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Impact Of It Enabled Business Transformation On Tourism Sector: A Study Of Digital Transformation Of Tourism Industry In Jammu And Kashmir

Shafiq Ahmad Khan Research Scholar at Amity Business School, Amity University, mail id: hadinaqash@gmail.com.

Dr. Ajay Kumar Pandey Professor at Amity Business School, Amity University, mail id: akpandey69@ggn.amity.edu.

Ajaz Ahmad Mistree Professor at SSM College of Engineering, mail id: justmailaju@gmail.com

Abstract

Progress has been made in all aspects of society as digital resources have become more widely available. Until about twenty to thirty years ago, the term "digital" was only used by computer scientists and mathematicians. It is now widely available, ushering in a new era of "digital tourism" in the travel industry. Many countries' approaches to digital tourism already have a framework in place. The public's fascination with and adoption of digital technologies has shifted over the last few decades; the tourism industry must adapt accordingly. Without digitalisation, the tourism industry will be unable to compete with international destinations or service providers. Tourism businesses must digitise in order to meet the rising expectations of their customers. In our research, we hope to develop a new model that will provide a comprehensive overview of digitalization in the tourism industry.

1. Introduction

The modern economy's growth is correlated with the digitalisation of all economic activity. The most valuable resource in the areas of production, trade, consumption, and distribution in the digital economy will be information and methods for managing it. This marks a distinction between the digital economy as a sort of economic activity and the conventional economy (Bulturbayevich & Jurayevich, 2020). The march of digitisation has included the tourism industry, which is leading the way in adopting digital technologies. New digital technologies are increasingly used in the tourism industry and are becoming more widely available. Because it makes it possible to assess visitor preferences while considering the locations they visit precisely, the overall development of social media, virtual reality, internet and mobile-based applications has a substantial positive impact on the growth of the tourism industry (Hojeghan & Esfangareh, 2011).

In the tourism sector, social media, virtual reality, internet and mobile-based applications have led to the development of gadgets like mobile guide apps, ticket payment apps, and virtual reality technologies. Modern software programmes can adapt to user preferences rapidly, help users find destinations, and appraise the organisation's tourism attractions (Cheung, Ting, Cheah, & Sharifuddin, 2020; Kiráľová & Pavlíčeka, 2015; Subawa et al., 2021). Business operators from the tourism sector can examine data about a traveller's profile, the places they visit, how long they spend at tourist attractions, and other factors based on this information.

They can use the internet to study tourist preferences, foresee their changes, and ensure that current tourist offers meet the customer's demands with no particular time and material expenditures for doing tourist surveys and statistical processing (Anh & Huy, 2021).

The tourism industry views digital technologies as the fastest and best means of achieving its objective. Digital promotion is crucial because the end user may be thousands of kilometres from the trip route. Billions of people have access to the internet nowadays. This figure covers persons of various ages, income levels, and social statuses. The yearly trend shows increased Internet usage by adults and older people, even though it was once believed that only young people were the primary users. Social media and the internet are now commonly used by people living abroad to search for information (Buhalis & Law, 2008; Rayman-Bacchus & Molina, 2001).

The internet has shown to be a successful platform for tourism promotion and sales in modern travel agencies and tour operators. The internet represents a fascinating and practical distribution method for gathering clients, and it gives the capacity to identify their desires (Avlek, 2013). Compared to traditional brochures, catalogues, and pamphlets, promotional representation of tourism services and products using multimedia technology substantially affects potential customers. The internet enables travel agencies and tour operators to improve through accelerated communication and providing all relevant information. Information about agencies can reach millions of Internet users, and their services and product distribution no longer depend on the volume of printed catalogues. Rapid development, adoption, and use of mobile technologies have changed how people interact with travel, businesses and their customers. Mobile apps have significantly changed how people travel today and how travel agencies interact with their clients. This is because travellers book their trips and buy their tickets using their mobile devices instead of doing so via an online website. The mobile apps benefit tourism by allowing establishments to ease their business operation and lead to more business sales and revenue (Gibson, 2021; Hall et al., 2021; Yin et al., 2021; Woods, 2021; Zhang & Gibson, 2021).

1.1 Statement of the problem

The tourism sector has faced many challenges in the past decade ranging from increased taxation, Covid-19 restrictions and sector-based competition from big brands. This has led to a decrease in tourism revenues. In addition, the digitisation of tourism and its channels has led to immense competition from the global sector to local tourism. Travellers now have immense choices concerning destination tourism as they are exposed to multiple global locations through digital media channels such as social media, mobile-based applications, the internet and virtual reality. At the same time, such digital channels have also helped business operators related to tourism in their business operations, leading to enhanced revenue. Given the constantly shifting customer needs and intense rivalry, research on this topic has been regarded as valuable to tourism businesses and academics. Traditional tourism has only been the subject of prior research.

In contrast, research concerning the use of digital channels in tourism from a business perspective has been limited. It has become essential to investigate the online channels (social media, virtual reality, internet and mobile-based applications) that help tourism businesses in their business workings and help them to earn more revenue. In addition, many tourist places have suffered due to a lack of government support concerning the technological infrastructure, making it vital to study. In addition, the risk associated with technology also influences business operator decisions. The tourism and digital channels market has increased and has tremendous room to grow. The skill with which they create and offer satisfying customers via digital technology is a crucial element determining their success. For tourism operators, digital channels and technological infrastructure become imperative in the ease of doing their business, ultimately enhancing their revenue. Tourism businesses are working to increase their revenue through digital channels; therefore, the crucial question that requires an answer is whether or not such digital channels may affect the easiness associated with business operations. And whether or not the ease of doing business in the tourism sector can increase business revenue. And lastly, can technological risk and infrastructure moderate the relationship between ease

of business and increased revenues? Marketers will be able to use these insights to create effective e-marketing policies. Academicians will also profit from the study's findings since they will gain a more excellent knowledge of a hitherto unknown aspect of the experience.

2. Literature Review

Most studies on social media in the hospitality industry focus on how customers use and perceive the platform from various angles. This implies limited studies exist concerning the use of social for tourism businesses. But, the association of usefulness for tourism businesses is strongly related to travellers' social media use. For instance, McCarthy et al. (2010) and Verma et al. (2012) find that business travellers follow their company's recommendation for a hotel and then use search engines or online travel agents to learn more about the available hotels. Leung et al. (2013) highlight the importance of social media in travel decisions in their research. They discovered that people frequently used social media for research when planning trips. Review websites continue to be at the forefront when consumers plan to buy a hotel room, according to Anderson (2012)'s analysis of the impact of social media on consumers' purchase decisions and hotels' top-line performance. Most studies on social media usage and attitudes in the hospitality sector are consumer-focused. Ayeh et al. (2012) found that practitioners understand social media's potential for company promotion and inherent limitations and employ various social media apps to influence consumers' decisions.

Even in the comfort of one's home, destinations, attractions, hotels, and tour operators can employ VR to provide affordable immersive experiences and enhance revenues by easing business operations. Customers can now be engaged and persuaded in new ways thanks to the distinctive VR qualities of vividness and interactivity (Nah et al., 2011). According to Fox et al. (2009), technology that allows users to immerse themselves in a virtual world entirely can cause emotional and physical reactions. VR can be utilised in tourism to improve how people perceive places like theme parks, museums, cultural heritage centres, and art galleries (Wei et al., 2019; Jung et al., 2016). Therefore, using VR as a pre-experience destination marketing tool is prevalent. Recent tourism research has enhanced our understanding of how mental imagery stimulation through VR might improve the tourism brand experience (Bogicevic et al., 2019).

Rapid development, adoption, and use of mobile technologies have changed how people interact with travel, businesses and their customers. Mobile apps have significantly changed how people travel today and how travel agencies interact with their clients. There is no denying the influence of the mobile travel app among millennials, explorers, or experimenters equally. Even though they are popular and offer many benefits for tourist operators and tourists. This is because travellers book their trips and buy their tickets using their mobile devices instead of doing so via an online website. The mobile apps benefit tourism by allowing establishments to ease their business operation and lead to more business sales and revenue (Gibson, 2021; Vo-Thanh et al., 2021; Yin et al., 2021; Woods, 2021; Zhang & Gibson, 2021).

To keep ahead of rivals, nearly every development engine for online travel portals incorporates clever features. A few of the advantages are the ability to rent a train or a car, plan excursions, purchase hotel and resort packages, and more. This clever marketing strategy draws hordes of clients. This is just being done to reassure potential customers. Users are no longer need to stand in unorganised lines or bargain with traditional salespeople for discounts (Yin et al., 2021; Woods, 2021).

