

DIGITAL DISPARITY MANAGEMENT AND USE OF TECHNOLOGY TO IMPROVE RURAL AREAS THROUGH TOURISM: STUDY IN HIMACHAL PRADESH, INDIA

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Abstract: The measurement of effectiveness from ICT adoption among the rural community is taken as an emerging area of study due to the problem of digital divide and digital disparity. The results provide a deep understanding from the preliminary study measuring the differences arising among the different age and education groups in the study area with data collected from 200 rural individuals' directly or indirectly engaged with rural tourism. The survey method was adopted to focus on the key objectives of the study. Factor analysis as a statistical technique allowed in reducing the factors to different dimensions. ANOVA showed significant differences of mean scores among the different age categories for the first dimension and the second dimension i.e. importance of ICT and usage of ICT respectively. Similarly, significant differences in the mean scores have been obtained applying ANOVA to earlier mentioned categories. The results clearly indicate the more usage of ICT devices by the young youth of the area with the professional degrees and vocational degrees providing theoretical and managerial implications in creating specific ICT enabled rural tourism enterprise's to be run and operated by the ICT knowledgeable youth.

Keywords: Digital Divide; Digital Disparity; ICT adoption; Factor Analysis; ANOVA; Rural Tourism Enterprises.

GERENCIAMENTO DA DISPARIDADE DIGITAL E USO DA TECNOLOGIA PARA MELHORAR AS ÁREAS RURAIS ATRAVÉS DO TURISMO: ESTUDO EM HIMACHAL PRADESH, ÍNDIA

Resumo: A medição da eficácia da adoção das TIC entre a comunidade rural é tomada como uma área emergente de estudo devido ao problema da divisão digital e da disparidade digital. Os resultados fornecem uma compreensão profunda do estudo preliminar medindo as diferenças que surgem entre os diferentes grupos etários e educacionais na área de estudo com dados coletados de 200 indivíduos rurais direta ou indiretamente envolvidos com o turismo rural. O método de pesquisa foi adotado para focar os objetivos-chave do estudo. A análise dos fatores como uma técnica estatística permitiu reduzir os fatores a diferentes dimensões. A ANOVA mostrou diferenças significativas de pontuação média entre as diferentes categorias de idade para a primeira dimensão e para a segunda dimensão, ou seja, importância das TIC e uso das TIC, respectivamente. Da mesma forma, foram obtidas diferenças significativas nas pontuações médias aplicando a ANOVA às categorias mencionadas anteriormente. Os resultados indicam claramente o maior uso de dispositivos de TIC pelos jovens da área com diplomas profissionais e diplomas vocacionais, fornecendo implicações teóricas e gerenciais na criação de empresas específicas de turismo rural que permitiram que as empresas de turismo rural fossem administradas e operadas pelos jovens com conhecimento de TIC.

Palavras-chave: Divisão Digital; Disparidade Digital; Adoção de TIC; Análise Fatorial; ANOVA; Empresas de Turismo Rural.

GESTIÓN DE LA DISPARIDAD DIGITAL Y USO DE LA TECNOLOGÍA PARA MEJORAR LAS ZONAS RURALES A TRAVÉS DEL TURISMO: ESTUDIO EN HIMACHAL PRADESH, INDIA

Resumen: La medición de la eficacia de la adopción de las TIC entre la comunidad rural se considera un área de estudio emergente debido al problema de la brecha digital y la disparidad digital. Los resultados proporcionan una comprensión profunda a partir del estudio preliminar que mide las diferencias que surgen entre los diferentes grupos de edad y educación en el área de estudio con los datos recogidos de 200 individuos rurales que se dedican directa o indirectamente al turismo rural. Se adoptó el método de la encuesta para centrarse en los objetivos clave del estudio. El análisis factorial, como técnica estadística, permitió reducir los factores a diferentes dimensiones. El ANOVA mostró diferencias significativas en las puntuaciones medias entre las distintas categorías de edad para la primera y la segunda dimensión, es decir, la importancia de las TIC y su uso, respectivamente. Del mismo modo, se han obtenido diferencias significativas en las puntuaciones medias aplicando el ANOVA a las categorías mencionadas anteriormente. Los resultados indican claramente el mayor uso de dispositivos TIC por parte de los jóvenes de la zona con títulos profesionales y de formación profesional que proporcionan implicaciones teóricas y de gestión en la creación de empresas específicas de turismo rural habilitadas para las TIC que serán dirigidas y operadas por los jóvenes con conocimientos de las TIC.

Palabras clave: Brecha Digital; Disparidad Digital; Adopción de las TIC; Análisis Fatorial; ANOVA, Empresas de Turismo Rural.



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1 INTRODUCTION

21st century has changed the world with better penetration of information, communication and technology. The entering of internet into the business processes, online availability of wide variety of products and better search options available online allows business enterprises to reach global market platform.

Modern information systems transpose relationships among buyers and sellers and are developed with a view to improve upon the nature and balance of relationships, creating new markets and products, further working on the improvement of existing products and services (Cosh and Asenov, 2007). The possibilities from internet allows to create connections between local sellers and buyers from everywhere, skipping expensive forms of intermediation (Calderero, 2010) but investment in digital skills and education are another important factor of internet access (Calderero, 2010).

Tourism industry is mainly characterized by the potential and ability to move information among the various parties in the travel value chain (Aquino et al, 2018) The decisions taken by all the segments in the product offering is based upon the information sharing characteristic.

The features of tourism product make it more information intensive, ranging from perish ability to intangibility. Information is produced in travel and tourism industry in the form of product offerings by the far of service providers like hotels at the destination, along with the travel agent's / tour operators (online and offline) which are closely associated with the consumers at the producing market.

The self-evident fact of the society argues on point that demand for travel information by the travellers on the online platform is rising resulting in a change of the business organizations and business models from traditional travel companies to EC (electronic commerce able) companies and further fixing their roles from intermediary to infomediary (Nadkarni and Peng, 2001). Further, tourism being part of service economy the major emphasis has been on giving better experiences to the individuals being part of the experience economy (Pine and Gilmore, 1998).

The first and the foremost essential component of online society is the worth content creation leading to information generation for (by) potential buyers and divergent to the same reviews by the buyers in the form of eWOM (electronic word of mouth). Social

networks allow the tourists to freely express and recapitulate their worth experiences for the potential buyers of tourism products in the form of online interactions and conversations (publishing the memories, sharing the pictures, playing, networking with the new vendors, buying the products online, localization) through social media landscape (fredcavazza.net).

Information posting and sharing is an important factor with the new type of travellers which are characterized by features to be called as virtual tourist, be leisure tourist, Millennial Tourist as they feel use of social networks of utmost importance in the contemporary day world. Information is a critical factor for effective decision making helping in best use of resources (time, money & effort) of the traveller and innovative practices (Dedeoğlu, Aydın and Boğan, 2018; Pimentel, Carvalho, Oliveira, 2016) are at base of modern tourism operations.

Believing from the stand point of uprising in technology driven businesses and understanding the dimensions of Neo Classical Theory (Solow) or evolutionary growth theory (Freeman) have advocated and provided the conclusive argument in favour of technological acceptance further allocating funds to help in the economic growth of the economy. The underpinnings of the Neo Classical Theory or others do provide groundings with the spill over effect, research and development, creation and dispersion of innovations as an imperative to create economic and social environment in the country (Sredojević, Cvetanović and Bošković, 2016).

Tough the availability of information is widespread all over the world but still a section of society deprived from the real benefit from use of information. The deprived section of the society is either not able to use already produced information to the best of its use or not able to produce a piece of information leading to so called a situation of digital divide.

The research tries to throw light on the understanding of topic of digital divide from the world perspective and India as a nation to understand the use of ICT in the rural study area for the betterment of the society in order to garner economic and social benefits in future.

