

Project Dissertation Report on
Technological Advancement & Innovations in
Hospitality and Tourism in India

Submitted By
Yash Saini
2K21/DMBA/145

Under the guidance of
Mr.Mohit Beniwal
Assistant Professor



DELHI SCHOOL OF MANAGEMENT
DELHI TECHNOLOGICAL UNIVERSITY
Bawana Road, Delhi - 110042

CERTIFICATE

This is to certify that Yash Saini (2K21/DMBA/145) has submitted the Major Research Project titled '**Technological Advancement & Innovations in Hospitality and Tourism in India**' in partial fulfillment of the requirements for the award of the degree of Master of Business Administration (MBA) from Delhi School of Management, Delhi Technological University, New Delhi during the academic year 2022-23.

Name of Faculty Mentor

Mr. Mohit Beniwal

(Assistant Professor)

Name of HOD

Dr. Archana Singh

Name of Student : Yash Saini

University Enrolment: 2K21/DMBA/145

DECLARATION

I, Yash Saini, student of Delhi School of Management, Delhi Technological University hereby declare that the Major Research project on ‘**Technological Advancement & Innovations in Hospitality and Tourism in India**’ submitted in partial fulfillment of the requirements for the award of the degree of Master of Business Administration (MBA) is the original work conducted by me. I also confirm that neither I nor any other person has submitted this project report to any other institution or university for any other degree or diploma. I further declare that the information collected from various sources has been duly acknowledged in this project.

Yash Saini

2K21/DMBA/145

ACKNOWLEDGEMENT

My sincere thanks and gratitude goes to Mr. Mohit Beniwal, my faculty guide, who helped me in clearing all the necessary doubts regarding the Major Research Project. It was a pleasure working under his guidance and support. I would express my sincere thanks to all faculty members of Delhi School Management, DTU for being supportive and making me capable enough to fit in the professional working environment.

Yash Saini

2K21/DMBA/145

EXECUTIVE SUMMARY

Innovation in the Travel and tourism Industry is a relatively underexplored area. The advent of internet and online websites and reduced costs of commute over the last 5 decades has led to an ever increasing demand for travel, tourism and hospitality services. This paper aims to analyze the scope and potential of three major transformational innovations in this thriving industry. The paper also tries to understand the changing preferences of Indian respondents towards new travel management techniques and online websites. The results show a strong reliance on conventional methods of booking flight, train and hotel tickets through travel agents. The paper digs deep into the literature review and suggests possible reasons for these findings.

There is a strong correlation between various factors related to the choice and preferences of respondents for online websites and travel agents, modes of commute, purpose of travel and accommodation. The correlation matrix helps understand the nature of preferences and offers meaningful insights on demographic characteristics of the respondents.

The author has accumulated primary data as well as secondary data from the world bank to conduct a mix of qualitative and quantitative research. To increase the reliability of the study, z tests and Cronbach alpha test is performed over the primary data. The paper also provides a further scope of study to explore the higher reliance of women on travel agents for managing their travel and hospitality services.

Finally, the paper concludes that the travel and tourism business in India is still at a growing stage and has a lot of potential. However, the innovations and disruptions need to be tailored to the lifestyle and mindset of Indian customers in order to reap the benefits. The market is competitive, however startups will not be affected severely if they do not incorporate innovations like VR, Smart luggage and voice control in their business model.

Even though frequently traveling Indians tend to prefer travel agents for tour management, there is an increasing visibility of website reliability amongst the young population. The demand for online modes of tour management seems rigid too. Which implies, the inevitable need to include online websites and applications in the business models of travel startups.