2.1 Tourism

Tourists travel for pleasure or business (Getz, 2008). Tourism is mostly for pleasure. Most people want to use commercial services to spend a decent amount of time away from home and work (Yu et al., 2012). Tourists are tourists. Tourists visit several sites (Barykin, 2021).

Understand the tourism industry to digitally transform it. Tourism comprises all activities and events related to big journeys, where people go from one place to another, usually beyond their home (Kaur, 2017). Tourism generates national income and economic prosperity. Since international standards boost economic growth, many nations spend a lot of money on their tourist attractions (Lee & Hans, 2002). Tourists do more than other industries. Tourism affects the hotel, transportation, cultural, art, diplomatic, and natural and mineral resources sectors (Lee & Hans, 2002). Understanding that some of these other industries that are interwoven with the tourist industry are necessary for business travel and other factors that may require travel other than for pleasure or work. For example, a wedding abroad (Barykin, 2021).

2.2 Tourism Influence on Economy

Every nation is affected by tourism. Tourism boosts national growth. Tourism is mostly economic (Lew, 2011). Tourism creates jobs in the industry and related subsectors (Perles-Ribes et al., 2021). Industry growth boosts domestic profitability.

Hotels, accommodation, restaurants, transport, entertainment, and shopping may benefit from tourism. Tourism also creates foreign cash (Tang & Jang, 2009). Thus, capital and new funds are obtained. Tourism boosts economic diversification and infrastructure. Tourism raises taxes (Brouder, 2018). Tourism increases demand for land, housing, and essential items, which may hurt the economy. Healthcare and security may grow (Kiliclar et al., 2018).

Tourism also improves living circumstances by boosting the economy (Chang et al., 2020). Cultural and recreational amenities can benefit locals and visitors. In addition, the general community perspective is always changing to match the global standard it seeks (Munar & Jacobsen, 2013). Being from a tourist destination elevates locals. Despite their diversity, this provides a foundation for understanding (Chang et al., 2020). Tourism has a major cultural impact (Boniface, 1998). Tourism and culture are intertwined since the community's culture shapes the experience. Culture enriches a vacation. Travellers may also forget the location's history and other details. The cultural experience would forever change the traveller. Tourism improves cultural understanding (Aquino et al., 2012). Revenue can protect historic landmarks, archaeological sites, and monuments. Culture can only be shared, despite concerns about its dilution. (Zhuang, 2019) Tourism benefits local hosts and visitors by transferring culture. Tourism raises community awareness, which impacts the environment. Environmental awareness protects future generations (Barykin, 2021).

2.3 Integrating Digital Technologies into Tourism

Given the numerous recent indicators and patterns in the tourism industry, digital integration is critical. To battle and survive the pandemic, the tourism industry need short-term preparedness (Nikolskaya et al., 2019). However, the government and industry must be proactive in order to learn from the extraordinary disaster, which revealed massive gaps in preparation and shock management (Marques & Borba, 2017). Tourism has an opportunity to reassess its future as a result of the crisis (Liberato et al., 2017). Decisions made today will have an impact on the future of the tourism industry. Governments and business must recognise the epidemic's long-term consequences and utilise digitalization to improve and promote the infrastructure required to develop a strong, resilient, and sustainable tourist sector (Kayumovich, 2020).

The importance of global digital transformation cannot be overstated (Buhalis & O'Connor, 2005). People no longer have the time to educate themselves in preparation for future jobs. Businesses are modernising their operational procedures to accommodate new technology. Everyone's long-awaited future has arrived (Liberato et al., 2017). People must become technologically knowledgeable in the digital age, and organisations and companies must take steps to ensure seamless operations even without workers. Technology provides

workable solutions. E-commerce, digital, and marketing initiatives must be improved by operators, demand sources, and destination marketing agencies (Cai et al., 2019). The importance of digital genius has never been greater. Digitalization provides the tools, frameworks, and technologies required to manufacture and add value to tourist goods and experiences; nevertheless, in order to flourish, the tourism industry must share, learn, and collaborate. These locations attract visitors looking for new experiences (Cai et al., 2019).

2.4 Mobile Applications and Tourism

According to Mickaiel (2011), travel applications are the sixth most downloaded business apps, and 60% of travellers use mobile apps. Many studies have shown that mobile apps can improve a trip, but few have looked at the disadvantages (Hamouda, 2022). Gretzel and colleagues (2015) investigated smart tourism. Smart destinations necessitate the incorporation of ICT into the physical infrastructure of tourist attractions. Without this infrastructure, tours would be obsolete (Hamouda, 2022). According to studies, smartphone use for travelling is influenced by environmental factors, cognitive beliefs, prior experiences, and daily usage, and cell phones can have a significant impact on a tourist's experience. Cell phones, according to Wang et al. (2014), are powerful instruments with efficient processors, current operating systems, broadband internet connectivity, user-friendly interfaces, and productivity-enhancing apps that significantly improve tour visits. As a collaborative and dynamic tool, research has looked into how mobile apps organise tours and enable sustainable holidays. The development and spread of mobile apps in tourism promotes their use (Hernández-Garrido et al., 2022).

Mobile technology have altered the way that travel firms communicate with their clients. Travel agents and holidaymakers now engage differently thanks to mobile travel apps. Millennials, explorers, and experimenters value mobile travel apps (Shang et al., 2022). Despite their popularity and benefits, smartphone apps are not used by roughly half of all passengers. Few travellers purchase plane tickets on their phones rather than laptops. According to a survey, 65% of passengers use mobile websites for travel, while 58% use applications. Travellers were cautious to utilise mobile travel apps because they perceived them to be ineffective or to consume too much memory (Medeiros et al., 2022). Market travellers hardly travel. They are hesitant to download travel apps to their phones because they only travel a few times a year. Millennials, for example, only utilise Airbnb and Kayak to plan their vacations (Aamir, 2022).

2.5 Digital Transformation in Indian Tourism

Tourism is India's largest service industry. The unique flora and wildlife of India, as well as its rich cultural heritage and natural beauty, have boosted tourism (Dana et al., 2022; Rathi, 2020). Tourism in India should be developed, promoted, and improved. Jobs in tourism in India include lodging, transportation, tourism sites, information offices, photography, and so on. India is dependent on it for foreign exchange. Tourism foreign exchange in April 2018 was approximately 17% more than in April 2017 (Rathi, 2020). In 2017, tourism employed 41.6 million Indians, accounting for 8% of the overall workforce.

Globally, digital innovation is transforming how we live, work, and do business. Digital India made its debut in tourism. In 2014, technology aided the country's admission to the League of Nations. Digital India has had an impact on almost every part of our life, including employment, travel, communication, shopping, education, and healthcare. India is a digital and tourist destination. In terms of global digital competitiveness, India ranked 51st out of 63 countries in 2017 (Malik et al., 2022). With the advent of the internet and cell phones, the Indian travel industry has expanded. Tourism and hospitality are important developing industries in India. The expansion of India has promoted tourism. AI, Big Data, smartphone apps, social media, and VR/AR advance travel every five years. Technology has the potential to improve travel experiences (Jayawardena, 2022).

According to 2017 surveys, India is a traveler-friendly country: Voice search is used by 67% of travellers to research vacations online.

• 71% of Indians purchase flights using their cellphones, while 82% prefer digital boarding cards and e-tickets.

• 87% of Indians utilise friend-shared videos and photographs for vacation research, and 83% say staying in contact is most vital while travelling.

• 85% of Indians use price comparison websites to save money, and 58% strive hard to get the best deal.

- 52% of Indians are sceptical of review websites, yet 91% use them.
- 75% of Indians choose hotels that provide free Wi-Fi.

2.6 Rationale of the Study

The tourism sector is being influenced and will continue to be influenced by digital platforms and the sharing economy, automation and AI, blockchain technology, and virtual reality (VR) (Werthner et al., 2015). The Internet, social media, mobile apps, and virtual reality have all had a significant impact on visitor supply and demand (Buhalis, 1998). Since the 1990s, technology has altered tourism information dissemination and communication (Li et al., 2017). In tourism management, ICTs help with strategic planning, competitive analysis, financial planning and control, marketing research, strategy and execution, and pricing (Werthner & Klein, 1999). ICTs aid in the management of airline operations (Poon, 1988). ICTs are also used in hotels for food and beverage management, as well as front and back office information processing (Werhtner & Klein, 1999). The usage of ICT in hotels, airlines, and tourism has expanded (Benckendorff et al., 2019).