Furthermore, as per the knowledge of the researcher no specific studies have carried out measuring the micro effects of ICT adoption in the rural

areas of India. Mostly, studies focus on promoting rural tourism. Accordingly, objectives have been set to 1) understand the socio-economic condition of the host community, (2) self-awareness of the host community in relation to ICT 3) effect of selected determinants of ICT adoption.

2 BACKGROUND AND LITERATURE REVIEW

Information, communication and technology has touched number of areas from our daily lives to the business operations. Growth in access and use of technology is symbolic to the development (Social and Economic) of the nation. The Organization for Economic Development (OECD, 2001) has explicitly looked to use ICT in the strategic use in the rural setting to further assist in bypassing the challenges received in communication due the physical distance of the rural tourism site. Reino et al., (2010) citing De Noronha Vaz et al., (2006) attempts to provide justification to the topic of research with literature suggesting that all the establishments which are located in the rural areas tend to present lower levels of ICT adoption.

Similarly, intervention of technology in the rural India has been indebted from the lack of technological adoption and use (Dossani, Misra and Jhaveri, 2005). Challenges from the lack of technology adoption in the selected area of study allow to investigate the reasons and further provide practical solutions for improving the socio economic condition of the rural community, thus removing the digital disparity and create digital ecosystem (Schaffer et.al, 2021).

2.1 Theoretical Background

An analytical review of the previous research work is analysed with the Theories of ICT adoption and consumer behaviour theories from: *attitude perspective, perceived usefulness, perceived ease of use, behaviour and intentions of individuals to use, adoption – diffusion, economic and social dimension.* (Rogers, 1961; Fishbein and Ajzen 1975; Ajzen 1991; Bandura, 1986; Davis 1989; Thompson and Higgin, 1991; Davis, Bagozzi and Warshaw 1992; Venkatesh and Davis, 2000; Venkatesh, 2003; Sykes et al., 2009; Benjamin and Gaskin, 2013).

The critical analysis of the various research work provides a deep understanding to various dimensions for technology adoption still a greater gap exists among Haves, Have-nots and Wont Nots for technology driven activities. The reasons can be one to many and need to

be identified providing practical solution thus removing digital disparity among the masses.

Research work of scholars has tried to identify various determinants for ICT adoption though no individual model provides a deep understanding to the topic. Minghetti and Buhalis (2009) asserts in their work "Digital Divide in Tourism" provided a conceptual model of understanding of Digital Divide in Tourism.

Moreover, the studies at the international level are aimed at studying the ICT adoption by the countries using different framework and opposite to the same very less work is carried out in order to understand the problems of ICT adoption at the micro level (Karanasios, 2008). The underpinnings of micro level studies with ICT as a main component can help in exploring the possibilities with (for) rural tourism in Himachal Pradesh with ICT.

The research focuses in bringing a clear picture providing future ready practical solutions. To become future ready destinations, the rural community needs to embrace the benefits of ICT but contrary to the same in one of the report by IAMAI (Internet and Mobile Association of India) brings that 80% of the rural population is not willing to use and get benefit from internet due to lack of knowledge.

a) Disparity and Development: - In general disparity is among the section of the society (disadvantaged) which is categorized into the haves, have not's and wont not's. Disparity can be seen from the multi lens spectacles with Karl Marx using the social inequality lens to see the picture of disparity. Disparity is created in the society by those who are in possession of resources, and tend to use all means and methods to possess the maximum resources with them (Illavarsasan, 2013), thus creating a rift in the society.

Development is fundamental objective for each and every government with providing better standard of living, more jobs, and better health and sanitation facilities, education for all and last not the least good environment for businesses to work and operate. According to Sen (1999) "development is about creating freedom for people and removing obstacles to greater freedom. Greater freedom enables people to choose their own destiny. Obstacles to freedom, hence to development, include poverty, lack of economic opportunities, corruption, poor governance, lack of education and lack of health".

International organizations like World Bank, Asian Development Bank, Organization for Economic

Development establishes principles for overall development of the world.

The work of great scholars in individual fields ranging from economics, sociology to management etc. looks development as means for removing the socio-economic disparity in the society and conversely more development leading to paying of benefits of the same only to the few.

Avgerou (2010) advocates the view that socio economic changes in the society should make sense in the life of the local people, so it brings comfortableness with the process of change, which may not be the real case with historically developed social orders in the society may not allow the others to grow and develop.

Political ideological underpinnings to the word development cannot be neglected as power and control are the most commonly used terms in new modern world with development activities. Development is more elaborative in thought with various people identifying their needs and wants using their roles in course of development and finding the activity of development in a region as a better mean for their profitable agenda.

Development as a measure to growth (vice-versa) is studied from various perspective with critical analysis and critique of the scholars. Significant contribution to the topic of development by Prof. Amartya Sen; an economist by his work in the form of capability theory and future work of Martha Nussabaum (2006) elaborates on the wellbeing of the individuals with three pole trilogy of ends to well-being, justice and development keeping the opportunities (capabilities) at the centre stage of the triangle with freedom of living the crux of the entire framework developed.

b) *Digital Disparity*: - Digital Disparity can be defined, "It is a situation in the nations, created or developed among all the sections of the society, leading to less effective use of information communication and technology, creating the situation worse off for the citizens of the country to uplift their social and economic condition (position) in the society." (Bhatia, 2020 s/p).

The OECD (2001) defines digital divide as "the gap between individuals, households, businesses and geographic areas at different socio- economic levels with regards both their opportunities to access ICTs and to their use of internet for a wide variety of activities." Digital disparity is less effective and less

efficient use of ICT resources among the people around the world bringing a problem of digital divide.

ICT for development and capabilities of the people to make use of ICT for well-being is elaborated in the work "Framework for ICT Policy: Government, Social and Legal issues" (2011; p56) by Adomi. E quoting Sen work (2005) "... access to the web and the freedom of general communication has become a very important capability that is of interest and relevance to all Indians (p.160)."

c) *Travel, Tourism and ICT*: Tourism as an industry has been a forefront runner in using ICT and it is being used in different dimensions ranging from airlines, hospitality, attractions, government bodies, travel intermediaries, destinations and the most important segment by travellers.

Sahadev and Islam (2006) in their work critically acclaimed the upsurge in endorsement of Information and Communications Technology (ICT) by the travel and tourism sector. The transformation of travel and tourism industry with the use of ICT is beyond recognition.

The adoption of ICT for tourism is expanding the wide horizons of the industry. According to Aranca research (2015) the online travel in India is on a rise and was expected to reach 46% in 2017 from 41% in 2014 with rise in the online hotel bookings worth \$ 4 billion by 2020 (Boston Consulting Group, June 2017), tough largely affected by worldwide pandemic COVID-19.

ICT has been used in attracting, converting, retaining of customers in different phases of tourist life cycle ranging from pre purchase, during the purchase and post purchase phase. In current times ICT has been the fundamental and used as a best mechanism to allow the customers to reach the sellers of products and make the purchase process much easier.

Technology driven models both for B2B and B2C in airlines has paved the modern-day airlines business and created a niche for the airline companies to create dynamic websites to get leverage from power of ICT.

The future of the air travel is changing which ease in movement of air traffic with IATA based project called as New Distribution Capabilities for airline reservations; interline tickets for passenger bringing easy movement with tickets from two different airlines to a concept called GDS New Entrants (GNEs) for connecting systems using open ICT architecture. Along with airlines the core segment of travel, hospitality also converge the benefits from ICT.

The leverage of ICT in hospitality industry took place with the development of Property Management System (PMS). The functionalities available online to the customers, with better search options, more and varied product availability, price parity using ICT as a tool on GDS and inter alia has created a panic situation for travel agents / tour operators.