TABLE OF CONTENTS

Contents

CERTIFICATE	ii
DECLARATION	iii
ACKNOWLEDGEMENT.....	iv
EXECUTIVE SUMMARY	v
TABLE OF CONTENTS	vi
CHAPTER I.....	1
Introduction	1
1.1 Background	1
1.2 Objectives.....	4
1.3 Problem statement	4
1.4 Scope Of Study	5
CHAPTER II.....	6
Literature Review	6
CHAPTER III.....	12
Research Methodology	12
CHAPTER IV	15
4.1 Data Analysis	15
4.2 Findings and Recommendations	23
4.3 Limitations of the Study	29
CHAPTER V	30
Conclusion	30
References	32
Annexure	33

THIS PAGE IS LEFT BLANK INTENTIONALLY

CHAPTER I

Introduction

1.1 Background

Five decades ago, travel in India was mainly confined to domestic travel, with very few international travelers. The process of booking train tickets was laborious and a manual process, as there were no online booking portals or travel agents. People would have to go to the train station in person and wait in long queues to purchase tickets. Alternatively, an expensive way was to book tickets through a travel agency or through a post office. The process of booking tickets was also quite complex, as there were multiple classes of tickets with different prices and availability. The transportation options were mainly limited to rail and road, and there was not much infrastructure and amenities available. Air travel was just beginning and had limited options and capacity.

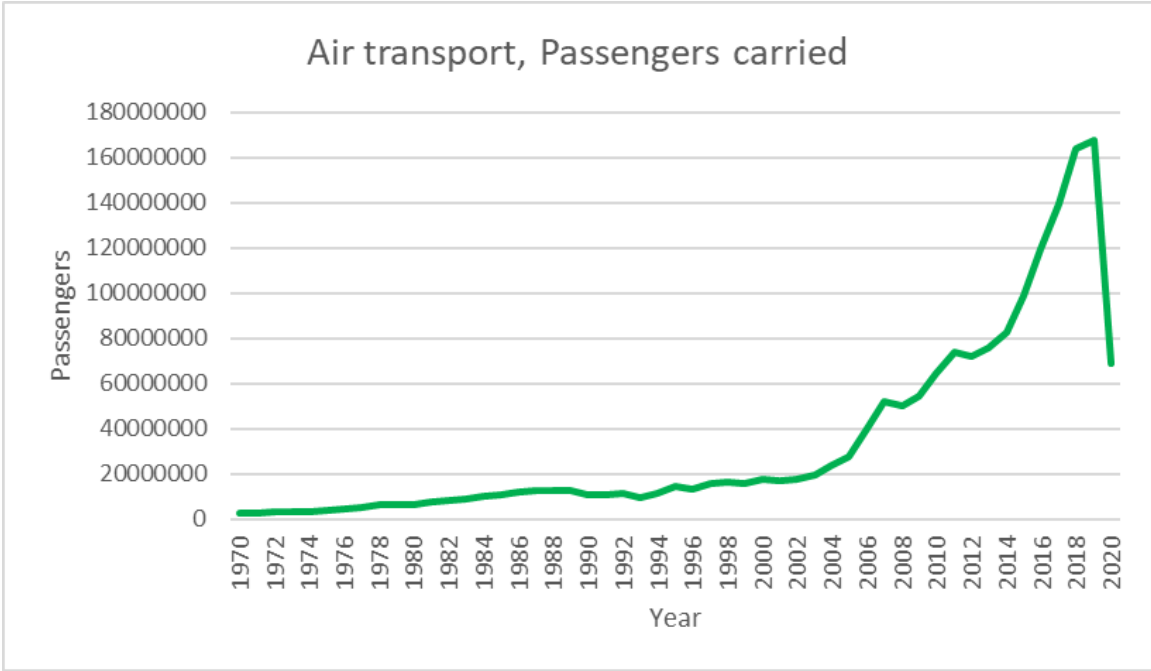
Fig 1. Shows the number of domestic and international passengers carried by air carriers registered in India from 1970 to 2020. Clearly Air travel has seen an exponential growth in 5 decades. The sudden downfall of passengers in the year 2019 can be attributed to the pandemic and travel restrictions. Interestingly, Indian air carriers have been amongst the top 10 nations in terms of passengers carried since the 1970s!