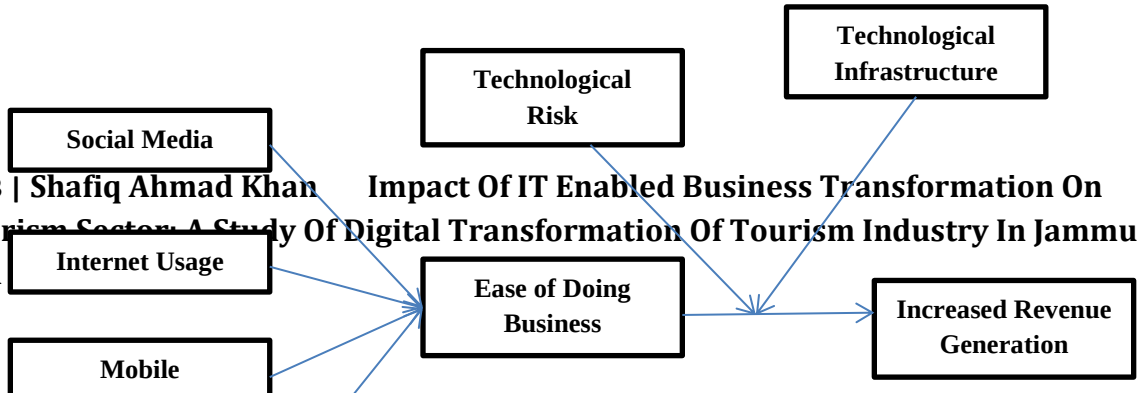
Tourism organisations are increasingly analysing huge volumes of data from sensors and cellphones in real time to better comprehend technology-mediated value co-creation (Femenia-Serra et al., 2019; Gretzel & de Mendonca, 2019). Tourism businesses face new potential and risks as a result of advances in information and communication technology. Real-time consumer intelligence, AI, contextualization and personalization, and dynamic business analytics will maintain ICTs at the forefront of tourism research, revolutionising the sector (Buhalis & Sinarta, 2019; Gretzel et al., 2020).

Digital technologies also provide new opportunities to collaborate with consumers to produce value (Chekalina et al., 2018; Buhalis & Sinarta, 2019). To respond to digitalization, tourism businesses require digital transformation strategies. Such technologies also make business procedures easier, which increases revenue for tourism businesses.

The impact of ICT (Internet, social networking, smartphone apps, and virtual reality) on tourism has received little attention. In this study, all four criteria have an impact on tourism. Such studies have been conducted in Western countries, but developing nations such as India, which is fast increasing, require them as well.

2.7 Proposed Model, Objectives and Hypotheses Development

2.7.1 Proposed Model



2.7.2 Objectives of the present study

Based on the gaps identified from the previous studies and the face validation of the ongoing scenario in the study area, fallowing objectives were framed:

1. To determine the factors of digital transformation.
2. To study the impact of digital transformation on tourism sector in J&K.
3. To study the challenges faced by the tourism due to the digital transformation.
4. To put forward suggestions and recommendations to the stake holders and beneficiaries based on the results and the conclusion of the study.

2.7.3 Hypotheses of the study

In order to achieve the objectives of the study, certain hypotheses haven been drafted based on the available literature reviewed and the face validation of the study area and the present conditions of the region.

Hypothesis 1

H1(a) There is positively significant impact of Internet on Ease in doing business.

H1 (b) There is positively significant impact of Virtual reality on Ease in doing business.

H1 (c) There is significantly positive impact of mobile applications on Ease in doing business.

H1 (d) There is positively significant impact of social media on Ease in doing business.

Hypothesis 2

There is positively significant impact of Ease in doing business on Increased Revenue Generation.

Hypothesis 3

H3(a) Ease in Doing Business mediates the association between Internet and Increased Revenue Generation.

H3(b) Ease in Doing Business mediates the association between Virtual Reality and Increased Revenue Generation.

H3(c) Ease in Doing Business mediates the association between Social Media and Increased Revenue Generation.

H3(d) Ease in Doing Business mediates the association between Mobile Applications and Increased Revenue Generation.

Hypothesis 4

H4(a) Technological Risk moderates the association between Ease of Doing Business and Increased Revenue Generation.

H4(b) Technological Infrastructure moderates the association between Ease of Doing Business and Increased Revenue Generation.

3. Research Methodology

The collection of methods that will be used to conduct this study the "Research Methodology." The reliability of a study is dependent not only on its methods and instruments, but also on the selection of its samples (Morrison, 1993).

This study employs both exploratory and descriptive methodologies. The purpose of this research is to explain how the internet, social media, mobile apps, and virtual reality impact business productivity and income. Technology also helps to moderate. Because this field has received little attention, understanding the interactions of the variables is critical. Thus, exploratory research designs define the research problem, classify variables, and select a research instrument.

Factors were also discovered through exploratory design. To assess how independent factors affected predictor variables, a descriptive study design was adopted. Because surveys provided quantitative data, the methodology of the study was quantitative. A study factor questionnaire was completed by participants. Data analysis enabled broad generalisations. This cross-sectional study collected data only once over a specific time period. The data was then analysed.

3.1 Purpose of the study

The goal of this study is to use an exploratory strategy to identify the drivers of digital transformation in J&K, which are linked to benefits like improved company performance and more revenues. There are still many open questions because investigating all three components at once is so new.

3.2 Pretesting

Pilot study was run to ensure the instrument was reliable and valid. In order to redesign, simplify, and improve the responses from the respondents, the questionnaire was amended by making the necessary modifications in language and context and certain questions were added based on the recommendations of a marketing expert. The present investigation made use of the revised instrument. After distributing the questionnaires, a sample of 50 participants was selected using a judgmental selection approach. The acquired data underwent exploratory factor analysis in order to extract the factors needed to test the scale's reliability and validity and to better understand the underlying data structure. The data set contains sufficient correlations for doing EFA, as determined by the "Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy." The data have a KMO (Kaiser-Meyer-Olkin) value of 0.548, which is greater than the minimum required value of 0.50 to ensure adequate sampling. Bartlett's test of Sphericity yields a large value (1615) at the 0.000 significance level and a degree of freedom of 561, indicating that the variables are interconnected.

3.3 Data Collection

Tour operators in J&K are scattered across wide area of population and culture. In contrast, this study approached few tourist destinations in J&K. Structured questionnaires were used to collect information for the investigation. The participants in this study all had to be 18 years or older. Primary data were primarily collected through a survey questionnaire for this investigation. Questionnaire information gathering for study

constructs (a research instrument). People who filled out the survey were also asked to offer information on various aspects of their identities. The questions were strategically ordered to elicit considered responses from the participants. In addition, we made sure that those respondents who had queries were given answers right away.

3.4 Sample Frame

All of the J&K would make up the study's representative sample. However, six popular tourist destinations each from Jammu and Kashmir Regions were selected for this work.

3.5 Sample Size

The sample size for the proposed study is 400, assuming a population of 10,000. The final study's sample size of 340 was also determined by the itemized sampling technique (34*10=340) (Hair et al., 2010). However, in order to increase the generalizability of the results, the researcher would benefit from having a sample size (N) of 500.

3.6 Sampling Method

Due to the large dispersal of the research population, a convenience sampling strategy was chosen for this investigation.

Table 3.1 Sampling Distribution

Main Study
Optimum Sample size = 400
Number of questionnaires distributed = 500
Effective sample size = 473 (27 questionnaires not returned by the respondents)
Functional Responses (Obtained after data cleaning) = 450

3.7 Research Instrument

The principal instrument for collecting responses is a questionnaire designed specifically for this study. The questionnaire had a few glitches that were worked up before the final data was collected. SMM and brand experience were measured using a five-point Likert scale, whereas demographic characteristics were measured using a nominal scale. The EFA results for the 22 SMM and brand experience questions examined generated six trustworthy constructs, as shown in Table 4.1.

3.8 Statistical Techniques

Data analysis in this study will make use of descriptive statistics, correlation, regression, and other appropriate statistical tools. Data analysis that serves to explain, display, or summarize data in a meaningful fashion, allowing for the identification of patterns within the data, is known as descriptive statistics. Measures of central tendency (mode, median, and mean) and measures of spread are the two main categories of statistics used to describe data (variance and standard deviation). When examining the possible existence of a causal relationship between two or more numerical or categorical variables, correlation is a useful tool. To rephrase: it's a way to evaluate connections between entities. Correlation analysis is the method used to examine the relationships between different variables.