Scholochow et al. (2010) in their work cited Ham et al., (2005) "Hotel industry quickly identified the implementation of ICTS as vital to achieve their goals for successful description, promotion, distribution, amalgamation, organization and delivery of their services". Experience's being the fundamental goal of travel activity attractions tend to use the ICT in creating worthy experiences for the travellers.

Information, communication and technology allows potential tourists to get information of the attraction, helps in sales and distribution along with enhancing the tourist experience at the site with interactive multimedia, entertainment etc. The IT in the current times allows for better tourist movement with on-site queue management, online pass verification and taking safety and security measures.

Thomas cook can be taken as a first travel intermediary in the organized travel segment. The organized travel industry is running on the shoulders of travel intermediaries'. Intermediaries take the full charge in providing service experience to the guest combining all the components of travel products. Buhalis and Licata (2001) in his work "*The Future eTourism intermediaries*" quoted Werthner and Klein (1999) with – The development in the field of ICT and internet emerging as a universal and interactive means of communication, have therefore shifted the old school of thought of distributing tourism and travel products.

Additionally, the parallel change in the consumer behaviour has also pushed in using the new methods to reach to the target audience (Werthner and Klein, 1999; O'Connor and Frew, 2004). The arrival of internet in the tourism business has not only brought positive interaction among the buyers and sellers of tourism product rather it allowed businesses to think on strategic positioning in the travel trade otherwise which would have created a situation of business disintermediation.

The selection of the destination is the prime motto behind the destination choice behaviour of the individuals with push and pull factors allows the

consumer to make an effort in final effort coming from a travel agent and also by an individual. The Competitive advantage is realized by the destinations with the brand positioning and brand equity and ICT enabled distribution channels in today's world allows to gather a quality information about the destinations.

Developing, creating and sustaining of a "brand" are part of core-strategies of tourist destination management (Aaker, 1991). The power of information communication has allowed destinations in creating a niche for themselves in a competitive world of travel and tourism.

The next stage destination management organisations are labelled with the term DMS and focus on the five dimensional approach for DMS with the major features of information dimension, communication dimension, transaction dimension, the relationship dimension and the last but not the least technical merit dimension with major focus on the quality control mechanism to provide quality and accurate information on the various features associated with destination visit like cost of various museums, parks, entertainment parks, local amenities' and addition to the same opening and closing times (Li and Wang, 2010 & Benckendorff et al, 2014).

The travel and tourism have been categorically put in the category of shopping goods. The consumer behaviour research emphasises on concept of cognitive dissonance due to non-achievement of the goals from the money spent for taking a holiday.

The power of internet as elaborated in the past with the feature of low cost attached to the same allows travellers to access the rich content and make the travel smoother. Modern tourist like to see the photos, videos and reviews of the tourism products before making a final selection of destination but contrary to the same a large variety of content is available only in English as main language which makes the activity more cumbersome for non-English speaking potential tourists (Combi, 2016).

The tourist for effective travel looks for sites in the multilingual but they are not commonly found (Benckendorff et al, 2014). The travellers search the basic websites to a very specialized kind of websites thus making a part of a specialized travel community like tripadvisor.

The search, explore and purchase patterns on the internet is changing with travel websites providing filter options along with different ways to transact business

online. In the light of previous statement with more sophisticated mechanisms provided by the vendors to protect the privacy and secrecy of the customers but trusting the third parties and security in respect of financial data is an important hindrance for the Indian tourists to use the internet (Khare and Khare, 2011).

The modern search process is not being restricted to desktops and mobiles rather mobiles with the various travel applications makes the most convenient method to get trust worthy information. Along with the same the use of social networks is on an upsurge.

Special social networks are created for travel which are governed by the principles of social networking like Bla Bla, couchsurfing etc. Here it would be apparent to say from an article Kumar and Kumar (2020) with 1% increase in the mobile subscription and broadband can help in the increase in the international visitor's arrivals by 0.04% and 0.11% respectively.

The use of social network is on rise due to technology driven syndrome termed as FOMO (Fear of missing out). In a nutshell it would be apt to say, use of ICT is very crucial in the success of the organisations and individual traveller's for making trust worthy decision from exhaustive and cumbersome activity of travel decisions.

d) *The Digital Divide in Tourism*: -An assessment and further studying of different models and use of ICT in different areas of travel provide comprehensive information to explore the digital divide in the setting of rural India.

No individual model provides a deep understanding to the topic. Mingehtti and Buhalis (2009) in their work "Digital Divide in Tourism" provided a conceptual model of understanding of Digital Divide in Tourism. The framework divided the entire world destinations into three sets: (1) the demand side (2) the supply side (3) environment in which the tourist live and the business/organizations' operate.

The division of demand and supply side is divided into four sections with high digital access destinations, upper digital Access Destinations, Medium digital access destinations to low digital access destinations. Top most layers of high digital access destinations shows characteristics of better connectivity, better skills, better infrastructure etc. in terms of ICT to connect to the world.

Maurer and Lutz (2011) assesses that, most of

touristic movement happens in the developed countries which are better governed by the idea of ICT revolution i.e. between high digital access digital markets. The accessing of information of the lower layer destinations requires the intermediary in between to promote, sell the tourism products in the high digital access destinations.

The intermediary never allows the lower digital access destinations to be self-dependent using ICT as this will hamper his commissions and later on may reduce income due to direct connection of the regions and people involved in the tourism business directly with the potential tourists.

Mingehtti and Buhalis (2009) elaborated that in order measure the asymmetries generated by multiple digital divides, a wider and larger set of variables need to be taken into account which ranges from difference in access, capabilities, and use of ICTs among tourists, destination and businesses.

2.2 India and Digital Divide in Tourism (Focus to tourism of Himachal Pradesh)

India as a nation is more mobile friendly; more people handy ICT tool as mobile phones than having PCs (e- Travel Marketing India). 42% of the population in the country has access to the internet through mobile phones and 26% of the people access the internet through personal computers. 68% of the population is using Internet through mobile phones or either PC's. However, teledensity levels remain deficient as there is a major divide between urban centers of the country and the rural areas (Pick & Sarkar, 2015).

In the context of tourism most of the research on the digital divide is on the tendency of tourists to use the internet and ICT for general purposes and their abilities to use ICT but there is no firm evidentiary proof of research on the implications of ICT disparities for the tourism sector (Mingetti and Buhalis, 2009).

Gretzel and Fesenmaier (2001) in their work clearly indicate that assessing internet readiness is very important for tourism enterprises and this will help tourism entities to understand the new economic realities. Rizk (2006) clearly indicates that ICT adoption macro level studies are a general framework to identify the ICT adoption parameters with broader areas and these studies are not deep insight studies into the specific field or industry.

Rural tourism can provide plethora of

opportunities to rural masses in terms of employment and entrepreneurship and to bridge the economic divide (Dashper, 2014).

The problems cited above clearly indicate some of the reasons for less number of tourists arriving in the rural areas of Himachal Pradesh or else the tourists that are arriving to the state of Himachal Pradesh are more concentrated to the pockets of major touristic destination of the state like Shimla, Kullu, Manali, Dharamshala, Dalhousie. The major reason for lack of tourist movement in the rural tourism areas is due to inability and lack of awareness and knowledge of ICT among the rural population.

3 RATIONALE OF THE STUDY

Rural tourism has been taken as a mechanism for economic and social development in number of studies and number of ways (Wilson et.al, 2001). Rural tourism is being accepted as an economic driver for entire rural area and the economic activities associated with it, directly or indirectly. In larger parts of the world rural tourism and its off shots have been well accepted as a non-traditional rural development strategy (Edgell and Harbaugh, 1993).

Most of the rural tourism research is objective driven and tries to establish a positive relationship in the community development and need collaborative networks and social capital (de Andrade Bock and Macke, 2014) but contrary to the same growth and development of rural tourism is also an indicator of disadvantages which it brings with its promotion like inflation, change in local culture patterns, different type of residues and left over by the tourists etc. (Egballi et al., 2011).

