total number of mobile subscribers along with internet accessibility and population distribution figures has been carried out. Care is taken to tabulate the data related to all these parameters in those states where mobile subscribers are a minimum of 50 million along with all India figures. The data is presented in Table 5a along with expenditures required for promotion usage of internet access through print and electronic media in 5b.

It is observed from Table 5 that wherever the literacy rates are low (in states such as Bihar) the internet subscribers are found to be low, while wireless mobile telecommunications subscribers and their density are growing irrespective of literacy rates. In general, emerging technologies are facilitating the use of mobiles for internet communications. Therefore the author has studied during present investigations the cost effectiveness of promoting use of mobile technologies for internet access through alternative media measures. Accordingly the data pertaining to electronic and print media and their corresponding advertisement revenues for the years 2004 to 2010 are codified and presented in Table 5b. It can be observed from the table that the radio revenues from advertisement are just one-twentieth for print media and one thirty-

Table 5: State wise Growth of Technologies along with Electronic and Print Media

a. State wise Population and Literacy rates along with Internet and Mobile subscribers in 2011

SNo	States/UTs	Total Population (millions)	Literacy Rate (%)	Internet Subscribers (millions)	Wireless Subscribers (millions)	Mobile phones per 1000 population
1	<u>Uttar Pradesh</u>	199.58	69.72	0.7	116.88	586
2	<u>Maharashtra</u>	112.37	82.91	3.0	101.06	899
3	<u>Tamil Nadu</u>	72.13	80.33	1.6	72.76	1009
4	<u>Andhra Pradesh</u>	84.66	67.66	1.0	62.56	739
5	<u>West Bengal</u>	91.34	77.08	0.9	65.82	721
6	<u>Bihar</u>	103.80	63.82	0.2	57.33	552
7	<u>Karnataka</u>	61.13	75.60	1.2	51.22	838
	Total India	1,173.10	74.04	18.8	840.28	716

b. Growth and Development of Media

S.No	Year	Electronic Media				Print Media		Advertisement Revenues from Media and Entertainment Industry (in crores)		
		Radio		Television		Dailies	Circulation (Millions)	Radio	Television	Print Media
		Number of All India Radio (AIR) Stations	Coverage Details (%)	Number of Private Radio FM stations	Number of Private TV channels					
1	2004	24	98.54	13	119	6287	73.5	2400	128700	87800
2	2005	76	98.96	69	134	6530	78.6	3200	158000	109500
3	2006	114	99	124	173	6800	88.8	5000	191200	127900
4	2007	114	99.08	150	247	7131	98.8	6500	219900	144000
5	2008	149	99.14	170	406	9072	207.1	8500	266000	162200
6	2009	149	99.16	171	485	10,768	302.11	11000	331000	182300
7	2010	149	99.16	172	521	12,254	369.58	14000	431000	206500

sixth of television; and all this while coverage of the radio is observed to nearing 100%. The analysis go on to show that the radio can be conveniently utilized as the appropriate 'promo tool' for enhancing the internet services at the TTD which are presently found to be less than 10%, without any obstacles such as rural-urban divide or literacy rates.

4. CONCLUSION

ICT systems were introduced in the early 2000's for facilitating a variety of services performed by over 20 million of religious tourists annually at Tirumala, the richest pilgrim destination in the world. During late 1990's which is updated with online services during 2002. The analysis of the visitor data during last six years indicates that there is an increase of 38% to 67000 in 2011 from 42000 in 2005. However, it is pertinent to notice that even fewer than 6000 people are utilizing the advent of online technologies at Tirumala despite the fact that actual visitors are ten times more; while at the analogous destination at Vatican City over 60% of total visitors use the ICT services. This has necessitated the author to further probe on the primary sites from the web usage information gathered from Alexa Internet Inc., USA on audience demography and other related parameters. In addition, detailed analysis has been carried out on the design ingredients and architecture development by comparing these two destinations by evaluation criteria provided by Creative Management Consultants, Australia. The data pertaining to only

four significant parameters involving traffic statistics, search analytics, clickstreams along with origin and number of visitors per day are codified and analyzed for assessing the navigation efficiency of the search engines since the other three parameters are only informative in nature. A contrasting phenomenon is observed between Tirumala and Vatican. It indicates that the former has a relatively high number of total visitors using low percentage of internet, and latter has a lower number of visitors but 60% of whom are internet users.

Further, the analysis of the demographic data in relation to audience and their literacy rates and internet subscribers revealed that primarily young adults with children are visiting the Tirumala while visitors to the Vatican are observed to be mostly females and senior citizens. Further, it is interesting to note that the decision making power to visit the TTD (Tirumala) is mainly lies with males with children, while on the contrary decision to visit the Vatican is mostly made by females who are unaccompanied by children. The studies revealed that Google followed by Yahoo are most sought after search engines with popular phrases being 'TTD' and 'Vatican' among 30 other odd options. Further it is observed that less load time and bounce rates with high quantum of site linking's contribute to the rankings by assessing relative status of the websites.