The data is analysed using statistical software such as Statistical Product and Service Solutions (IBM-SPSS current version) and AMOS.

4. Data Analysis and Interpretation

4.1 Respondent Profile of the Study

According to the descriptive statistics obtained, there were a total of 513 respondents selected for the study, including 457 (89.1%) men and 56 (10.9%) women. The majority of responses were from men. On the bases of age, there were a total of 513 respondents selected for the study, including 161 from 18-35 years age group (31.4%), 268 (52.2%) from 36-49 years age group and 84 (16.4%) were above 49 years old. On the basis of education, 206 (40.2%) subjects had passed high-school, 154 (30%) subjects were graduates and 153 (29.8 %) were post-graduates. The distribution as per income, 288 (52.3%) respondents were married and 263 (47.7%) were single. Finally, on the basis of income, 41.3 percent were found to have annual income upto 3 lakh, 40.7 percent belongs to 3-5 lakh income group, 8.8 percent were found to have annual income of 5-10 lakh rupees and 9.2 percent respondents were found to have more than 10 lakh annual income.

4.2 Results of Exploratory Factor Analysis

The mall-intercept survey data was used to continue the investigation. EFA employed final data from 450 respondents, which confirmed the our hypothesis and validated the scale used in the present study. The varimax rotation (Kaiser normalisation) was used for rotation, and principal component analysis (Nunnally, 1978) was used for extraction. Eigen values greater than one and a cumulative proportion of variation (explained) more than 50% were used to determine the components.

Table I displays factor loadings, Cronbach's alpha scores, extracted variances, and communalities, as well as additional EFA data. All factor loadings for dependent and independent variables were considered valid between 0.750 and 0.890. The reliability scores are more than 0.70. On average, the communality of each item was between 0.703 and 0.869. The extracted total variance for ICT is 80.224, whereas the extracted total variance for revenue generation is 86.288.

Table I: EFA Results

Factor	Item	Loadings	Alpha	Communalities	VE	KMO
I see internet as an important tool for running my tourism operations	INT1	.829	.894	.721	34.78	.651
I often use internet (website) for operating my tourism business	INT2	.865		.761		.695
I see internet as an important tool for promoting my tourism operations	INT3	.847		.743		.849
I see internet as an important tool for providing my clients the information they need quickly	INT4	.890		.803		.666
Internet is often used by clients to provide feedback on the services	INT5	.874		.784		.772
Social media as an important tool for running my tourism operations	SM1	.794		.769	45.69	.820
I often use Social media for operating my tourism business	SM2	.811		.747		.764

I see Social media as an important tool for promoting my tourism operations	SM3	.819		.779		.678
I see Social media as an important tool for providing my clients the information they need quickly	SM4	.817		.771		.754
Social media is often used by clients to provide feedback on the services	SM5	.714		.653		.688
Mobile Applications as an important tool for running my tourism operations	MA1	.748		.805		.782
I often use Mobile Applications for operating my tourism business	MA2	.816		.875		.847
I see Mobile Applications as an important tool for promoting my tourism operations	MA3	.734		.761	54.26	.795
I see Mobile Applications as an important tool for providing my clients the information they need quickly	MA4	.813		.856		.794
Mobile Applications are often used by clients to provide feedback on the services	MA5	.764		.816		.746
Virtual Reality Applications as an important tool for running my tourism operations	VR1	.773		.710		.824
I often use Mobile Virtual Reality Applications for operating my tourism business	VR2	.770		.694		.842
I see Virtual Reality Applications as an important tool for promoting my tourism operations	VR3	.838		.825	60.10	.805
I see Virtual Reality Applications as an important tool for providing my clients the information they need quickly	VR4	.833		.806		.775
Mobile Virtual Reality Applications are often used by clients to provide feedback on the services	VR5	.847		.839		.831
The different digital tools (social media, mobile applications, virtual reality and mobile applications) involve more financial risks (e.g., fraud).	TR1	.855		.819		.684
The different digital tools (social media, mobile applications, virtual reality and mobile applications) involve more information risk.	TR2	.808		.767	65.35	.860
The different digital tools (social media, mobile applications, virtual reality and mobile applications) involve more privacy risk.	TR3	.768	.882	.703		.822
There is enough Information Technology related infrastructure for the smooth operation of tourist operations.	TI1	.816		.772	69.96	.797

There is enough internet facilities and adequate internet speed for smooth running of tourism businesses.	TI2	.775		.758		.915
There is enough digitization that allows customers to use Information Technology tools to access tourism facilities.	TI3	.750		.744		.745
Using the different digital tools (social media, mobile applications, virtual reality and mobile applications) has allowed my business to function smoothly.	EIB1	.833		.756		.818
Using the different digital tools (social media, mobile applications, virtual reality and mobile applications) has allowed my business to function efficiently.	EIB2	.833		.742	73.91	.876
Using the different digital tools (social media, mobile applications, virtual reality and mobile applications) has allowed my business to connect to more customers easily.	EIB3	.778		.684		.798
The use of digital technologies increase the sales of my business	IR1	.818		.809		.915
The use of digital technologies has increase the amount of enquiries for my business	IR2	.854		.869		.936
The use of digital technologies increase the amount of flow for my business website and my social media pages	IR3	.779		.737	77.42	.920
The use of digital technologies has increased my overall business strength	IR4	.800		.804		.886
Please give some opinions about the impact of the Internet and other technologies in tourism industry and especially for your own business.	IR5	.824		.842		.931

Source: Authors' own.
Notes: VE- Variance Extracted; KMO-Kaiser-Meyer-Olkin is obtained using split half test.
INT-Internet; SM-Social media; MA-Mobile applications; VR-Virtual Reality; IR-Increased Revenue; TR-Technology risk; TI-Technology infrastructure; EIB-Ease of doing business.

4.3 Measurement Model

Index		**Test value**	**Cut off value/Range**
Absolute fit index	Cmin/df(normed chi-square)	**5.8**	1 < Cmin/df < 5
Badness of fit	RMR	**0.072**	≤ 0.08 means good fit
Goodness of fit	GFI	**0.917**	≥ 0.8 means good fit
	AGFI	**0.902**	

Incremental fit index	CFI	**0.923**	≥ 0.9 means satisfactory fit
	NFI	**0.925**	≥ 0.9 means satisfactory fit
	TLI	**0.935**	≥ 0.9 means satisfactory fit

In the measuring model, the eight EFA components were permitted to correlate with one another. The measurement model's fit indices were determined to be within the acceptable range (CMIN/DF = 5.8, GFI =0.917, AGFI = 0.902, CFI = 0.923, and RMSEA = 0.072). The CFA was performed immediately following the EFA to put the established hypothesis to the test. All eight variables have a loading greater than 0.76, which is greater than the threshold level (see Table II).

4.4 Reliability and Validity

All the standard loadings in Table III are greater than 0.70 (Fornell & Larcker, 1981), which proves that the instrument has convergent validity. All of the AVE values are higher than 0.50 (Table IV), which shows that convergent validity is confirmed (Fornell & Larcker, 1981). Table IV shows that the discriminant validity is true because the AVE square root is higher than the inter-correlation values (Anderson & Gerbing, 1988). Since the composite reliability is higher than 0.60 (as shown in Table 4.12), it shows that the work is reliable.