As per the data retrieved from the World Bank, top 10 countries with the most aircraft passengers (domestic and international) in the year 1970 were Switzerland, Brazil, Colombia, Mexico, Netherlands, India, Sweden, Norway and Philippines, respectively. In 2020, the top 10 countries were China, the United States, India, Ireland, Japan, Brazil, Turkiye, Indonesia, Mexico, and Vietnam. Number of passengers carried by Indian air carriers since 1970 has increased by 24%. In 1970, India accounted for 1% of the world's total air passengers carried and this percentage has increased to 4% in the year 2020 (Table 1 and 2, Appendix).

Indian Railways have also been a significant contributor to the transportation industry since the last 2 decades. In the year 2000, Indian railways carried the 2nd most number of passengers followed by Japan, Russia, France, Germany, Egypt, Ukraine, Korea, Italy and UK. However, Chinese railways carried the most passengers in the world in the year 2000 as well as 2021. In 2021 too, India stood at the 2nd rank followed by Russia, France, Italy, Spain, Poland, Switzerland, Iran, Netherlands, and Turkiye (Table 3 and 4, Appendix).

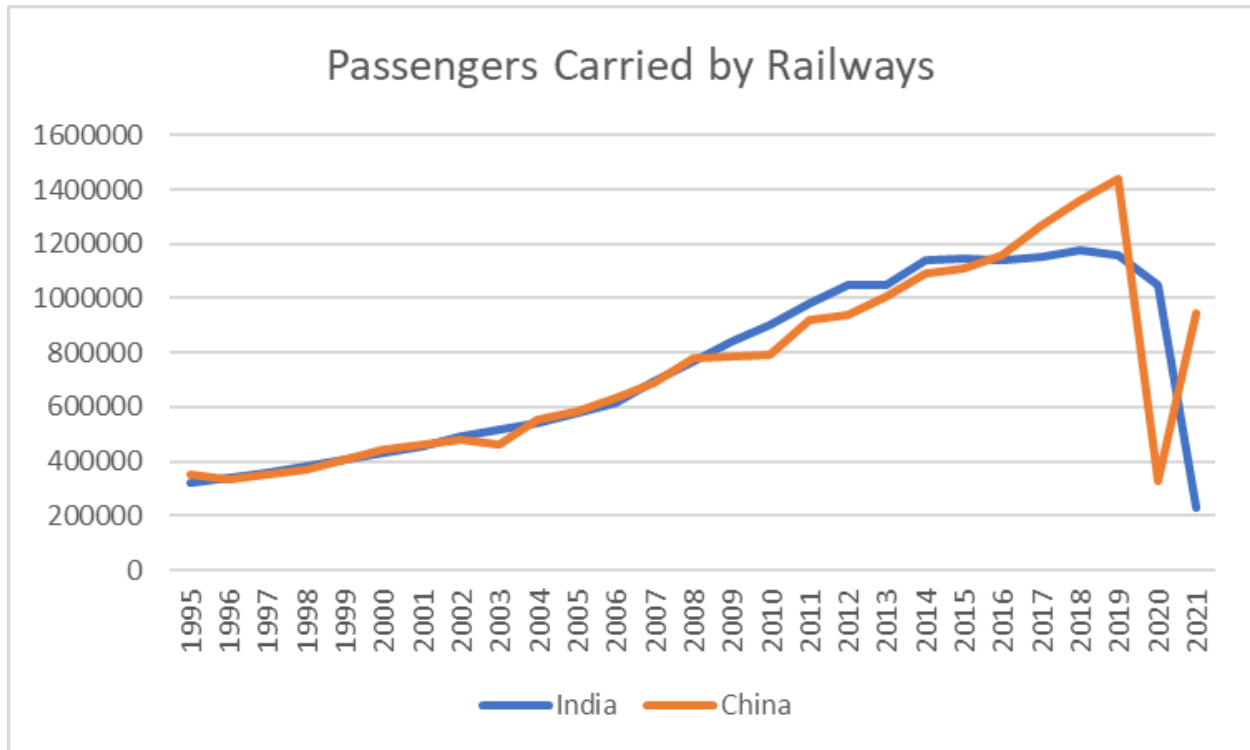
The trend of India and China’s railway passengers is quite interesting and worth noting. Fig 2 shows the increasing trend of Chinese and Indian railway passengers since 1995. In 2015, Passengers carried by Chinese railways surpassed Indian Railway passengers in numbers and this gap kept increasing till the year 2019. During the pandemic (Post 2019), Number of Indian railway passengers saw a huge dip, even lower than the number of passengers in the year 1995! However, Passengers carried by Chinese railways started increasing after the year 2020. The gap between the number of passengers carried by these two countries has massively increased in the past 3 decades. This indicates the need for innovation and government intervention in this market to make it more competitive.