Most of the past research which is coinciding with the research theme is more focused towards the positive and negative impacts with rural tourism. In support of the argument to the current research most of the research studies making connections with the current topic on the digital disparity is mostly carried out at the international level or at national level measuring digital inclusion goals at macro levels.

The rationale of study largely encompasses on research problem identified in (for) developing capabilities of rural population to use ICT for rural tourism in the hill state of Himachal Pradesh with low economic level of people, limited means of employment and difficult geographic conditions to create Digital Business Ecosystem (DBE) (Baggio, 2020).

Information access and use of ICT in the urban and rural India has been the fundamental goals of government in India still a greater disparities exist in the modern day world. In understanding the rural behaviour, lack of ICT knowledge or digital disparity makes the situation worse off for rural inhabitants of the Himalayan landscape where nature has provided a greater opportunity to harness the potential of natural beauty and resources with effective use of Tourism as a business model.

3.1 Scope of the study

The scope of the research work is more restricted to the awareness level of the rural individuals as hosts identified in selected rural tourism sites under IDIPT (Infrastructure Development Investment Program for Tourism) in Kangra and Una district of Himachal Pradesh. The study area has been restricted to only 50% districts of Himachal Pradesh where the project has been implemented with the aim to develop capacities of the local people with community based tourism activities.

The research work started to be exploratory in nature and lead to descriptive and conclusive. The data is generated largely from primary sources from population identified as host either engaged in rural tourism activities directly (direct stakeholders) or indirectly (indirect stakeholders) associated with tourism.

The data is collected from 200 individuals as hosts from the two districts of Himachal Pradesh. To select the sample population statistics as per census (2011) of Government of India has been at the core of the sampling design activity.

3.2 Research Design

The research design selected for the current research is exploratory in the first go with pilot survey and moved to more descriptive and conclusive in nature with setting of specific objectives and testing of hypothesis using various quantitative techniques. It becomes quite important and essential for human beings to continuously work in a direction for knowing oneself along with the environment in which they live (Johann and Marias, 1996).

The aim of testing various hypotheses with large sample size and representative population allows the researcher to establish the relationships among various variables and justify the findings. The aim of selecting

the current research design (conclusive) as this research design assist the policy makers in determining, evaluating and selecting the specific course of action to take policy decisions in a particular situation (Malhotra,2010).

3.3 Objectives of the Study

Evaluating the rationale of the study and the gaps identified allowed in constructing the following objectives.

1. To understand the socio-economic condition of the people (host) from their demographic profile.
2. To analyse the self-awareness about the importance and usage of ICT by the host community
3. To measure the effect of selected determinant(s) of ICT adoption (usage) by the host community.

3.4 Sampling Design

Selection of the sampling technique and the sampling unit is a difficult task to be accomplished by researcher. Under the purview of resource constraints, the present research is based on multistage sampling for selection of the study district and proportionate sampling technique has been applied to select the individuals at the identified rural tourism sites. The tourist selection is based upon random sampling technique to collect the results.

The process followed in the same direction is presented below:

a) Population for the study: - All the residents of identified rural tourism site above the age of 18 either engaged directly or indirectly with tourism and allied

activities are part of the research study. The host population statistics of the rural tourism sites selected as per the records is 24,294 (census, 2011). The population for the final district selection is all the four districts of Himachal Pradesh i.e. Shimla, Una, Kangra and Bilaspur where Government of Himachal Pradesh with Loan from Asian Development Bank has started and implemented the rural tourism project for capacity building.

b) Sampling Unit: - The sample units of the study were primarily the rural community either engaged in various professions like Home stay operators, Travel Agents, Non-Government Organizations', members of self-help groups, craftsmen etc. or the local community engaged in various business oriented (allied) activities at the selected rural tourism sites. Focus group discussion was organized with the various stakeholders including homestay operators through PTDC (Panchayat Tourism Development Committee), Team leader of the NGO in the region for implementing the project, Local taxi operators (associations) and self-help Groups.

(c) Sampling Technique: - Multi stage sampling method has been used for the district selection and further proportionate sampling method has been used for sample size selection of the individuals (host) population.

(i) In the first stage all the 12 districts of Himachal Pradesh were identified for the rural tourism activity governed by Government of Himachal Pradesh. Based on 12 districts only four districts were identified with the running of rural tourism project i.e. Shimla, Bilaspur, Kangra and Una in Tranche 1 of the project under IDIPT (Infrastructure Development Investment Program for Tourism).

Table: Rural Tourism Sites in community Based Tourism Initiative by Government of Himachal Pradesh.

Source: Website of Asian Development Bank.

Project /District	Investment Type	Region	Period	Responsible
Community Based Tourism at Dhameta	HP/IDIPT/CBT/02	Kangra	15 th October,2014	M/s Society for Environmental and Rural Awakening(ERA), India
Community Based Tourism at Pragpur and Kangra Clusters in Kangra District	HP/IDIPT/CBT/03	Kangra	16 th September,2015	M/s JPS Associates, New Delhi
Community Based Tourism at Chintpurni Cluster, Una District	HP/IDIPT/CBT/04	Una	NTP issued to the firm on 8 th October,2015	M/s WAPCOS Ltd Chandigarh
Community Based Tourism at Naina Devi Cluster, Bilaspur District	HP/IDIPT/CBT/05	Bilaspur	15 th August,2014	M/s Society for Environmental and Rural Awakening(ERA), India

(ii) In the second stage only 50% districts have been selected from the total four districts which were entry point or gateway (entrypoint) destination to the

hill town of Dharamahsla, Kangra through Highway No. 154 and Highway No. 503 from Pathankot (Punjab). Along with the same Dharamshala also get connected

through the gate way (entrypoint) destination of Chintpurni (Una) through Highway No. 503 and entry point to Dharamshala from Highway No. 303 from Garli Pragpur. All the gateway destinations are at a close proximity to Dharamshala.

(iii) In the third stage only those sites have been selected who are either part of Tranche 1 of the project by IDIPT for rural tourism. The rural tourism sites as identified by Government of Himachal Pradesh in Tranche 2 and Tranche 3 in the selected districts have not been included in the study due to non-implementation of project in Tranche 2 and Tranche 3 during the time of research.

*Kangra Town and Naina Devi Town (Bilaspur) are not selected for the study because the area of study is concentrated to the gateway clusters and also focussing on the theme of study i.e. rural tourism.

* Nagrota Surian has not been selected for the research due the fact that, IDIPT project has been implemented for infrastructure development but rural tourism implementation has not been carried out at the time of writing of the research work.

(iv) Individuals of only those Panchayats (village council) have been selected who are a directly associated with the tourism activity (direct stakeholders) or indirectly associated with tourism activity (indirect stakeholders) or allied activities with tourism.

(v) In the fourth stage and final stage, individuals have been selected purposively and randomly from each Panchayat in proportion to their population.

The entire processes of the sample size selection have been elaborated below.

Name of the	Town Selected	Panchayats of the Town			
Una District	Chintpurni	Nari, Moin , Chaproh			
Kangra District	Dhameta	Dhameta, Jagnoli , Bari, Khatiyar,			
Kangra District	Pragpur	Pragpur, Garli, Sansar pur Terrace, Dada Siba			
Name of District			Name of District		
Kangra	Individual Population of Panchayats		Una	Individual Population of Panchayats	
Project 1		Project 2	Project 3		
Dhameta	3234 (A1)	Garli (B1)	1110	Nari (C1)	1548
Jagnoli	2041 (A2)	Pragpur(B2)	3314	Moin (C2)	1480
Bari	1598(A3)	Ghati Sansarpur Terrace (B3)	4656	Chaproh (C3)	1108
Khatiyar	1888 (A4)	Dada Siba (B4)	2317		
Total Population	8761(A1+A2 +A3+A4) = P1		11397(B1+B2 +B3+B4)= P2		4136 C1+C2+C3 +C4 = P3

Source: - Statistics of rural population from census, 2011.

d) *Final Sample Size*: - The final sample size is selected from Tranche 1 of the IDIPT project in the below mentioned sites.

$$\begin{aligned} \text{Population of the selected area} &= P1+P2+P3 \\ &= 8761 + 11397 + 4236 \\ &= 24294 \end{aligned}$$

The method selected by the researcher to fix the no. of respondents is based on proportionate sampling, where the population in each project is divided into proportion to the total population.