Table III Standardized Regression Weights

Items	Direction	Factors	Estimate
IR1	<---	IR.	.865
IR2	<---	IR.	.932
IR3	<---	IR.	.787
IR4	<---	IR.	.875
IR5	<---	IR.	.893
VR1	<---	VR.	.741
VR2	<---	VR.	.688
VR3	<---	VR.	.954
VR4	<---	VR.	.797
VR5	<---	VR.	.960
INT1	<---	INT.	.787
INT2	<---	INT.	.824
INT3	<---	INT.	.809
INT4	<---	INT.	.877
INT5	<---	INT.	.864
SM1	<---	SM.	.850
SM2	<---	SM.	.816
SM3	<---	SM.	.844
SM4	<---	SM.	.839
SM5	<---	SM.	.755

Table III Standardized Regression Weights			
Items	**Direction**	**Factors**	**Estimate**
MA1	<---	MA.	.860
MA2	<---	MA.	.951
MA3	<---	MA.	.786
MA4	<---	MA.	.938
MA5	<---	MA.	.825
TR1	<---	TR.	.845
TR2	<---	TR.	.817
TR3	<---	TR.	.737
EIB1	<---	EIB.	.808
EIB2	<---	EIB.	.778
EIB3	<---	EIB.	.706
TI1	<---	TI.	.770
TI2	<---	TI.	.805
TI3	<---	TI.	.812

Table IV Validity										
Factors	**CR**	**AVE**	**EIB**	**IR**	**VR**	**INT**	**SM**	**MA**	**TR**	**TI**
EIB	0.809	0.586	**0.765**							
IR	0.940	0.760	0.234	**0.872**						
VR	0.919	0.698	0.348	0.381	**0.835**					
INT	0.919	0.694	0.197	0.183	0.138	**0.833**				
SM	0.912	0.675	0.327	0.466	0.493	0.122	**0.822**			
MA	0.942	0.764	0.346	0.707	0.420	0.242	0.511	**0.874**		
TR	0.843	0.642	0.298	0.375	0.454	0.075	0.399	0.377	**0.801**	
TI	0.838	0.633	0.258	0.458	0.515	0.078	0.525	0.485	0.466	**0.796**

4.5 Structural Model

The "Structural Model" consisted of the constructs of "Internet", "Social media", "Mobile applications", "Virtual Reality", "Increased Revenue", "Technology risk", "Technology infrastructure", "Ease of doing business". First the impact of "Internet", "Social media", "Mobile applications" and "Virtual Reality" on "Ease of doing business" is investigated directly. Then, the direct impact of "Ease of doing business" on "Increased Revenue" is also examined. The mediating function of "Ease of doing business" in the relationship between four independent variables ("Internet", "Social media", "Mobile applications" and "Virtual Reality) and "Increased Revenue" as a dependent variable was also examined. Finally, the moderating role of "Technology risk" and "Technology infrastructure" between "Ease of doing business" and "Increased Revenue" was also examined.

4.5.1 Evaluation of Structural Model (I)

The "Structural Model" was run first to study the direct impact of "Internet", "Social media", "Mobile applications" and "Virtual Reality" on "Ease of doing business". Then, the direct impact of "Ease of doing business" on "Increased Revenue" is also examined. The model fit indices have acceptable values (Table V).

Table V Model Fit indices

Index		Test value	Cut off value/Range
Absolute fit index	Cmin/df (normed chi-square)	5.8	1 < Cmin/df < 5
Badness of fit	RMR	0.072	≤ 0.08 means good fit
Goodness of fit	GFI	0.917	≥ 0.8 means good fit
	AGFI	0.902	
Incremental fit index	CFI	0.923	≥ 0.9 means satisfactory fit
	NFI	0.925	≥ 0.9 means satisfactory fit
	TLI	0.935	≥ 0.9 means satisfactory fit

Source: Authors own

Table VI and VII shows the structural model coefficients (standardized and un-standardized) as obtained from path analysis.

Table VI: Unstandardized estimates

Dependent Variable	Direction	Independent Variable	Estimate	S.E.	C.R.	P
EIB.	<---	INT.	.112	.045	2.467	.014
EIB.	<---	SM.	.117	.039	2.964	.003
EIB.	<---	MA.	.183	.039	4.745	***
EIB.	<---	VR.	.238	.053	4.467	***
IR.	<---	EIB.	.362	.063	5.743	***

Table VII: Unstandardized estimates

Dependent Variable	Direction	Independent Variable	Estimate
EIB.	<---	INT.	.122
EIB.	<---	SM.	.147
EIB.	<---	MA.	.233
EIB.	<---	VR.	.221
IR.	<---	EIB.	.295

4.5.2 Results from hypothesis testing

To test the research hypothesis, "Structural Model Coefficients" were used. The study's hypotheses were tested with the "Structural Model Coefficients," which will be talked about below. Estimated coefficient values and critical ratio values were used to test the hypotheses (C.R). All of the research hypotheses were statistically significant, as shown by the results of the analysis.

4.5.3 Relationship between independent and dependent factors

a) Influence of Internet on Ease of doing business

The SEM analysis shows that hypothesis H1a is statistically supported, which means that the use of internet has a positive effect on the Ease of doing business ($\beta = 0.12$ and $R^2 = 0.23$).

b) Influence of virtual reality on Ease of doing business

The SEM analysis shows that hypothesis H1b is statistically supported, which means that the virtual reality applications has a positive effect on the Ease of doing business ($\beta = 0.22$ and $R^2 = 0.23$).

c) Influence of mobile applications on Ease of doing business

The SEM analysis shows that hypothesis H1c is statistically supported, which means that the mobile applications has a positive effect on the Ease of doing business ($\beta = 0.23$ and $R^2 = 0.23$).

d) Influence of social media on Ease of doing business

The SEM analysis shows that hypothesis H1d is statistically supported, which means that the social media has a positive effect on the Ease of doing business ($\beta = 0.14$ and $R^2 = 0.23$).

d) Influence of Internet on Ease of doing business

The SEM analysis shows that hypothesis H2 is statistically supported, which means that the Ease of doing business has a positive effect on increased revenue ($\beta = 0.29$ and $R^2 = 0.21$).

4.6 Mediation Result

In this study, the "bootstrapping" method, which is based on the user-defined "Estimand" method proposed by (Gaskin, 2016) is used for mediation analysis. This study looked at the role of “ease of doing business” as a "mediator" between four independent variables (**“**Internet”, “Social media”, “Mobile applications” and “Virtual Reality) and “Increased Revenue” as a dependent variable.

4.6.1 Mediation Model-I

In the first model, “ease of doing business” acts a "mediator" between independent variable (**“**Internet”) and “Increased Revenue” as a dependent variable. "Bias-corrected bootstrapping analysis" with a 2000-bootstrap sample at a 95% confidence range was used to look into the effect of indirect effect, which suggests mediation (Preacher & Hayes, 2008). Gaskin's user-defined Estimand method was used as a mediator in this investigation (2016). In this method, parameters between the pathways are given names so that indirect effects can be looked at. In the first model, the indirect effect of “internet” on “increased revenue” is figured out by using “ease of doing business” as a mediator. "A" shows the path between “internet” and “ease of doing business”, while "B" shows the path between “ease of doing business” and “increased revenue”. The indirect effect is caused by the combination of A and B. With a 95 percent confidence interval and a sample of 2000 bootstraps, bias-corrected bootstrap analysis was used to figure out what the indirect effect was.

The results of the biased-corrected two-tailed significance test are shown in Table VIII. The values and scores for both lower and higher, and the indirect impact p-value are significant. Thus, “ease of doing business” mediates the association between “internet’ and “increased revenue”.

Table VIII Results from Mediation Model-I

Parameter	Estimate	Lower	Upper	P
My Estimand	.027	.007	.056	.013

4.6.2 Mediation Model-II

In the second model, ease of doing business acts a mediator between independent variable (virtual reality) and Increased Revenue as a dependent variable. Bias-corrected bootstrapping analysis with a 2000-bootstrap sample at a 95% confidence range was used to look into the effect of indirect effect, which suggests mediation (Preacher & Hayes, 2008). Gaskin's user-defined Estimand method was used as a mediator in this investigation (2016). In this method, parameters between the pathways are given names so that indirect effects can be looked at. In the second model, the indirect effect of "virtual reality" on "increased revenue" is figured out by using "ease of doing business" as a mediator. "A" shows the path between "virtual reality" and "ease of doing business", while "B" shows the path between "ease of doing business" and "increased revenue". The indirect effect is caused by the combination of A and B. With a 95 percent confidence interval and a sample of 2000 bootstraps, bias-corrected bootstrap analysis was used to figure out what the indirect effect was.

The results of the biased-corrected two-tailed significance test are shown in Table 4.16. The values and scores for both lower and higher, and the indirect impact p-value are significant. Thus, "ease of doing business" mediates the association between "virtual reality' and "increased revenue".