The data pertaining to web developers design patterns involving functionality, design, content, originality, professionalism and effectiveness and are systematically codified and evaluated with judging criteria that provides scores. The assessment revealed that Vatican scored 74% through the assessment while Tirumala online services scored 50%. These findings indicate that functionality with corresponding content and navigation links are more significant factors in deciding the choice to a particular website than the physical appearance, contrary to the general opinion during information processing. The low scores awarded to the Tirumala site are attributed mainly to missing parameters such as customer service, graphic design and creativity which are strikingly reflected through the incongruence in development of two sites for the same destination. The search in providing for better customer service through alternate technologies resulted in an analysis of other wireless services for enhancing the internet practices alongside wireline telecom subscribers.

The analysis revealed that the number of mobile phone users is growing at a rate of 30 per cent annually covering around 70 per cent of the population without any rural-urban divide in coverage. This led the author to examine literacy rates, total number of mobile subscribers along with internet accessibility and population distribution figures for enhancing internet accessibility. Further the studies revealed that radio broadcast works out to be a cheaper and faster communication media for propagating mobile internet technologies as an effective promoting tool for online services at the TTD.

REFERENCES

- David Weaver and Lawton Laura (2002), *Tourism Management*, John Wiley, Australia: pp.247.
- Cooper Chris, Fletcher John, Fyall Alan, Gilbert David and Wanhill Stephen (2005), *Tourism Principles and Practices*, Third Edition, Pearson Education Ltd, England, pp.15-17.
- George R. Terry (1968), *Principles of Management*, Homewood: IL
- Gupta, U. (2000) *Information Systems: Success in the 21st Century*, Prentice Hall, New Jersey, USA.
- Zongqing Zhou (2004), *E-Commerce and Information Technology in Hospitality and Tourism*, Thomson Learning, Canada, p.16.
- Weick, K.E. (1995), *Sensemaking in Organizations*. London:Sage.
- McFarlan, F.W. (1984), "Information Technology Changes the Way You Compete", *Harvard Business Review* (May-June): 98-103.
- Dalton McFarland (1979), *Management: Foundation and Practices*, Fifth Edition, Macmillan, New York, NY.
- Harold Koontz and Cyril O'Donnell (1980), *Essential of Management*, Tata McGraw-Hill: New Delhi
- Alexa (2005), Alexa the Web Information, Retrieved from <http://www.alexa.com>.
- Gonroos, C. (1987), "Developing the Service Offering – A Source of Competitive Advantage", in C. Surprenant. (Ed), *Add Value to Your Service*, American Marketing Association, Chicago, p.83.
- Parker, C Roger (1997), *Website Scorecard, Guide to Web Content and Design*, MIS Press, UK, p.125.
- CMC (2005), Web Evaluations, Creative Management Consultants, Australia Retrieved from <http://www.worldbestwebsites.com/>
- Pran Seth. (2006). *Successful Tourism Management, Fundamentals of Tourism*, New Delhi: Sterling Publishers Private Limited, p.10.
- Bhargava Teja (2011), Impact of Evolving Economies on Socio-cultural Aspects of Hospitality Systems, India, *JIMS 8M* Vol. 16. No.4, 15-22.

16. ITU (2010) "Internet Usage in Asia". *International Telecommunications Unit: Asian Internet Users*. ITU. <http://www.internetworldstats.com/stats3.htm>. Retrieved 2011-01-10.
17. TRAI (2011) "Highlights of Telecom Subscription Data". TRAI Retrieved 2011-01-20 http://www.trai.gov.in/WriteReadData/trai/upload/PressReleases/841/Press_Release_Aug-11.pdf.
18. TRAI (2010), Trends in Telecom Tariffs, Telecom Regulatory Authority of India, New Delhi, p.18.

APPENDIX

- i. *Ancient Indian scriptures* have been the timeless and unequalled heritage of the world. The *Vedas* and the *Upanishads* are at the crest of the Indian scriptures.
- ii. *Darshan* is a Sanskrit term meaning 'vision' and is commonly used for getting a glimpse of the divine in Hindu worship.
- iii. *Foreign Direct Investment (FDI)* refers to the long-term participation by country A into country B. It usually involves participation in management, joint-ventures, transfer of technology and expertise.
- iv. *Foreign Institutional Investor (FII)* is an investor or investment fund that is from or registered in a country outside the one in which it is currently investing.
- v. *Hyperlink/Hypertext*: A link that combines text and information with a simple click and leads further to the next level of texts or information.

- vi. Internet connects millions of computer users together globally through satellite communication and is a huge network of networks by itself.
- vii. *Seva* is a Sanskrit word that refers to the benevolent services offered to the divine for the betterment of a community and/or individual benefits.
- viii. *Seven peaks*: The Lord of Tirumala is synonymous with a group of seven peaks, namely, Seshadri, Neeladri, Garudadri, Anjanadri, Vrishabhadri, Narayanadri and Venkatadri which have their own special characteristics and mythological significance. According to religious belief, the Lord's abode is at Venkatadri, popularly known as Seshachalam.
- ix. *Uniform Resource Locator (URL)*: The website address of an information source; one can type in the address bar of a browser and go directly to the source.
- x. *Web browser*: It is an interface program where internet user can view web pages that may contain text, images, videos, and other multimedia and navigate between them via hyperlinks.
- xi. *World Wide Web (WWW)*: It is a system of globally distributed interlinked hypertext documents from which information can be accessed quickly by intuitive searches.