Therefore;

$$X1 = \text{Sample size of the respondents in Project 1 in Kangra District} = 8761/24294 * 100$$

$$X2 = \text{Sample size of the respondents in Project 2 in Kangra District} = 11397/24294 * 100$$

$$X3 = \text{Sample size of the respondents in Project 3 in Una District} = 4136/24294 * 100$$

The percentage of individuals in given below

Name of District		Name of District
Kangra		Una
Project 1	Project 2	Project 3
X1= 36.60%	X2 =46.91%	X3 =16.49%

Due to the constraints of the study (academic) and limited number of residents and stakeholders engaged in rural tourism activities in the study area directly or indirectly the total sample size is fixed to 200. Further, proportionate sampling has been used to provide equal weightage and importance to each sub study area.

Total sample

Total sample size of respondents and Stakeholders
36.60% of 200 = 74
45.9% of 200 = 92
17.08% of 200 = 34

Source: own elaboration.

e) *Data Collection*: - The data for the current research has been collected from both primary and secondary sources. Primary sources have been at the core of the research work being exploratory leading to descriptive and conclusive research design.

The sample size has been restricted to 200 with limited number of respondents engaged in rural tourism activity in the selected area and also all the

respondents have completed all the sections of the schedule.

Secondary sources for data collection are from the reports of the Department of Tourism; Himachal Pradesh, Government Publications, Journals, case studies, etc. For the primary research data was collected through a well-structured and designed schedule (questionnaire) for host community of general questions to specific questions. The questionnaire was constructed in the Hindi language for the ease of the local (host) community.

3.5 Generation of Items and Schedule Formation

In the initial phase of schedule construction, a pool of questions was prepared. In order to meet the objective of study all the panchayats (village council) were visited personally in the initial stage of construct formulation.

A friendly atmosphere was created with the use of local language to make the respondents feel free to express their understanding of the research work and their contribution to the work. With the view to establish a non-controversial relationship among the variables and its relevance in the construct validity opinion of the experts was taken to achieve the desired objective of construction of well-defined and objective driven schedule.

Expert opinion was also taken to design the instrument. In the initial phase the researchers in the same field, University professors from Himachal Pradesh University and Central University of Himachal Pradesh were consulted for their expert opinion in

relation to the construction of the final research instrument.

The feedback from the experts is important as advocated that experts know something about the construct being measured (Bhattacharjee, 2012). The expert opinion allowed in reducing the number of questions to approachable and measureable number along with the view to divide the statements in different sections of study.

Again redeveloped schedule with various sections was moved through expert opinion to look for no duplicate statements emerge and each section of the schedule measure the objective. With the expert opinion number of statements was kept limited as too many statements may not be in interest of the respondent to response which may defeat the real objective of measuring the problem through well-defined schedule.

The questions regarding income and demographics were kept separately in a different section.

4 ANALYSIS AND INTERPRETATION

4.1 Objective 1 : - To understand the socio-economic condition of the people (host) from their demographic profile

The first section of the schedule was focusing on the demographic variables of 200 respondents for measuring the socio-economic status of the people living in the selected rural area of the study.

Table 1. Profile of the respondents (Host Community)

		Frequency	Percent
<i>Gender</i>	Male	159	79.5
	Female	41	20.5
<i>Age</i>	20-24	12	6.0
	25-30	18	9.0
	31-34	29	14.5
	35-40	53	26.5
	41 and above	88	44.0
<i>Marital Status</i>	Married	169	83.3
	Unmarried	31	15.8
<i>Monthly income of the respondent</i>	Less than 5000	59	29.5
	5001-10000	48	24.0
	10001-15000	43	21.5
	15001-20000	12	6.0
	20001 and above	38	19.0
<i>Monthly income of the household</i>	Less than 10000	75	37.5
	10001-15000	33	16.5

(continues...)

Occupation	15001-20000	32	16.0
	20001-25000	22	11.0
	25000 and above	38	19.0
	Agriculture	62	31.0
	Government Job	29	14.5
	Private Job	62	31.0
	Business	42	21.0
Education	Others Specify	6	3.0
	Primary School Upto 5th	20	10.0
	Secondary School Upto 10th	85	42.5
	Senior Secondary upto 12th	27	13.5
Highest education of the family member at Home	Graduation upto College	55	27.5
	PG / Professional Course / Voc. Course	13	6.5
	Primary school upto 5th	9	4.5
	Secondary School upto 10th	48	24.0
	Senior Secondary upto 12th	44	22.0
	Graduation upto college	63	31.5
	Post Graduate upto University	22	11.0
	Vocational course/ITI/MBA/MCA	7	3.5
	Others Please Specify	7	3.5

Source: own elaboration with the primary survey results.

Note: - The data of only 200 respondents who have completed the schedule in all aspects leaving no section blank has been included in the study and limited number of rural community people engaged in rural tourism. The study has removed all the schedules who have not been completed all the sections of the schedule, necessary for further analysis of results.

4.2 Objective 2: - To analyse the self-awareness about the importance and usage of ICT by the host community

In order to study the awareness of ICT adoption (usage) by the host community schedule is developed for host community. Schedule is developed with the segment of awareness about the importance and usage of ICT by the host community

For better and intricate understanding of the variable “awareness” from the perspective of rural people with regards to importance and usage of ICT these 8 variables (statements) were subjected to the approach of factor analysis.

Before applying the approach of factor analysis the reliability of scale is tested using technique of Cronbach’s Alpha which resulted in value of .821. The value of the Cronbach’s Alpha value above .06 indicated to further run factor analysis and results are depicted below.

Table 2. Cronbach’s Alpha for Awareness Dimension of Host respondents

Reliability Statistics	
Cronbach’s Alpha	No. of Items
.821	8

Source: own elaboration with the primary survey results.

Further analysis of statistical data relied on using ‘KMO’ and ‘Bartlett’s Test’. ‘KMO’ and ‘Bartlett’s Test’

was applied to the sample under study, which for the sample gave a significant value of more than .060 for ‘KMO’ test and ‘Bartlett’s Test’ gave a significance value of .000 which clearly indicated the sample adequacy to apply factor analysis test. The values of both ‘KMO’ and Bartlett’s test’ are depicted in table below.

Table 3. KMO & Bartlett’s test for Awareness dimensions of Host respondents.

KMO and Bartlett’s Test	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.806
Bartlett’s Test of Sphericity (Sig)	0.000

Source: own elaboration with the primary survey results.

The application of factor analysis on 8 statements / variables on segment one of “awareness” about the importance and usage of ICT by host community under the research question resulted in two factor solution / dimensions about ICT adoption by the rural people.

The total variance explained by the factor analysis (solution) came out to be nearly 64%, with the maximum factor loadings at .908 and the minimum value at .544 of the rotated component matrix which are shown in the table below.

Higher factor loadings became the part of research with factor loadings values more than .40 is retained, due to the reason that factor values more

than .40 show close association among the factors and factor values less than .40 shows less association

among the factors. Hence, the resulting dimensions are considered suitable for further analysis.

Table 4. Factor Loading for Awareness dimensions of Host Respondents.