Table IX Results from Mediation Model-II

Parameter	Estimate	Lower	Upper	P
My Estimand	.049	.016	.091	.01

4.6.3 Mediation Model-III

In the third model, "ease of doing business" acts a "mediator" between independent variable (**"**mobile applications") and "Increased Revenue" as a dependent variable (Figure 4.9). "Bias-corrected bootstrapping analysis" with a 2000-bootstrap sample at a 95% confidence range was used to look into the effect of indirect effect, which suggests mediation (Preacher & Hayes, 2008). Gaskin's user-defined Estimand method was used as a mediator in this investigation (2016). In this method, parameters between the pathways are given names so that indirect effects can be looked at. In the second model, the indirect effect of **"**mobile applications" on "increased revenue" is figured out by using "ease of doing business" as a mediator. "A" shows the path between **"**mobile applications" and "ease of doing business", while "B" shows the path between "ease of doing business" and "increased revenue". The indirect effect is caused by the combination of A and B. With a 95 percent confidence interval and a sample of 2000 bootstraps, bias-corrected bootstrap analysis was used to figure out what the indirect effect was.

The results of the biased-corrected two-tailed significance test are shown in Table X. The values and scores for both lower and higher, and the indirect impact p-value are significant. Thus, "ease of doing business" mediates the association between **"**mobile applications" and "increased revenue".

Table X Results from Mediation Model-III

Parameter	Estimate	Lower	Upper	P
My Estimand	.038	.010	.076	.01

4.6.4 Mediation Model-IV

In the fourth model, “social media” acts a "mediator" between independent variable (**“**mobile applications”) and “Increased Revenue” as a dependent variable. "Bias-corrected bootstrapping analysis" with a 2000-bootstrap sample at a 95% confidence range was used to look into the effect of indirect effect, which suggests mediation (Preacher & Hayes, 2008). Gaskin's user-defined Estimand method was used as a mediator in this investigation (2016). In this method, parameters between the pathways are given names so that indirect effects can be looked at. In the second model, the indirect effect of **“**social media” on “increased revenue” is figured out by using “ease of doing business” as a mediator. "A" shows the path between **“**social media” and “ease of doing business”, while "B" shows the path between “ease of doing business” and “increased revenue”. The indirect effect is caused by the combination of A and B. With a 95 percent confidence interval and a sample of 2000 bootstraps, bias-corrected bootstrap analysis was used to figure out what the indirect effect was.

The results of the biased-corrected two-tailed significance test are shown in Table XI. The values and scores for both lower and higher, and the indirect impact p-value are significant. Thus, “ease of doing business” mediates the association between **“**social media” and “increased revenue”.

Table XI Results from Mediation Model-II

Parameter	Estimate	Lower	Upper	P
My Estimand	.029	.013	.014	.04

4.6.5 Moderation

The link between “ease of doing business” and “increased revenue” was moderated by ‘technological risk” and “technological infrastructure”. A two-sided significant test was also needed for a moderation effect analysis, which is very similar to a mediation effect analysis. For the hypothesis to be shown to be true, the effect of the interaction must be statistically important. Table XII shows the results.

Table XII Moderation

Hypotheses	Dependent Variable	Predictor	Estimate	S.E.	C.R.	P	Result
H4a	ZIR	EIB_x_TR	-.17	-.39	.435	***	Supported
H4b	ZIR	ZEIB	.151	.044	3.417	***	Supported
	ZIR	ZTR	-.309	-.042	7.288	***	Supported
	ZIR	EIB_x_TI	.26	.41	.634	***	Supported
	ZIR	ZEIB	.137	.041	3.347	***	Supported

Hypotheses	Dependent Variable	Predictor	Estimate	S.E.	C.R.	P	Result
	ZIR	ZTI	.385	.041	9.438	***	Supported

Source: Author's Own

Note: * means P-value is less than 0.05

Note: *** means P-value is less than 0.001

4.7 Moderating Relationships

1. Technological Risk moderates the association between Ease of Doing Business and Increased Revenue Generation.

H4a is supported as Technological Risk moderates the association between Ease of Doing Business and Increased Revenue Generation. (See also Figure 1). Figure 1 shows that Technological Risk weakens the association between Ease of Doing Business and Increased Revenue Generation.

2. Technological infrastructure moderates the association between Ease of Doing Business and Increased Revenue Generation.

H4b is supported as Technological infrastructure moderates the association between Ease of Doing Business and Increased Revenue Generation. (See also Figure 2). Figure 2 show that Technological infrastructure strengthens the association between Ease of Doing Business and Increased Revenue Generation.

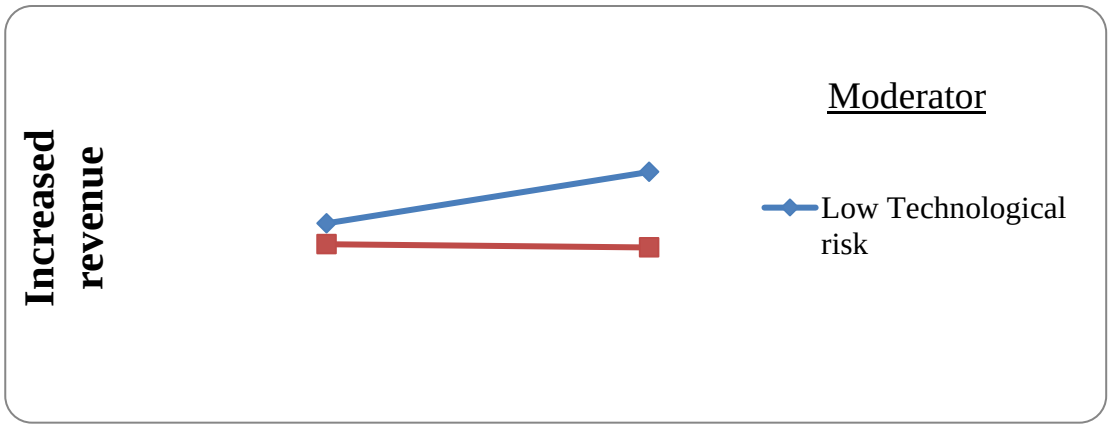


Figure 1

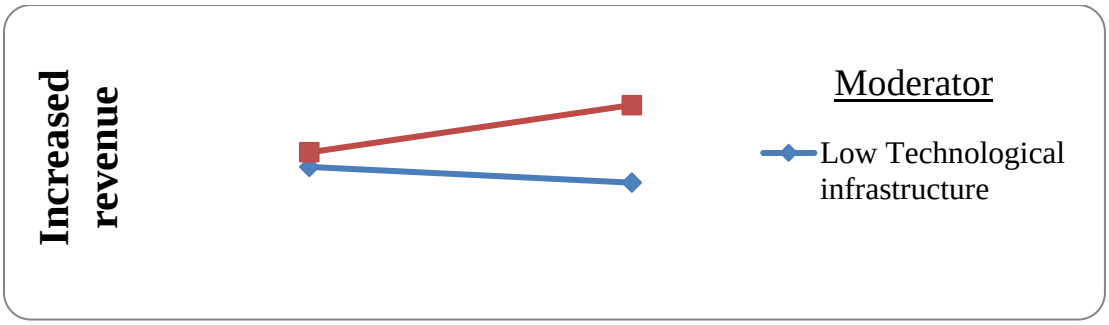


Figure 2

5. Findings and conclusion

5.1 Findings

The instrument that was ultimately chosen for use underwent preliminary testing as part of a pilot project, during which it was subjected to a survey. In the first round of the survey, there were a total of 55 people (tourism business operators) who participated from the Jammu and Kashmir region in India. However, for the sake of accuracy in statistical analysis, only fifty functional answers were chosen. During the course of the research, "SPSS 25.0" was utilised, and "EFA" ("exploratory factor analysis") was utilised to reveal the underlying data structure and improve the scales. Prior to the implementation of 'EFA,' the researcher utilised the procedures for data purification (finding and deleting outliers, unengaged replies, and missing items). The factor loading strategy was allowed to be used since the cut-off value was set at 0.5, and items were selected in an appropriate manner as a result. During the pre-testing phase, utilising factor analysis (exploratory) revealed the key structure of the data set. The results of analyses showed that the data set consisted of eight dimensions (Internet; Social media; Mobile applications; Virtual Reality; Increased Revenue; Technology risk; Technology infrastructure; Ease of doing business) represented by 29 items. With regard to the data set, the "Bartlett's Test of Sphericity" and the "KMO" metrics were utilised in order to ascertain whether or not the sampling was adequate (i.e., whether or not there was adequate correlation among the items). In terms of the variance of the data structure, the "Principal Component Analysis" methodology revealed that eight factors accounted for more than 77 percent of the overall variance, which is greater than the minimum requirement of 50 percent in the domain of social sciences. The reliability of the instrument was determined by using "Cronbach alpha" values that were greater than the levels that were considered to be threshold (more than 0.60). In addition, the split-half reliability test was utilised in order to evaluate the instrument's consistent performance. The research employed the average loadings of the constructs as a means of determining content validity. This was done in terms of validity. The "Promax" rotation method ultimately successfully established the discriminant validity of the test.

