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Collision of Information and Communication Technology (ICT) on Tourism Growth in India

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Abstract

India has always attracted the tourists from around the world since ancient times as a result of rich cultural and architectural heritage. After globalization, the interaction among the people has increased tremendously through the promotion of tourism. Nowadays tourism has emerged as one of the important sectors attracting the tourists for economic growth, promotion of national culture and expanding the areas of influence. In promotion of tourism, technology is playing an important role. The tourism industries have widely adopted Information and Communication Technology

[ICT] to reduce costs, enhance operational efficiency, and most importantly to improve service quality and customer experience. ICT also helps in evaluating alternative travel opportunities and to compare and contrast offerings. Using Meta Search Engines such as Trivago, potential travelers can identify and evaluate products according to their preferences, filters and requirements. This paper demonstrates that how ICT can play important role in growth of tourism in India is an important study.

Keywords: Tourism, ICT, FEE and FTA

1. Introduction

Over the decades, tourism has experienced continued growth and deepening diversification to become one of the fastest growing economic sectors in the world. Tourism has become a thriving global industry with the power to shape developing countries in both positive and negative ways. No doubt it has become the fourth largest industry in the global economy. Similarly, in developing countries like India tourism has become one of the major sectors of the economy, contributing to a large proportion of the National Income and generating huge employment opportunities. It has become the fastest growing service industry in the country with great potentials for its further expansion and diversification. However, there are pros and cons involved with the growth of tourism industry in the country.

The revolution in ICTs has profound implications for economic and social growth. 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 etc across the national borders. ICTs empowers the individual with the information access, which is transparent. Efforts are under way to integrate ICTs to all sectors and growth activity. Tourism is one such potential area.

Tourism is a highly information-intensive industry as ICT has a potential collision 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 business environment. ICT tools have 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.

Recent Growths in Tourism Industry with the Help of ICT

1. Direct selling to the tourists have been increased.

- Increase in new intermediaries such as Internet portals specialized in selling tourism products.
- Tourists have access to the distribution channels traditionally used by tour operators through Internet.
- Increase in the transparency and the efficient relationship between tourists and tourist operators.
- Change in the tourist behavior. And asking for better services, they are more specific with regard to content and the details of the arrangement. And also, they are more cost conscious.

2. Tourism and Growth in India

The Indian tourism and hospitality industry has emerged as one of the key drivers of growth among the services sector in India. Tourism in India has significant potential considering the rich cultural and historical heritage, variety in ecology, terrains and places of natural beauty spread across the country. Tourism is also a potentially large employment generator besides being a significant source of foreign exchange for the country.

The tourism sector is projected to contribute \$250 Billion to the country's GDP by 2030, generating an employment for 137 million individuals, and accruing \$56 Billion in foreign exchange earnings (FEE).

The Indian tourism sector stands out as one of the most rapidly expanding economic segments within the nation. This industry holds a significant impact on job creation, regional development, and triggers a ripple effect on related sectors.

By the year 2028, it is anticipated that India's tourism and hospitality sector will generate an impressive \$50.9 billion in earnings from visitor exports, marking a substantial surge from the \$28.9 billion recorded in 2018. Moreover, the projection suggests that Foreign Tourist Arrivals (FTAs) will reach 30.5 million by 2028.

Table 1: Market Size

India	
❖ No. of Foreign Tourist Arrivals in India	6.19
Million (P) Annual Growth Rate	305.4%
❖ No. of Indian Nationals Departures from India	21.09 million
(P) Annual Growth Rate	146.7%
❖ No. of Domestic Tourist Visits to all States/UTs	1731.01
Million Annual Growth Rate	155.5%
❖ Estimated Foreign Exchange Earnings from Tourism 2022	
(I) In INR terms	Rs. 134543 Cr (#1)
Annual Growth Rate	106.8%
(II) In US\$ terms	US\$ 16.928 Billion
(#1) Annual Growth Rate	92.4%
World	
❖ No. of International Tourist Arrivals	963.0 million
(P) Annual Growth Rate	111.2%
❖ International Tourism Receipts	US\$ 1031 Billion
(P) Annual Growth Rate	61.6%
❖ No. of International Tourist Arrivals	100.5 Million
(P) Annual Growth Rate	305.2%
❖ International Tourism Receipts	US\$ 131.4 Billion
(P) Annual Growth Rate	45.0%
India's Position in World	