Fig. 1.1



Source: Author’s compilation from The World Bank’s dataset

Fig 1.2



Source: Author's compilation from The World Bank's dataset

This analysis clearly shows the rising number of domestic and international travelers, worldwide. The increasing demand for traveling services is very much visible. The transformation of this industry in the last 5 decades is driven by this rising demand. 50 years ago, there were fewer hotels which were mostly of lower quality. Tour operators were few, with no idea of packaged tours. The industry was largely unregulated, making it less organized and structured than it is today.

1.2 Objectives

- 1.To examine the impact of technological advancements on hospitality and tourism in India.
- 2.To investigate the potential of innovative hospitality and tourism services in India.

1.3 Problem statement

Sustainability and innovation are the key drivers of growth in any industry. Most of the industries and businesses are inculcating technological advancements and innovations in order to develop and grow into a sustainable competitive business. For example,

Walmart has used technology to improve its business operations and customer experience. Robotics, virtual reality, and artificial intelligence have been used by the retail giant to automate tasks, optimize inventory management, and provide personalized recommendations to customers. Food giant McDonald's has integrated technology and innovation into its business operations in order to improve customer experience and operational efficiency. To provide customers with a more seamless experience, the fast-food chain has implemented self-order kiosks, mobile ordering, and delivery services. Automobile company Ford has been incorporating technological advancements into its products and services to improve them. The automaker has been working on electric and self-driving vehicles, utilizing data analytics and artificial intelligence to improve vehicle safety and customer experience. Renowned Hotel Chain, Marriott International has been enhancing the guest experience and streamlining operations through the use of technology and innovation. To provide a personalized and seamless experience for its guests, the hotel chain has implemented mobile check-in, keyless room entry, and virtual reality tours of hotel rooms. A Soft drink leading player Coca-Cola has used technology and innovation to improve its product offerings and increase customer engagement. For example, the company has launched smart vending machines that can personalize drink recommendations based on customer preferences, as well as a mobile app that provides customers with personalized promotions and rewards.

Despite the rapid advancement of technology in India's hospitality and tourism industries, there is a lack of understanding of the industry's actual impact. Furthermore, there is a need to investigate the potential of innovative hospitality and tourism services to help the industry grow. As a result, the purpose of this study is to look into the impact of technological advancements and the potential of innovative hospitality and tourism services in India.

1.4 Scope Of Study

The travel and tourism industry is a significant contributor to economic growth all over the world. Uncountable studies and research has been done to find Opportunities, challenges, threats, digital revolution and scope of innovations in this industry. Not many studies have been conducted to discover the potential of innovations in the Indian travel industry while focusing on the role of startups and SMEs in doing so. The current study is an attempt to find the potential of technological advancement and innovations in the hospitality and tourism industry in India through startups. This study can be further extended to find the reliance of women travelers on the travel agents to get the personalized travel experience.