There were a total of five factors, each of which were indicated by the five items each : (Internet; Social media; Mobile applications; Virtual Reality and Increased Revenue;) The three factors were represented by three items each (Technology risk; Technology infrastructure; Ease of doing business). The study's primary objective was accomplished after the scale was refined during the pilot phase. This involved analyzing the link that exists between independent and dependent variables. A total of 600 people participated in the primary research study, which was conducted using a causal research design. The respondents were drawn from different tourist locations located within the Jammu and Kashmiri Region of India. On the other hand, the 'EFA' was done on a total of five hundred thirteen (513) functional responses. Before the execution of EFA on all of the essential data, cleaning and regression assumptions (normality, linearity, and auto-collinearity) were carried out. In addition, construct loadings (a measure of validity), construct variances, and reliability were

also evaluated. When 'EFA' was conducted on the final data, the items confirmed during the pilot research were among those left. This demonstrates that the questionnaire that was utilised has good level of validity. After the 'EFA,' a 'CFA' was carried out with the assistance of AMOS 25.0 with the intention of validating the factor structure that had been determined earlier. The findings showed that each of the variables maintained the same elements that were gathered from the prior EFAs (pilot study and main study). The findings that CFA obtained generally validated the scale that had been previously constructed on a smaller set of individuals. The factor structure of the scale that was checked was found to be valid with strong convergent and discriminant validity. In addition, the fit indices of the measurement model were satisfactory, indicating that the measures generated have potential for use in subsequent study.

After that path analysis was run to assess the relationship between factors.

Relationship between Independent and Dependent Variables

Following the CFA, a path analysis was performed to establish the relationship between the independent and dependent variables. The data point to the fact that all nine of the study's hypotheses were proven. The highest influence on ease of doing business was from virtual reality applications/technologies, followed by mobile applications, social media and internet. The influence of ease of doing business on increase purchases in tourism was also strong.

Furthermore, in terms of mediation, “ease of doing business” acts as a "mediator" between four independent variables (**“**Internet”, “Social media”, “Mobile applications” and “Virtual Reality) and “Increased Revenue” as a dependent variable. The results also show that the link between “ease of doing business” and “increased revenue” was moderated by ‘technological risk” and “technological infrastructure”.

5.2 Conclusion

Since the last three decades, there has been a considerable increase in the total amount of work that is done in the ICT and tourism. However, relatively little emphasis has been paid to the concept of concentrating on the mediating and moderating variables in the framework involving ICT’s and increased revenues. The academic literature on tourism is still up for debate, particularly when it comes to technology and revenues. In order to throw some light on the subject at hand, the purpose of this research is to investigate the link between ICT’s and ease of doing business that leads to enhanced revenue. In addition to this, it intends to investigate the roles that two moderators (technology risk and technological infrastructure) played in association between ease of doing business and increased revenues. Given the growth of the tourism sector and ICT’s the current study endeavour is an essential addition to the field. The hypothesised connections between the characters were investigated further. According to the findings, there is a connection between ICT's and ease of doing business, leading to enhanced revenue for tourism businesses. The findings and conclusions of this study have been discussed, as well as the ramifications of this research in comparison to earlier versions and some potential recommendations for the future. As a consequence of this study, tourism businesses need to integrate ICT’s fully into their business operations (marketing, branding, distribution etc) in order to smoothen their business operations that will lead to more tourism related purchases of their services. In addition the mediating and moderating variables in the framework are another value added contribution. This perspective will help tourism players achieve more customer buying through improved use of technology in their business.

5.3 Implications

In addition to the theoretical conclusions that may be drawn from this work, there are also some actual implications that can be offered for a number of different stakeholders. The categorization and conceptualization of the study's aspects may assist various stakeholders in developing various strategies and

actions that may contribute to accomplishing corporate goals for tourism businesses. The process of cultivating the use of ICT's for businesses takes a considerable amount of time and training. It is important for tourism managers all over the world to aggressively promote and raise the level of ICTS's in order to increase the likelihood of tourist arrivals and purchases. These initiatives have a better chance of succeeding if the actions they involve are supplemented with government initiatives.

In addition to the theoretical conclusions that may be drawn from this work, there are also some actual implications that can be offered for a number of different stakeholders. The categorization and conceptualization of the study's aspects may assist various stakeholders in developing a variety of strategies and actions that may contribute to the accomplishment of business goals for tourism players. It is important for tourism managers all over the world to aggressively promote and raise the level of ICT's in their businesses for their customers in order to increase the likelihood that they will make a purchase. This article provides assistance to the tourist industry in its efforts to increase buy intentions by concentrating on ICT's.

Internet

The use of internet and its associated technologies is a must for businesses in tourism to smoothen their business operations and enhance their revenue. They must use integrated marketing communication to market their goods and services in the tourism and hospitality sector. They must use it for communicating with clients and promoting brand recognition.

The tourism business can best utilise the internet for many forms of marketing or promotional operations. The internet is the best means to establish direct relationships with clients. It allows the tourism business to grow and transfer its data, which helps the industry raise its turnover ratio. If internet is used wisely, the tourism business can benefit greatly.

Tourism businesses can establish direct relationships with the public because internet connections are widespread. Agency services and product distribution are no longer dependent on the volume of printed matter because millions of people may access information about them online. Travel businesses can use the internet as a successful tool for marketing and selling travel. The operators can promote through high-quality online promotional images of tourism-related services and goods which might influence visitors more favourably than brochures and catalogues. They should use internet as an effective and practical distribution tool for obtaining customers and determining their preferences. Travel agencies can become more efficient by facilitating faster communication and supplying all relevant data using internet applications. They must integrate different booking systems into the operational business systems of travel agencies, hotel chains, airlines, etc. characterises modern business in the tourism market. They must also use the internet for high-quality market research and for advertising.

Social media

Tourism related companies and brands should use social media platforms to communicate directly with their target audiences. People have the option of calling the companies that provide tourism services if they were dissatisfied with the service they received. Therefore, a better reputation for a firm may be achieved by resolving the issues faced by customers in the most considerate manner possible.

It's possible that social sharing was the single most important aspect that had an effect on the tourism business. The most meaningful experiences that people have had throughout their trips can now be shared with a large audience thanks to social media. This is especially true for younger people. Companies in the tourism industry should be aware of the fact that this is a more effective method than basic marketing for attracting new travellers and should encourage individuals to share their genuine experiences online.

The advent of social media led to the creation of two-way contact between agencies and customers, as well as customers talking to customers. This is made possible by the increase of customer-to-customer communication. It is essential for the tourism agencies and businesses to utilise social media if they wish to reap the benefits of the impact that social media has had on the tourism sector.

Tourism businesses need to produce content that is interesting and compelling. Visual content is the most interesting and engaging technique to attract people's attention because the tourist sector is so closely related with the experience of seeing things. They need to make use of photographs and movies that are not only spectacular but also easy and entertaining to watch. One of the most effective methods to get people interested in your company is to encourage them to create and share content. The use of influencer marketing will be of great assistance in elevating the company's profile among its competitors.

After gaining an understanding of how social media plays a part in the marketing of tourism, businesses must realise that the most important aspect of any endeavour is to maintain a social presence. To raise awareness of the brand, they need to actively engage with the target audience by talking to them, listening to them, and responding to any queries they have.

By focussing on incorporating social media for business operations in tourism, operators can increase their business efficiency by reducing cost and maintaining an interactive and customised contact with their clients.

Virtual reality

Virtual reality travel experiences can be used by tourism businesses to give users the feeling that they are at the actual location to the greatest extent possible. Experiences in virtual reality travel, which are at the cutting edge of 360-degree virtual reality, provide the user something that is truly one-of-a-kind and unforgettable. The fact that an ever-increasing number of travel companies and organisations are making use of this technology is a strong indicator that the industry as a whole has a prosperous future ahead of it.

Individuals may have the opportunity to travel to locations that are affected by terrorism or that are being fought against if they use a virtual platform. Imagine going on a trip to the restricted valleys in India's Jammu and Kashmir region. Tour operators can use virtual reality to deliver the most lifelike experience of travelling in a simulated environment.

The majority of travellers desire a great deal of information before making a reservation at a hotel. This could involve reading product descriptions, viewing product images, watching product videos, reading customer reviews, or soliciting feedback on social media platforms. Tour operators' strategic application of virtual reality can significantly quicken the pace of this process.