❖ Share of India in International Tourism Receipts	(US\$ terms) 2.0 %
❖ India's rank in World Tourism Receipts	14th

P: Provisional #1: Provisional Estimates

Note - Annual growth rate is w.r.t year 2021

This table provides information about tourism statistics for India, the world, and the Asia & the Pacific region, along with India's position in global tourism. Here's an interpretation of the data:

Tourism in India:

- Foreign Tourist Arrivals in India: In the year (P), India received 6.19 million foreign tourists, with an impressive annual growth rate of 305.4%. This indicates a substantial increase in foreign tourist arrivals.
- Indian Nationals Departures from India: Approximately 21.09 million Indian nationals departed from India, with an annual growth rate of 146.7%. This suggests increased travel by Indian citizens abroad.
- Domestic Tourist Visits: India recorded a significant 1731.01 million domestic tourist visits, with an annual growth rate of 155.5%. This demonstrates a robust domestic tourism industry within India.
- Foreign Exchange Earnings: India's estimated foreign exchange earnings from tourism in 2022 reached Rs. 134,543 crores (#1), with an annual growth rate of 106.8%. In US dollar terms, this is approximately US\$ 16.928 billion (#1), with an annual growth rate of 92.4%. These figures highlight the importance of tourism as a contributor to India's economy.

Government Initiatives:

The Ministry of Tourism designs national policies for the growth and promotion of tourism. In the process, the Ministry consults and collaborates with other stakeholders in the sector including various central ministries/agencies, state governments, union territories and private sector representatives. Concerted efforts are being made to promote niche tourism products such as rural, cruise, medical and eco-tourism. The Ministry of Tourism maintains the Incredible India campaign focused on promoting the tourism in India.

With the ongoing ICT transformation, the government's idea to set up a go-to website -- Incredible India -- has helped the country attract tourists to smaller cities and towns.

The website provides details about tourist spots across India, lists activities that one can indulge in and gives a brief description of the place. It also categorises destinations based on the type of vacation that one may look for such as a short break, adventurous, honeymoon, pilgrims and more.

Some of the major initiatives planned by the Government of India to give a boost to the tourism and hospitality sector of India are as follows:

- In the Union Budget for 2022-23, the Ministry of Tourism received an allocation of US\$ 290.4 million. For the Union Budget 2023-24, US\$ 170.85 million has been earmarked for the Swadesh Darshan Scheme, aiming to develop 50 comprehensive tourist destinations, enhancing connectivity, and ensuring tourist safety and guidance.
- The Ministry of Tourism has already sanctioned 76 projects under this scheme, with a revised cost of US\$

- 668.95 million, of which US\$ 534.9 million had been released by December 31, 2021.
3. The PRASHAD scheme, allocated US\$ 30.25 million in the 2023-24 Budget, focuses on developing tourist circuits. Since its launch in January 2015, it has sanctioned 37 projects in 24 states, with an estimated expenditure of US\$ 146.4 million and US\$ 91.6 million disbursed for these projects. As of March 31, 2022, 68 destinations/sites have been identified for development under PRASHAD.
 4. In August 2022, the Ministry of Tourism sanctioned 76 projects worth US\$ 678.39 million under the Swadesh Darshan Scheme to improve tourism infrastructure.
 5. In June 2022, the Ministry of Tourism, in collaboration with the Associations of Indian Universities (AIU), initiated a 12-episode webinar series under 'Azadi Ka Amrut Mahotsav' (AKAM) to educate young minds about India's rich heritage.
 6. By September 2022, the Ministry of Tourism had organized a total of 155 Dekho Apna Desh webinars.
 7. In June 2022, the Ministry of Tourism launched the National Strategy for Sustainable Tourism and Responsible Traveller Campaign.
 8. Starting from November 15, 2021, fully vaccinated foreign tourists have been allowed to visit India, reviving the travel and hospitality sector.
 9. In November 2021, the Ministry of Tourism signed MoUs with various travel and tourism companies, including Indian Railway Catering and Tourism Corporation, Easy My Trip, Cleartrip, Yatra.com, Make My Trip, and Goibibo.
 10. The government's plan to promote film tourism in November 2021 is expected to create jobs and boost tourism by making domestic locations preferred filming destinations.
 11. In September 2021, the government launched the NIDHI 2.0 scheme, aiming to digitalize the tourism sector by encouraging all hotels to register on the platform.