DIMENSIONS	Items (Questions)/ Variables	FACTOR LOADING
Importance of ICT (A1)	I am aware of various digital devices	.908
	I understand what digital literacy is	.817
	I am willing to learn more about digital technologies	.743
	I feel comfortable using digital devices	.634
Usage of ICT (A2)	I know about the digital tools and methods of usage in tourism and travel industry	.784
	I feel I am behind in learning and using digital technologies	.760
	I feel bad when others talk and use digital technologies	.611
	I enjoy using digital devices	.544

Source: own elaboration with the primary survey results.

The two dimensions which resulted from the extraction of factors on the “awareness dimension” were 1) Importance of ICT (A1) and other one as 2) Usage of ICT (A2). The first dimension “Importance of ICT” was a result of the condensed relation of four statements which comprise of host community awareness of digital devices, understanding digital literacy, willingness to learn digital technologies and comfortableness in use.

Usage of ICT (A2) 2nd awareness dimension and has come up from the analytical review of factor loading of the statements like knowing tools and methods for use in tourism, personal feeling in usage of ICT, feeling low with the usage of ICT by others, enjoyment of digital devices.

4.3 Objective 3: To measure the effect of selected determinant(s) of ICT adoption (usage) by the host community.

a) ANOVA on Awareness Dimensions for ‘Age’

The awareness dimension that is tested from the demographic variables with the help of ANOVA is ‘age’. Different age categories were

created to understand the relationship of five age categories (20-24, 25-30, 31-35, 36-40 and 41 and above) with the two-awareness dimension 1) Importance of ICT (A1) and other one as 2) Usage of ICT (A2) and the results were presented in the form of table mentioned below.

One Way ANOVA test was applied to statistical data using SPSS, which showed Levene Statistic value of less than .05 for the first awareness dimension of ‘Importance of ICT’, hence more robust test like Welch & Brown-Forsythe was used to check the differences of mean in demographic characteristic of age.

On the contrary for the other awareness dimension i.e. Usage of ICT the Levene Statistic value resulted in more than .05 which showed homogeneity of data, therefore significance value of ANOVA was used to check differences of mean in the second dimension.

The test results were used to assess the significant difference among different age groups. Both the groups i.e. “Importance of ICT” and “Usage of ICT” showed a significant difference in the results for different age groups.

Table 5. ANOVA on Awareness Dimensions for ‘Age’

Awareness Dimensions	Levene Sig.	ANOVA/ Robust Test	Sig. Difference Among Groups	Age Groups Means for Significant Differences					
				20-24	25-30	31-34	35-40	41 & above	
Importance of ICT (A1)	.017	Welch	.000	Yes	4.520	4.305	3.655	3.400	3.278
		Brown-Forsythe	.000						
Usage of ICT (A2)	.176	ANOVA	.010	Yes	4.395	4.361	4.025	3.731	3.947

Source: own elaboration with the primary survey results.

Understanding the results for the awareness dimension ‘Importance of ICT’ and ‘Usage of ICT’ for age, the mean values showed a great variation ranging

from 4.520 to 3.278 and 4.395 to 3.947 respectively, meaning by that people at the lower age groups are more aware in terms of importance and usage of ICT

and people at the above age groups do not feel importance and usage of ICT.

b) ANOVA on Awareness Dimensions for ‘Education’

In order to check the awareness dimension with the help of factor analysis, the other demographic variable that has been selected is ‘Education’. Different education level categories were created and were Primary School Up to 5th, Secondary School Up to 10th, Senior Secondary Up to 12th, Graduation Up to College, PG/ Professional Course / Vocational Course.

ANOVA test is applied using education with two similar awareness dimension 1) Importance of ICT (A1) and other 2) Usage of ICT (A2). The results of the same are depicted below. Before applying ANOVA, Levene Statistic value is used to check homogeneity or non-homogeneity of the data.

Levene Statistic value for the first dimension 1) Importance of ICT (A1) was found to be more than .05, thus interpreting that data under study to be more homogenous. Levene Statistic values for the second dimension 2) Usage of ICT (A2) is less than .05 which shows non – homogeneity of data. To check the mean difference of second dimension to education more robust test like Welch & Brown-Forsythe test is applied to the sample data using SPSS.

The test depicted that there is significant difference among the groups with ANOVA value at .000 for the first dimension of importance of ICT on education, whereas for the second dimension of usage of ICT on education a contrary result is shown with Welch test value at .041 which is less than .05 meaning by significance difference among groups on the other hand Brown- Forsythe test indicated the value of .166 which is more than .05 thereby showing non-significance among groups.

Table 6. ANOVA on Awareness Dimensions for ‘Education’.

Awareness Dimensions	Levene Sig.	ANOVA/ Robust Test	Sig. Difference Among Groups		Education Groups Means for Significant Differences				
					Primary School Upto 5 th	Secondary School Upto 10 th	Senior Secondary Upto 12 th	Graduation Upto College	P.G/ Professional / Voc Course
Importance of ICT (A1)	.073	ANOVA	.000	Yes	3.262	3.189	3.592	3.879	4.461
Usage of ICT (A2)	.005	Welch	.041	Yes*	3.975	3.838	4.194	4.012	4.096
		Brown-Forsythe	.166	No					

Source: own elaboration with the primary survey results.

* In case of A2 sig. value of Welch Test is considered as it is more robust than Brown- Forsythe test.

With respect to the study of education with the first-dimension importance of ICT, it is found that host population with better education is more aware about the importance of digital devices.

Along with the same the second dimension of usage of ICT when studied with education, the results clearly shows that those members of the host community with formal education from senior secondary to P.G/Professional/ Voc. Courses are the ones who like to use more ICT tools than anyone else in the study area. The analytical review of the analysis brings a clear indication that educated youth from basic to professional degrees give more importance to ICT and its usage.

4.4 Major Findings from the study - Socio-economic and Demographic Profile of Local Community –

The profile of the local community getting information from local community ranging Native

Place, Gender, Age, Marital Status, Mother Tongue, No. of Family Members, Income, Occupation, Education etc.

1. The schedule was translated into the Hindi Language (Devnagri Script).
2. The results shows 79.5% (159) respondents’ to be male and 20.5% (41) respondents to be female.
3. In relation to age different categories of people responded with largest number of people who responded to the schedule were from 41 and above (44.0%). The other respondents are from 35-40 years of category with (26.5%); 31-34 (14.5%); 25-30 (9.0%); lastly 20-24 (6.0%) respondents.

One of the respondent brought a very important point in terms of rural tourism that “they are interested to be part of rural tourism activity if the initiative is taken by the government or any other institution in providing training not to them but to their

children as they have worked hard in their lives to provide education to the children and now the children are looking for jobs. If some opportunity arises from tourism and use of ICT at home itself then it would be a great supporter for them in their lives."

4. The marital status of the respondents was divided into two categories married and unmarried. Of the total respondents 169 (83.3%) were married and 31 (15.8%) of the respondents were unmarried.

5. 180 respondents (90.0%) are more comfortable with Hindi as main language of communication the other 20 (10.0%) are more comfortable with Pahari / Local dialect.

6. 81 respondents (40.5%) were having a basic understanding of English. 8 respondents (4.0%) said they could read English. 111 respondents (55.5%) responded with the opinion that they can read and write.

7. No. of family members ranged from 2 to 13.

8. 75.0% of the rural population is earning a monthly income between Rs. 5000 to Rs. 15000. 25.0% rural population is earning from Rs.15000 to 20001 and above.

9. 31.0% of the research area are involved in the agriculture and later to the same being agriculture not a year around activity the people who are engaged in agriculture are also some private jobs. (Here Private jobs means the daily wage earning). 14.5 % of the rural population is part of government job.

One of the retired government official brought a point that he retired from job got settled in the native place. His son is Post Graduate and has done computer course. The son is working as a Principal in some private school in Indore and earning very high Income and does not look forward to come back to the native place due to better job opportunities available outside the state.