CHAPTER II

Literature Review

Business Model: Innovation in Tourism: Opportunities and Challenges¹:

The Sage Handbook of Tourism Management offers a detailed- overview of the field, exploring the opportunities and challenges of business model innovation in the tourism industry. It covers topics such as customer behavior and preferences, marketing and branding, digital technology, financial management, and future trends. The authors, Hjalager and Madsen, discuss the importance of innovation in the tourism sector, and how to apply creative business models to create competitive advantages. They also discuss the opportunities and challenges associated with the development of new business models, such as the need to build strong customer relationships, the potential for increased competition, and the need for strategic decision making. Lastly, they provide a range of case studies to illustrate the application of the principles discussed.

The Digital Revolution in the Travel and Tourism Industry²:

This paper looks at how online platforms affect the amount and quality of user-generated content (like reviews and photos) related to tourism. It found that providing incentives and tools like gamification elements, leaderboards, and rewards for engaging with the platform increases the quantity and quality of user-generated content. Other examples of user incentives may include discounts, rewards, or points for creating and/or sharing content. The findings suggest that online platforms related to tourism should offer incentives and tools to encourage users to create high-quality content.

Innovation in Hospitality and Tourism industry³:

This paper examines the potential of innovation in the hospitality and tourism industries. The authors discuss how technology, data analytics, and customer experience can be used to create new products and services that can benefit customers and businesses. The authors found that the industry is open to new ideas and that there is an opportunity to capitalize on them. However, they

also highlight some of the limitations of innovation in the hospitality and tourism industries, such as the lack of resources, the need for collaboration between stakeholders, and the difficulty of predicting the outcomes of innovation initiatives. The authors use several examples to illustrate the potential of innovation in the hospitality and tourism industries. They discuss how technology can be used to improve the customer experience, such as providing personalized recommendations or offering mobile payment options. They also suggest that data analytics can be used to improve operational efficiency, such as predicting customer demand or optimizing pricing strategies. Furthermore, they explore how innovation can be used to create new products and services, such as virtual reality experiences or augmented reality tours. The authors conclude that the hospitality and tourism industries are ripe for innovation, and that there are numerous opportunities to capitalize on them.

Tourism towards sustainability and innovation: A systematic literature review⁴:

The authors of this paper conducted a systematic literature review to examine the literature on sustainable tourism and innovation. The authors found that although sustainable tourism and innovation have been the focus of several studies, there is still a lack of integration between the two topics. The authors found that sustainable tourism offers a range of opportunities for innovation such as improving local infrastructure, developing green initiatives, and promoting sustainable practices. Furthermore, the authors identified a lack of research addressing the challenges and opportunities already existing in the tourism industry. Examples of sustainable tourism initiatives used by the authors included an integrated approach to sustainable tourism in the Azores, an eco-tourism park in the United States, and sustainable accommodation in Portugal. The authors concluded that there is a need for further research on the integration of sustainable tourism and innovation in order to promote sustainable development.

Tourism and corporate social responsibility: A critical review and research agenda⁵:

This paper reviews existing research on the relationship between tourism and corporate social responsibility (CSR), and proposes a research agenda to further explore the topic. It suggests that further research is needed to define the role of tourism businesses in CSR, analyze how CSR initiatives can be implemented in tourism, and to explore how CSR initiatives can be used to create positive impacts in tourism destinations. The paper concludes that more research is needed to better

understand the role of tourism businesses in CSR, and how CSR initiatives can be used to create positive impacts in destinations. Additionally, it suggests that the tourism industry should focus on developing effective strategies for implementing CSR initiatives.

Knowledge transfer and management in tourism organizations: An emerging research agenda. Tourism management⁶ :

This paper explores the importance of knowledge transfer and management within the tourism industry, and suggests an emerging research agenda to further explore the topic. The authors discuss the concept of knowledge transfer and the importance of building knowledge networks and communities, and outline the challenges of knowledge transfer in tourism, such as the lack of understanding of the concept in the industry, and the need for better communication and technology. Finally, the authors discuss the potential research topics related to knowledge transfer and management in the tourism industry, such as the impact of knowledge transfer on organizational performance, and the development of effective strategies for knowledge transfer.