3. Review of Literature

Research into engagement of market subjects belonging to intermediaries, hotels, travel agencies, including micro – business in adoption of new technologies is very important. It has been a continuing theme on the national and international level. Adaptation of the new and sophisticated technologies to the market business process needs of travel agencies is based on substitutions of elements and resources in customizing business processes that are based on cost rationalization and automation of distribution. Using its applicative features, ICT allowed free access in adaptation of small entities to the wander market that used to be reserved just for major market players (Vidgen *et al.* 2004^[31]; Kotelnikov, 2007^[19]; Balocco *et al.* 2009). In the last fifteen years, an evident contribution of ICT in the field of tourism and travelling has been accomplished with necessary adjustments. (Sigala *et al.* 2000; Paraskevas and Buhalis, 2002)^[25]. Its significant collision is evident in the context of spatial and temporal convergence, which is clearly reflected in the reduced time required to achieve greater spatial mobility of people and information. Moreover, the process of globalization is to a great extent influenced by ICT which contributes to spatial and temporal convergence. (Knowles *et al.* 2001^[17]; Mazarr, 2005).

At the same time, ICT boosts the globalization of industry by providing efficient tools for vendors to develop, operate and globally distribute their offer. (Buhalis, 2003)^[8]. Smaller operators and tourist agents must use the exponential growth of internet users in their business through stronger partnerships and connections, and through the increased efficiency of their functions and high quality services based on the work and knowledge of specialized and trained personnel, which will be manifested in productivity growth. (Koglia *et al.*, 2008; Hashim, 2007)^[18].

^[15] Competences acquired through knowledge and experience, and presented through the ability to adapt, are the core of the strategic approach to the interaction with customers, suppliers, alliances, and network formations. The above-mentioned points result in the creation of a broad research area dealing with the significance of new technologies, interpretation of events, and attempts to predict future technological growth. The most important advantage of ICT is both availability of information to the increasing number of people and reduced production cost due to increased efficiency. (Kevin & Stiroh, 2003, 1-14)^[16]. Knowledge is created, shared, and widely accessible. (Rooney, Hearn & Ninan, 2005, 116)^[27]. Interested market participants share information, specifications, and production process beyond national borders, and thus contribute to greater transparency resulting in lower prices. At the same time, ICT enables companies to have access to a number of markets and to use global supply chains in a simple and acceptable way. Although ICT has a strong collision on all sectors, tourism is one of those that are highly sensible to ICT. (Shanker, 2008., 50 – 58, pp. 52)^[28].

Fast and synergistic interaction between technology and tourism has led to changes in the industry and in our perception. Information and communication industry is becoming a key player in the competitiveness of tourism entities and destinations, as well as in relationships which define the tourism system. (UNWTO, 2001)^[30]. Growth of web browsers, data transfer capacity, and network speed had an collision on a number of people worldwide who use technology to plan their trips. ICT driven business reengineering changes the structure of the entire system of tourism and creates a completely new range of opportunities and threats for all participants. It can be concluded that ICT has led to radical changes in terms of effective and efficient relationship of entities in tourism in two ways. The first relates to the manner in which businesses and clients interact, and the second refers to regulation of relationship among entities, thus determining business operation in the tourism market. (Buhalis, 2003, 67)^[8].

There is also opinion that the benefits of ICT in the mediation will be evident in the operating costs rationalization, and in the use of differentiated strategies that will individualize the mass market. (Buhalis and Zoge, 2007, 481 – 492, pp. 485)^[10]. This could result in requirement to create new opportunities and new tourism products according to the criteria of high quality and personalized services (Egger and Buhalis, 2008., 327)^[12] accompanied by the creation of new “consumer area”. It is therefore assumed that the complexity and diversity of travel markets require innovative travel agents who offer solutions in multichannel management, while coordinating the processes so as to create the economic benefit based on a range of market opportunities. ICT has strongly influenced

growth in tourism and travel industry in the last fifty years, especially in the field of automation of distribution and creation of new sales channels (Golob and Regan, 2001., 93)^[14], which prompted agents to change themselves by using transformed forms of communication and applying innovative solutions that used to be eligible only for direct channels.