5 CONCLUDING REMARKS

5.1 Ramifications for practice

The research work of the researcher tries to provide some practical solutions to the government and to the rural tourism development agencies both at the institutional and individual level. In the light of the research problem the researcher likes to give the following suggestions:

❖ The researcher would like to suggest in Building Community of Learners (COL's). Community of Learners (COL) is an organised platform created and governed in the rural environment to educate the rural population and rural enterprises in learning the basics of tourism trade using new technologies like ICT.

❖ Arranging Digital Marketing Programme for the young youth of the area with course curriculum to add to the same is Blogging and Web Analytics, Search Engine Optimisation, Email Marketing, Content Marketing, Online Advertising - Search, Display and Video, Mobile Marketing, Social Media Marketing - Platforms, ORM & Automation.

❖ A mechanism needs to be developed in making regular visits of the rural people to the success stories in the various parts of the countries in rural tourism.

❖ Farm to table strategy can be applied in rural tourism with focus on is on "Pick or Pick your own."

❖ Colour schema needs to be employed in the rural tourism where all those tourism enterprises which are involved in rural tourism can be identified with different colour schema.

❖ Starting of the water festival (Water Mahotsav) along with Fish Festival in the Pong Dam Wetland.

❖ More Promotion to Ornithological Tourism (avi fauna Tourism) as the area attracts migratory birds from Siberian and Central Asia during the winter season.

❖ Development of GDS (Global Distribution System) dedicated to the area of study of the researcher both in the English and Hindi Language with modern ICT tools.

❖ Development of the website for the local souvenir (memorabilia) developed by the section of the society in the region and finding out integrating options or creating White labelled solutions with other online websites like Tamatina.com, Mojarto.com, himalayankraft.in, Mahila-E-HAAT.

❖ It is important in development of learning material in the local language.

❖ Focus on non-implementation of artificial rural tourism enterprises in the modern towns like Sadda Pind, Choki Dhani etc. These projects basically are run by the professionals with huge amount of

investment in marketing and promotion. Due to huge promotion these are able to attract the visitors to their theme parks based on the concept of rural tourism.

❖ All the government rest houses and buildings in the rural area should be based on the concept of rural tourism and official visit of the government officials in the area should be made mandatory to stay at local home stays.

❖ Various technical institutes, universities can also be made part of technology transfer mechanism along with the concept of Frugal Innovation where the institute or universities develop target audience technology mechanism and later transfer the same with the training, technical assistance and after service to the recipients of the technology.

❖ Envisioning the vision of Social Stock Exchange in the country bringing an electronic platform for the both the social enterprises and impact investors.

❖ Development of ICT tools and technologies for rural environment on the principle of KISS (Keep it short and simple) or on principle of DfA (Design for All).

❖ Need to promote other or alternative form of activities along with incentive schemes to promote rural tourism.

5.2 Theoretical Implications

The results obtained from the quantitative analysis of the data depicts the disparities for technology adoption in the rural setting of Himachal Pradesh in the study area.

The results are in tune with the neo classical economic theory and evolutionary growth theory, which clearly mentions the use of technology driven activities for the economic benefits of the society. The non-responsive behaviour in new technology among the rural can be a hindrance for creating future ready ICT enabled enterprises.

As mentioned earlier along with macro level studies it is important to carry out micro level studies to divide the society into measurable units to develop the strategies for a specific set of populations to improve socio economic condition. The lack of technology adoption within the urban and rural population will create more gaps which might be difficult to overcome in the near future.

5.3 Management Implications

In view of the research topic and quantitative research results received it is indicative that ICT disparities not taken care off can lead to problem of information capitalism which is more dangerous in the information intensive sector like travel and tourism.

Understanding and further removing the problem of digital disparities in rural India it is the need of hour to make the young youth more educative and transformative in the tourism oriented digital technologies for rural India with resource indexing and inverse pyramid approach.

Negligent behaviour by the travel and tourism industry can lead to situation of brain drain. The major precaution that needs to be taken care is with respect to efforts that, efforts don't turn out be toxic (Lupton, 2011) with largely goal driven objectives moves to handheld support.

REFERENCES

- Aaker, D.A. (1991). *Managing Brand Equity*. The Free Press: New York, NY, USA.
- ADB. – Asian Development Bank (2011). *India: Infrastructure Development Investment Program for Tourism - Tranche 1*, Manila: Asian Development Bank.
- Adomi, E.A. (2011). *Framework for ICT Policy: Government, Social and Legal Issues*. IGI Global. ISBN13: 9781616920128
- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*. 50. 179-211. 10.1016/0749-5978(91)90020-T.
- Aquino, R.S., Lück, M., & Schänzel, H.A. (2018). Tourism social entrepreneurship for sustainable community development: Review and conceptual framework, In T. Young, P. Stolk, & G. McGinnis (Eds.), *CAUTHE 2018: Get Smart: Paradoxes and Possibilities in Tourism, Hospitality and Events Education and Research* (pp. 369-379). Newcastle, Australia: The University of Newcastle.
- Avgerou, C. (2010.) "Discourses on ICT and Development" pp 4 <http://www.itcd2009.org/documents/ICTD2009Proceedings.pdf>
- Baggio R. (2020) Digital Ecosystems, Complexity, and Tourism Networks. In: Xiang Z., Fuchs M., Gretzel U., Höpken W. (eds) *Handbook of e-Tourism*. Springer, Cham. https://doi.org/10.1007/978-3-030-05324-6_91-1
- Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191.