One of the most challenging things that hotel companies have to deal with is putting into action the marketing methods that have shown to be the most successful. Utilizing a virtual reality hotel tour as a means of advertising the additional features and services can be applied by hotel operators in J&K. Customers will have a better idea of what kind of experience to anticipate when hotels show them the available rooms to them thanks to this feature. An additional essential component to highlight is the fact that this kind of viewpoint can illustrate not only the dimensions of a given area but also the layout of the various areas on the property.

The use of virtual reality in marketing is the most common example of its application in the tourism industry. When it comes to marketing, tourism players must capture vacation spots in a way that is both memorable and entertaining is a powerful weapon. Traditional tourism is focused on making personal connections and having authentic interactions with other people. The experience of virtual reality, on the other hand, is completely unique. Virtual reality also has the potential to bring remote locations closer to visitors, encouraging them to adopt sustainable habits wherever they choose to go (or not go) in the future.

Mobile applications

The travel operator must also choose to incorporate certain features in mobile applications for tourists. They must include extra features in apps that give users access to crucial information, current weather conditions, especially in hill stations where it is often rainy and foggy there. The client or visitor would be informed beforehand whether to attend such areas or not. They can be used to tell visitors about the area's well-known eateries where they may eat and socialise with their loved ones.

Customers must be able to utilise certain apps to compare the varying rates of numerous hotels and resorts in the specified location. Additionally, apps must allow customers to compare the flight or other travel costs that the holiday reservation claims to include.

Tour operator can make their operations easy as such applications can quickly and easily supply visitors with information, maps, and timetables. It can even provide real-time route detours, schedule changes, and promotions. As a result of real-time access to pertinent information, tourists can change or reorganise their travel schedules for a more pleasurable and economical experience.

Mobile applications can be used to make unique offers, promotions, and sell services and goods, which can help generate more revenue.

It can also be used to gather essential data and information, such as demographics, interests, and preferences about the customers. They can be used to evaluate the relevancy of the services which may improve future visitor experiences, optimise apps and brands, boost the likelihood of success, and enhance the user experience. The use of mobile applications should be done to obtain direct customer feedback in order to avoid negative publicity.

Mobile apps have several benefits to offer businesses, one of which is a reduction in the use of paper-based procedures. These require a lot of work and are ineffective. The current era of digital technology is process-driven and fully digitalized. As a result, it is imperative that tour operators keep up with the times and offer clients and consumers better services and support.

Technological Infrastructure

The government and other tourism stakeholders should strive to promote and enforce a technological environment that is predictable, minimum, consistent, and as easy as possible. This also avoids the creation of unnecessary impediments to digital infrastructure required for tourist businesses. Implementing online procurement by the government, facilitating e-transformation in tourism sectors, and improving the legal and regulatory framework are three of the most important policy priorities. In conclusion, the government could support the expansion of tourism related technology in a variety of ways, including through planning, the establishment of a legal and regulatory framework, the construction of capabilities in information technology infrastructure, the formation of skills and the planning of manpower, and the implementation of promotional and incentive measures. There should be an active proliferation of information and communication technologies that will profoundly affect the tourism economy by fostering the development of new business connections and opportunities that cut across geographical boundaries, as well as the boundaries between different business sectors (Hojeghan & Esfangareh, 2011).

The tourist industry relies heavily on information, making information and communications technology (ICT) an essential factor for developing nations in organising and promoting their tourism products. ICT have completely changed the historical trading structures of the industry, and it's possible that the commercialization of the internet has resulted in the most dramatic changes of any of these technologies. There is no industry that has been more profoundly impacted by the so-called "technology revolution" than the tourism industry. Not only have advancements in information and communications technology made it

simpler for developing nations to market and distribute their goods and expand their customer base, but they have also made it less difficult for stakeholders to gain access to data on markets and management, to exchange information, and to form business alliances. It is much simpler for nations with developing economies to exchange information with one another and to foster cooperation among many stakeholders if they promote the growth of e-business practices in those economies.

ICT's have become one of the most effective methods for correcting the imbalance between competing destinations in the global market. Indeed for many tourism industry sectors and tourism items, marketing and selling via the Internet is fast becoming the accepted and preferred technique. In many developing countries, most offline and online marketing and distribution services have traditionally been provided by service providers based in developed countries due to the high costs involved and the lack of local ICT providers and facilities. This is primarily because of the lack of local ICT providers.

Understanding the benefits of ICT-related infrastructure in the tourist sector and implementing efficient e-business solutions has, in many developing countries, become a priority for tourism providers and public bodies at national regional and community levels. Policy makers and businesses in the tourism sector need to have a solid understanding of the consequences of recent breakthroughs in information and communications technology (ICT) and the significance of their role in building and preserving a robust and sustainable tourism economy.

In order to support the necessary human and physical infrastructure and to introduce and adopt measures to ensure equitable access and widespread capability to make maximum use of ICT's, it is now essential to make ICT and e-development strategies an integral part of policy planning. This is the case in order to support the necessary human and physical infrastructure.These strategies for information and communications technology (ICT) and electronic development need to take into account the following issues:

- Enabling Environment, Human Capacity, and Global and National Governance
- Policy Implications include E-tourism plans which should be incorporated into the broader framework of national ICT Policies
- The role and contribution of Public Authorities in providing infrastructure and human capacity and encouraging the use of ICT's related to tourism.
- Identify and include tourism niche items that can be readily and cost effectively promoted and managed using information and communication technologies (ICTs) in national tourism development plans in order to boost the appeal, uniqueness, and competitiveness of the destination.
- Facilitate the use of information and communications technology (ICT) by small and medium-sized enterprises (SMEs) and consumers, notably those living in rural regions, by making ICT-related solutions affordable.
- Hold regular consultative meetings and exchange information with other locations to create suitable ICT strategies and implementation plans and schedules.
- In order to maintain their position as competitive players in the ever-evolving and increasingly cutthroat global tourist market, developing nations need to implement information and communications technologies (ICTs), as well as the accompanying business processes and managerial capabilities.
- The positive impact that information and communications technologies have on the tourism sector of a developing nation is contingent on the existence of an ICT environment at the national level that takes into account a variety of factors, such as access, infrastructure, education, capacity building, and legal framework (Hojeghan & Esfangareh, 2011).

Managing Technological Risk

Tourists' information risk and privacy concern related to ICT applications must be managed for the successful running of business operations. This is true in the context of mobile advertising, social media advertising, virtual reality and in the context of online hotel booking. When adopting and developing ICT based applications in the tourism destination, the service providers in tourism destinations should take appropriate measures to alleviate this worry. These measures should be taken in order to make the destination more user-friendly. They should always emphasise and guarantee confidentiality and create more user-friendly applications with manuals and user guides with different language options. This can be accomplished by providing improved security and privacy settings for the tourist. Additionally, they should always emphasise and guarantee confidentiality.

On the other hand, evidence suggests that information control is positively associated with trust. Users should be able to accept or decline for their information to be used in software applications used in the destination. Users should also understand how and why their information is used. This control should be developed in collaboration with software developers by the destination managers, service providers, and other stakeholders in the smart tourism destination.

In addition, the findings of this study have demonstrated that both concerns regarding privacy and risks to privacy can be reduced depending on the environment in which they are used. The value of personal information and technology in smart tourist destinations should be highlighted more by destination businesses. For example, if the service provider were to explain to the tourist how their location data could be used to direct them back to their starting point in the event that they became disoriented, this would alleviate some of the tourist's privacy concerns regarding the collection of their location data (Afolabi et al., 2021).

In addition, the findings of this research have important repercussions for service providers in terms of the use context of technology adoption. When it comes to making use of ICT applications, service providers have a responsibility to monitor the actions and patterns of tourists. They need to take into account the time, the availability, the place, the convenience, as well as the social and environmental elements that affect the way travellers use applications. Because of this, they will be better able to deliver adverts, warnings, and customising options that are not bothersome to the tourists. They may also be able to grasp the difficulties that tourists encounter while attempting to use location-based services provided by mobile applications in a variety of settings (Kim et al., 2019).

Last but not least, the findings demonstrated that trust in the location-based service provider is positively associated to both trust in the destination and behavioural intention. Trust in the service provider would lead to trust in the destination, which in turn would lead to good behaviour intentions. This highlights the importance of service provider trust in a smart tourism destination.

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