Against that background, ICT had a strong collision in terms of creating opportunities – flexibility to create products with innovative tools, fostering awareness through the availability of information – in promotion and distribution of holiday packages. On the other hand, the understanding of indirect forms of tourism distribution system is shifting from the traditional linear model where products and services reached consumers indirectly through travel intermediaries such as travel agents (Lubbe, 2005., 385 – 396)^[20], whereby travel agents were viewed as intermediaries and conveyors of suppliers' products and services to consumers (Lubbe, 2005., 386)^[20]. According to Vasudavan and Standing, travel agents have three basic tasks: (1) to perform the function of information broker, passing information between buyers and suppliers; (2) to process transactions, including printing tickets and forwarding money to suppliers; and (3) to advise travellers (Lubbe, 2005., 386)^[20]. In that sense, travel agents were viewed as agents of suppliers who paid them commission for selling their services. However, new distribution system encourages travel agents to actively change the way they do business and hence establish significant competitive advantage. Travel agents with once restricted market coverage due to their size, now have access to a much larger market owing to new technologies. Golob points out that local travel agents who have used GDS (Global Distribution System) have adapted marketing strategies and expanded their services in an effort to realize an increased competitive advantage (Golob and Regan, 2001, 87 – 121)^[14].

Travel agents who successfully used internet as distribution channel had an easier access to global market. In such a way internet created the possibility to penetrate new market segments, and encouraged global alliance with the aim of enriching tourist offer, advertising and booking through cross-organizational booking systems. New distribution channels cannot be seen separately from other operating segments (Mamaghani, 2009, 365-375)^[21]. In the domain of ICT growth, displayed either through the possibilities that internet placed before a modern tourist, or through travel agents that derived benefit from the inclusion in GDS systems, there is an evident quantitative growth in traffic, accompanied by a qualitative transformation of travel intermediaries. Especially conspicuous are those entities that apply ICT in the creation of new offer and affordable trips. (Almandari, 2002, 341)^[1].

Travel agents have to adapt their websites and online bookings to the overall “experience” and expectations of tourists; moreover, future travel agents will have to keep up with competing destinations that offer user friendly activities, values and conveniences. (Mamaghani, 2009, 371)^[21]. This way the technology does not change only one business segment, but with efficiency and performance of its innovative tools it bears upon the radical changes in distribution channel and/or methods of its implementation and promotion regardless of the market entity in question, thus leading to higher or lower competitiveness. Those travel agents who ignore new technologies or avoid their

implementation (due to high costs or lack of staff expertise) reduce the possibility to compete and adapt to dynamic market environment.

Owing to the popularity of Internet applications, most travel agents accepted Internet as their marketing and communication strategy dominated by re-engineering model of relationship. (Özturan and Roney, 2004, 261; Buhalis and Law, 2008, 609-623)^[24, 9]. This phenomenon affected market activities of travel agents owing to the growth of flexible products and services and advantages of World Wide Web (WWW) and its application for the purpose of promotion and sales. This clearly shows that the benefits of ICT are applied to the area of products and travel agents' distribution channels, which means distancing from traditional concept of distribution channels in tourism. Wolfe, Hsu and Kang point out that the reasons for avoiding on line shopping of tourism products lie in the lack of personal service, security, and lack of experience (Wolfe, Hsu and Kang, 2004., 55)^[32], and to this we can add psychological barrier, as well as too many products and services. This is proven by the fact that many travellers use Internet for information, while they shop off line. (Buhalis and Law, 2008, 609-623)^[9].

However, the importance and role of modern technology in the travel agents' distribution system cannot be denied (both in the process of signing contracts and providing services), which is particularly pronounced in the potential distribution of service segments and integrated tourist products. On the other hand, the gradual increase in ICT dominance in the field of information about destination products and services shows what will be imperative in the future. This is evident in abandoning traditional ways of obtaining information, while at the same time travel agents try to keep pace with the competition by introducing innovation through multimedia and interactive video for promotion.

This is an additional incentive to involve ICT intermediaries with the aim to inform potential consumers about services, products, and destination. Social networks, forums, discussion groups represent a new platform for obtaining more information about services, which is useful both to tourists and travel agents, while the information about the characteristics of tourists, their expectations and experiences is easily accessible. Due to the fast data transfer via Internet, the time spent on communication and agreement between agents and customers is greatly reduced. The satisfaction of tourists and their behaviour depend on the response of travel agents to online inquiries, and it is well known that responsible reactions and fast responses to enquiries are essential for success of small and medium enterprises. (Beldona, Morrison and Leary, 2005, 565; Pechlaner, Rienzner, Matzler, and Osti, 2002, 181)^[4, 26].