Customer Preferences for Online, Social Media, and Mobile Innovations in the Hospitality Industry⁷:

This paper examines customer preferences for online, social media, and mobile innovations in the hospitality industry. The authors used a survey of hospitality customers to determine the most preferred innovations and the degree to which they were adopted. They found that online and social media innovations were the most preferred, with mobile innovations lagging behind. The study indicates that the hospitality industry should focus on online and social media initiatives to better meet customer preferences.

Sustainability in hospitality and tourism: a review of key research topics from 1994 to 2020⁸:

This paper provides an elaborative review of key research topics on sustainability in hospitality and tourism from the year 1994 to 2020. It studies the literature on topics such as the role of sustainability in hospitality and tourism, environmental management practices, sustainability marketing, customer perspectives, and the impact of technology on sustainability. Authors also identify key research gaps in the field and provide suggestions for future research for example, the

lack of an integrated approach to sustainability, the need to develop more effective sustainability management systems, the need to better understand customer perspectives on sustainability, and the need to examine the impact of technology on sustainability. Other research gaps identified include the need for more comprehensive research on the economic, social, and environmental consequences of sustainability in hospitality and tourism, and the need to develop more effective sustainability policies and strategies.

Over the past two decades, the travel industry has undergone significant transformations, largely due to technological advancements and the proliferation of high-speed internet. The once prevalent practice of relying on local travel agents and guidebooks has been replaced by a more independent and digitally-driven approach.

At the turn of the 21st century, the internet was still in its early stages of development, and booking travel arrangements online was a novelty. However, as technology has advanced and the internet has become more accessible and affordable, the travel industry has undergone a significant transformation. Today, travelers can book their flights, hotels, and rental cars directly through websites and apps, cutting out the need for travel agents.

One of the most significant impacts of technological advancements on the travel industry has been the rise of online marketplaces, such as Airbnb and Booking.com. These platforms have enabled travelers to book unique and affordable accommodation options, such as staying in a local's house, rather than relying on traditional hotels. This shift has given rise to a more authentic and personalized travel experience for many travelers.

The availability of high-speed internet has also enabled travelers to access a wealth of information and resources while on the go. With smartphones and tablets, travelers can quickly search for local attractions, restaurants, and events, all while connected to the hotel's Wi-Fi. Additionally, social media platforms have enabled travelers to share their experiences and recommendations with others, creating a vast network of trusted and authentic travel advice.

The use of the internet and technology has revolutionized the tourism industry in recent years. The World Tourism Organization (2001) recognized the significance of the internet in the tourism sector, stating that it is an ideal partner for the industry.

The internet has become an integral part of the tourism industry, providing tourists with the information they need to plan their trips. In the 21st century, tourists have access to increasingly sophisticated sources of information, enabling them to make more informed decisions about their travel plans. The internet has also made it easier for tourists to research and book their travel arrangements, making the process faster, cheaper, and more independent.

Liberato et al. (2017) found that tourism agents who utilize the internet are more competitive, as they are preferred by users who value the convenience of independently booking their travel arrangements. The promotion of technology in the tourism sector, including the use of sophisticated search engines and websites, is essential for the management of the industry. Investment in the professionalization of human resources, with a focus on enhancing technological skills, is crucial for tourism enterprises to remain competitive in the ever-changing digital landscape.

An increasing number of countries have recognized the importance of tourism development, investing in the industry to reap its socio-economic benefits. Tourism is a key driver of socio-economic progress, contributing to the creation of jobs and enterprises, infrastructure development, and export revenues. Thus, it has become essential for countries to prioritize tourism development, both as a source of economic growth and a means of enhancing their national identity and cultural heritage. (Lorente Bayona, Laura Vanesa & Ruiz-Rua, Aurora. (2019))⁹

The COVID-19 pandemic has dramatically changed the working landscape, with an increasing number of people working from home. This shift has not only impacted employees in the travel industry but also travelers.