- Benckendorff, J.P., Sheldon., and Fesenmaier R.D. (2014). *Tourism Information Technology* 2nd Edition, Cabi Tourism Texts.
- Bhatia, A. (2020). *Extent and determinants of ICT adoption for digital inclusiveness in Rural tourism a study in himachal Pradesh*. (PhD Unpublished thesis). Department of Tourism and Travel Management. Central University of Himachal Pradesh, India. <http://hdl.handle.net/10603/333381>
- Buhalis, D., and Licata, C. M. (2002). The Future eTourism intermediaries. *Tourism Management*. Volume 23, Issue 3, June 2002, Pages 207-220
- Calderero, A. (2010). *The digital Divide, Framing and Mapping the Phenomenon*- IGI Global.
- Combi, M. (2016). Cultures and Technology: An Analysis of Some of the Changes in Progress – Digital, Global and Local Culture. *Cultural Heritage in a Changing World*, Springer. pp3-15.
- Cosh, K., and Assenov, I. (2007). Reviewing the use of Online Services by the Tourism Industry in an Emerging Market: The Case of Thailand. *Information and Communication Technologies in Tourism*. pp 493-502
- Dashper, K. (2014). *Rural Tourism: An international perspective*. Cambridge Scholars Publishing.
- Davis, F. A. (1989). Perceived usefulness perceived ease of use and user acceptance of information technology, *MIS Quarterly*, 8, 318-339.
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace. *Journal of Applied Social Psychology*, 22(14), 1111-1132.
- de Andrade Bock, I. A., & Macke, J. (2014). The Social Capital and the Development of Collaborative Networks in the Tourism Sector: a Case Study on The Grupo Gestor do Turismo Rural do Rio Grande do Sul (Rural Tourism Steering Group)-RS, Brazil. *Revista Brasileira de Pesquisa em Turismo*, 8(1), 23-41.
- De Noronha Vaz, M. T., Cesário, M., & Fernandes, S. (2006). Interaction between innovation in small firms and their environments: An exploratory study. *European Planning Studies*, 14(1), 95-117.
- Dedeoğlu, B. B., Aydın, Ş., & Boğan, E. (2018). The role of the employees in the innovation of the hotel enterprises. *Anais Brasileiros de Estudos Turísticos: ABET*, 8(3), 85-99.
- Dossani, R., Misra, D. C., & Jhaveri, R. (2005). *Enabling ICT for rural India*. Asia Pacific Research Center, Stanford University and National Informatics Centre.
- Edgell Sr, D. L., & Harbaugh, L. (1993). Tourism development: An economic stimulus in the heart of America. *Business America*, 114(2), 17-18.
- Egabli, N., Nosrat, B.A., and Pour, A.S.K.S (2011). Effects of positive and negative rural tourism (case study: Rural Semnan Province) *Journal of Geography and Regional Planning*, Vol. 4(2), pp. 63-76, February 2011.
- Fishbein, M. & Ajzen, Icek. (1975). *Belief, attitude, intention and behaviour: An introduction to theory and research*. Addison-Wesley, Reading, MA
- Fred Cavazza. (2017). *Social Media Landscape 2017*, <https://fredcavazza.net/2017/04/19/social-media-landscape-2017/>.
- Gretzel, U., and Fesenmaier, D. R. (2001). Defining Internet Readiness for the Tourism Industry', in H. Werthner & M. Bichler, (eds.), *Lectures in E-Commerce*, Springer, Wien, pp. 77-103.
- Ham, S., Kim, W.G. and Joeng, S. (2005). Effect of IT on performance of upscale hotels, *International Journal of Hospitality Management*, 24(2): 281–294.
- Iamai & Kantar (2016). *Internet IAMA in India -IMRB Report – 2016*, Internet and Mobile Association of India and Kantar IMRB.
- Ilavarsasan, V.P. (2013). The digital Divide in India: Inferences from the information and communication technology workforce. The Digital Divide: The Internet and Social Inequality in International Perspective. In: Law R., Fuchs M., Ricci F. (eds) *Information and Communication Technologies in Tourism*, 2011. Springer, Vienna.
- India Online Travel Industry (2015). *Potential For Rapid Growth*, ARCANA.
- Johann, M., and Marias, H.C. (1996). *Basic concepts in the methodology of the social sciences*. HSRC Series in Methodology.
- Karanasios, S.S. (2008). *An e-commerce framework for small tourism enterprises in developing countries* (Doctoral dissertation, Victoria University).
- Khare, A., and Khare, A. (2011). Blending Information Technology in Indian Travel and Tourism Sector ISSN: 1533-2969 print=1533-2977 online DOI: 10.1080/15332969.2011.606761, *Services Marketing Quarterly* 32 (2011): 302 - 317.
- Kumar, N., & Kumar, R. R. (2020). Relationship between ICT and international tourism demand: A study of major tourist destinations. *Tourism Economics*, 26(6), 908-925.
- Li, X. and Wang, Y.C. (2010). Evaluating the effectiveness of destination marketing organisations websites: evidence from China. *International Journal of Tourism Research*, 12(5), pp536-549
- Lowry, B. P., Gaskin, J., Twyman, N., Hammer, B., and Roberts, L.T. (2013). Proposing the hedonic-motivation system adoption model (HMSAM) to increase understanding of adoption of hedonically motivated systems. *Journal of the Association for Information Systems*, 14(11):617-671.
- Lupton, R. D. (2011). *Toxic charity: How the church hurts those they help and how to reverse it*. New York: HarperOne.
- Malhotra Naresh. K. (2010). *Marketing Research An Applied Orientation*. Pearson Education, Inc, India.
- Maurer, C., and Veronika, L. (2011). The Impact of Digital Divide on Global Tourism: Strategic Implications of Overcoming Communication Gaps Caused by Digital Inequalities. In ENTER (pp. 265-277). *Proceedings... Conference: Information and Communication*

- Technologies in Tourism 2011 - Proceedings of the International Conference in Innsbruck, Austria, January 26-28, 2011.
- Minghetti, V. and Buhalis D. (2009). Digital Divide in Tourism. *Journal of Travel Research*, 49(3), 267–281. doi: 10.1177/0047287509346843.
- Nadkarni, S. and Peng, C. (2001). *The relevance of travel agencies in the era of e-commerce and Globalization*.
- Nussbaum, M. (2005). Capabilities as fundamental entitlements. *Capabilities equality: Basic issues and problems*, 44.
- O'Connor, P. and Frew, A.J. (2004) An evaluation methodology for hotel electronic channels of distribution. *International Journal of Hospitality Management*, 23, 179–199.
- Pimentel, T. D., de Carvalho, F. C. C., & de Oliveira, M. C. B. (2016). Distribution, emphasis and possible interactions among tourism research centres in Mercosul. *Anais Brasileiros de Estudos Turísticos-ABET*, 72-79.
- Pine, II, B., and Gilmore, J.H. (1998). The Experience Economy. *Harvard Business Review*, 76(6), 18-23.
- Reino, S., Frew, J. A., Albacete-Sáez, C. (2011). ICT adoption and development: issues in rural accommodation. *Journal of Hospitality and Tourism Technology*, Vol. 2 Iss: 1 pp. 66–80.
- Rizk, N. (2006). Venturing the unexplored: e-readiness assessment of small and medium enterprises in Egypt, in S. Kamel, (ed.) *Electronic business in developing countries: opportunities and challenges*, Idea Group Publishing, Hershey, PA, USA, pp. 246-264.
- Rogers, E. M. (1961). *Bibliography on the Diffusion of Innovations*.
- Sahadev, S., and Islam, N. A. (2006). Framework for Measuring ICT Adoption in the Travel and Tourism Sector. Volume I; Issue I; *International journal of management practices and contemporary thought*.
- Scholochow, C., Fuchs, M., and Hopkens, W. (2010). ICT Efficiency and Effectiveness in the Hotel Sector –A Three-Stage DEA Approach. *Information and Communication Technologies in Tourism*, 2010, 13-24.
- Schaffer, N., Engert, M., Sommer, G., Shokoui, J., & Krcmar, H. (2021). The Digitized Ecosystem of Tourism in Europe: Current Trends and Implications: *Proceedings ... of the ENTER 2021 eTourism Conference*, January 19–22, 2021.
- Sen, A. (1999). *Development as freedom*. Oxford Paperbacks.
- Sredojević, D., Cvetanović, S., & Bošković, G. (2016). Technological changes in economic growth theory: Neoclassical, endogenous, and evolutionary-institutional approach. *Economic Themes*, 54(2), 177-194.
- Sykes, A. T., Venkatesh, V., and Gosain, S. (2009). Model of Acceptance with Peer Support: A Social Network Perspective to Understand Employees' System Use. *MIS quarterly*, 371-393.
- Thompson, R. L., & Higgins, C. A. (1991). Personal Computing: Toward a Conceptual Model of Utilization. *MIS quarterly*, 15(1), 125.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478.
- Werthner, H., & Klein, S. (1999). *Information technology and tourism: a challenging relationship*. Springer-Verlag Wien. Vienna, Austria: Springer.
- Wilson, S., Fesenmaier, R. D., Fesenmaier, J., and Es van.C.J. (2001). Factors for success in rural tourism development. *Journal of Travel research*, 40(2), 132-138.
- Web Resources*
- <https://www.oecd.org/digital/ieconomy/1888451.pdf>
- Internet in India 2016- An IAMAI & KANTAR IMRB Report (IMRBI- Cube 2016, Internet users in Rural India estimates) page 8
- Demystifying: The Indian Online Traveler, Boston Consulting Group (June,2017). <https://www.adb.org/projects/40648-023/main>.

Processo Editorial / Editorial Process / Proceso Editorial

Editor Chefe / Editor-in-chief / Editor Jefe: PhD Thiago D. Pimentel (UFJF).

Recebido / Received / Recibido: 11.05.2021; Revisado / Revised / Revisado: 09.08.2021 – 27.09.2021 – 18.11.2021; Aprovado /

Approved / Aprobado: 28.11.2021; Publicado / Published / Publicado (online): 06.12.2021.

Seção revisada às cegas por pares / Double blind review section / Sesión revisada por pares ciegos.