4. Need of the Study

Information and Communication Technologies are playing a crucial and critical role in developing tourism industry. Tourists are able to surf through internet, do searching travel information about destinations such as booking airline tickets, room reservations and other purchases directly by their own. But, huge popularity of internet, many tourist organizations and service providers (i.e., Too many points of differentiation available on internet) but not cashed upon. Some of the major road blocks or hurdles for the proper growth of the industry are:

1. Lack of proper infrastructure which includes non

availability of good roads and poor connectivity to the tourist destinations.

2. Lack of aggressive online and other marketing strategies to promote India as a must-visit location.
3. Lack of overseas marketing and engagement, India has only 14 tourism promotion offices abroad, located in countries which are its principal sources of revenue. They can do more to market India as a tourism destination.

5. Objectives

1. To identify the role of information technology (ICT) in the tourism industry in Indian perspective.
2. To find out the best possible means to use information technology.
3. To know the recent growths in tourism industry.

6. Research Methodology

The study is exploratory as it aims to discover the collision of Information technology (IT) on tourism industry and pace of growth after introducing Information Technology. The study is based only on secondary data. Topics and issues are gathered from reputed journals, magazines, periodicals and newspapers to consult and get the inference. Recent data has been used from reputed travel magazines, India Brand Equity Foundation (IBEF), official tourism records etc

7. Collision of Information and Communication Technology (ICT) in Tourism Industry

Internet is an interconnected system of networks that connects computers around the world via the TCP/IP protocol. Today, the internet is a global "people's network" for communicating and sharing information. It consists of two powerful tools like email and the World Wide Web. The www is the part of the internet where a vast global information resource, or library, has emerged in recent years. The use of the Internet for communicating and transacting with customers has been growing rapidly in the worldwide tourism & hotel industry. There has been rapid increase in the online booking in the hospitality & tourism industry e.g., e-booking of hotel/motel rooms, airline tickets, travel packages etc. Due to the fact that the industry is one of several services- which can be checked, inquired, and ordered online easily and conveniently communicated and delivered electronically via the Internet.

Following are different area where internet is used in tourism industry.

1. Marketing Technology tap almost every aspect of marketing, including:
 - a. Online advertising
 - b. Editorial and newsletters
 - c. Special website to provide information of specific
2. Booking systems latest research suggest that more than half those who travel book online when they have the option so it pays to have a real-time system for sales and reservations.
3. Delivery of visitor experiences Tourism operators are using technology to:
 - a. An initial experience on-line, for example, experience-driven web content or tasters delivered pre-trip by online audio podcast.
 - b. Provide interpretation via mobile phones or hand held devices.

4. Customer relationships and follow-up Technology is a great way to continue customer contact using: a contact database

- a. An electronic newsletter to help keep your brand and the
- b. Visitor experiences you provide in people's minds group email lists for regular updates.

The advancement of the Internet has deeply affected the way tourism and travel intermediaries perform their business. The growth of vertical portals like has redefined the travel business. This has led to the formation of various last minute online travel portals which effectively organize and distribute distressed tourism inventories to the clients. Tourism suppliers like Indian Airways have started applying ecommerce applications thereby allowing their customers to directly access the reservations systems. Hence, a customer is able to make a flight search and go through the various options available and finally take a purchase decision. The Internet has made it possible for customers to access high quality information within a short time. Also, it has made service expectations as consumers expect to be served 24 hrs / 365 days and these websites such as *yatra.com*, *paytm.com*, *ibibo.com* & *make my trip* has helped and provided platform for the consumers to access services anytime.

8. Conclusion

A well-managed tourism industry is truly a magic bullet. Besides its earnings and jobs, it builds a positive image for the country. In India more than half of the Ministry of Tourism's Plan budget is channelized for funding the growth of destinations, circuits, mega projects as well as rural tourism infrastructure projects. It has been observed that the travel and tourism industry has revolutionized the travel plans and strategies with the help of improved information communication technology (ICT) solutions. They are resorting to tourist focused travel solutions and are aiming to provide a one stop solution for all travel related services through information and communication technology. Travel and tourism providers need to work in collaboration with each other to provide a one point platform to all its clients. Hence, they must embrace newly developed and effective information communication technology solutions to run travel operations smoothly and efficiently. Since India became a major tourist spot after the advent of globalization and it is also creating a huge surplus in terms of expenditure value for the government. At the same time, the prime focus should be on providing excellent customer service. For all these, the only answer is to embrace best and updated information communication technology.

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