Flexible working has allowed employees in the travel industry to have more control over their lives and work, enabling them to plan and travel more often. The ability to work while traveling has become a reality, making it easier for individuals to mix work and play. This trend is expected to increase the number of people traveling more frequently and for more extended periods, which is positive news for the travel industry and those seeking jobs in the tourism sector.

Technology has played a vital role in enabling employees in the travel industry to work from home while remaining connected to their office and customers. With the use of innovative technology, workers can now connect with customers and resolve any issues they may have in real-time, resulting in better services. The availability of better communication tools and improved connectivity has transformed travel and tourism sector jobs, enabling workers to be more productive and efficient.

Working from home is expected to have a positive impact on the travel industry, with more people traveling and taking advantage of remote work opportunities. The industry is all set to see a boost in the number of travelers, better connectivity with customers and employees, and better services. With the availability of remote jobs, individuals can work from anywhere, contributing to the growth of the tourism sector and creating more job opportunities.(The Benefits of Working Remotely in Travel and Tourism Sector Jobs. (2022, October 26))10

CHAPTER III

Research Methodology

This study is a combination of a qualitative and quantitative analysis. To gain an in-depth understanding of technological advancements in the tourism and hospitality industry in India, a thorough literature review is conducted. For quantitative analysis, surveys are used to collect data on the usage of technology and innovative services in this industry. This study is explanatory. It will explore the impact of technological advancements on hospitality and tourism in India, as well as the potential of innovative hospitality and tourism services in India.

The Questionnaire used to collect quantitative data is divided in 3 sections. Section 1 intends to collect the demographic information of the respondents which includes Age, Gender, Profession, and Income. It is important to sample respondents who represent every relevant class of these factors. It is assured that the data is normally distributed across demographic variables.

Section 2 collects the customer behavior and preferences for traveling. The purpose of this section is to understand the traveling behavior of respondents. To answer questions related to the frequency of their travel, choice of commute, reason of travel, i.e. work or leisure, dependency on travel agents, and preference for website bookings, Likert scale is used in this section. Careful data analysis is done to mark out irrelevant responses with contradictory answers.

Section 3 is to understand the scope of innovations in the travel industry to predict their inclusion in the business models of travel startups. 3 significant innovations in the travel and hospitality industry are identified after a thorough literature review and by hands on experience of working in a travel based startup - Voice search, Smart luggage tracking and VR(Virtual Reality). For each innovation, 4 questions are asked after explaining the innovation, its utility and benefits. A few questions are not mandatory to imply the unlikelihood of the respondent's understanding of the innovation. For example, if a person has never used VR, it would not make sense to capture their experience rating on a likert scale.

The mathematical tools used for quantitative analysis are Z test, correlation matrix and a few descriptive statistics. Toolpack used is MS Excel.

Research questions

Following research questions are used to frame the first objective: To examine the impact of technological advancements on hospitality and tourism in India.

1. What technological advancements have been made in the hospitality and tourism industry in India?
2. How have these technological advancements impacted the hospitality and tourism industry in India?
3. What are the benefits of technological advancements for hospitality and tourism businesses in India?
4. What challenges have arisen from the implementation of technological advancements in the hospitality and tourism industry in India?
5. How can hospitality and tourism businesses in India use technology to improve customer experience?
6. What are the potential risks associated with the use of technology in the hospitality and tourism industry in India?
7. How can the hospitality and tourism industry in India best leverage the use of technology to maximize profitability?
8. What are the best practices for using technology in hospitality and tourism to ensure customer satisfaction?
9. How can the hospitality and tourism industry in India ensure the security of customer data when using technology?
10. What are the future trends in technology that will shape the hospitality and tourism industry in India?

To answer the second objective - To investigate the potential of innovative hospitality and tourism services in India, following research questions are considered:

1. What types of innovative hospitality and tourism services are currently popular in India?
2. What challenges exist for entrepreneurs looking to implement innovative hospitality and tourism services in India?
3. What types of innovative hospitality and tourism services have been successful in India?
4. What opportunities are there for businesses to leverage new technologies in the hospitality and tourism industry in India?
5. How has the changing economic landscape in India affected the hospitality and tourism industry?
6. What impact do regulatory and policy changes have on the implementation of innovative hospitality and tourism services in India?
7. What strategies have been used to successfully promote innovative hospitality and tourism services in India?
8. What marketing techniques have been used to increase the visibility of innovative hospitality and tourism services in India?
9. How have consumer preferences and demands changed in the Indian hospitality and tourism industry?
10. What trends in the Indian hospitality and tourism industry have the potential to drive innovation?

CHAPTER IV

4.1 Data Analysis

Cronbach Test

Alpha Coefficient Range	Strength of Association
<0.6	Poor
0.6 to < 0.7	Moderate
0.7 to < 0.8	Good
0.8 to < 0.9	Very Good
0.9	Excellent

Sources: Hair et.al (2003); Essential of Business Research Method.

Scale: TravelAgentsPref

Case Processing Summary

		N	%
Cases	Valid	93	73.8
	Excluded ^a	33	26.2
	Total	126	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.845	7

Scale: WebsitesPref

Case Processing Summary

		N	%
Cases	Valid	120	95.2
	Excluded ^a	6	4.8
	Total	126	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.828	3

Cronbach alpha test confirms the reliability of consistent answers across the two variables – Preference for travel agents and preference for websites. For the first variable, following factors are taken into consideration ;

- Preference of booking train tickets through a travel agent.
- Preference of booking flight tickets through a travel agent.
- Preference of booking accommodation (hotels/resorts/etc.) through a travel agent.
- Travel agents for domestic tour package
- Travel agents for international tour package
- Travel agents for business tour (If applicable)
- Travel agents for leisure tour

Second variable consists of the following factors ;

- Websites to book your train tickets

- Websites to book your flight tickets
- Websites to book your accommodation (Hotels/Resorts/etc.)

Z Test

Fig 4.1

Average score:	14.39167			
Average population score(Claim):	14			
Standard dev	4.833872			
Z score:	0.081025			
Z critical at 5% alpha	1.65			
H0:	Average preference score for innovations = 14			
Ha:	Average preference score for innovations > 14			
P value:	0.467			
Mode:	11			

Source : Primary Data

On an average, respondents scored their preference for innovation in the travel and hospitality industry as 14.39. Maximum score given to the innovations is 22 and minimum recorded score is 5. Even though the average preference is a little higher than 14, it is not enough to claim that on an average people's preference score for innovations in the travel industry is greater than 14. A z test is conducted to test the hypothesis -

Ho: Average preference score for innovations =14 and Ha: Average preference score for innovations > 14

At a 5% significance level Z Critical is -1.65. Given the average score of 14.39 and Standard deviation of 4.833, Z stat is calculated as 0.08103. Clearly, Z stat is lesser than Z critical, indicating evidence against the alternative hypothesis. P value of 0.46 (greater than 0.05) indicates there is a huge probability that the mean of 14.39 is just by chance and there is not enough evidence to support our hypothesis - the average preference score of people in India is greater than 14.

Mode of the data is 11 , meaning that the most respondents score their preference towards innovations in the travel industry as 11 out of 22. The average score of 14 .39 is because of the extreme scores.

Current study could evaluate only 121 respondents. Sample size could be increased and made more inclusive of people across India to test the hypothesis again.

Fig 4.2

Voice Control				
Average score:	4.358333			
Average population score(Claim):	4			
Standard dev	2.02005			
Z score:	0.177388			
Z critical at 5% alpha	1.65			
H0:	Average preference score for voice control is = 4			
Ha:	Average preference score for voice control is > 4			
P value:	0.429			
Mode:	5			

Source : Primary Data

On an average, respondents scored their preference for the use of Voice control in the travel and hospitality industry as 4.35 .Maximum score given to the innovations is 7 and minimum recorded score is 0. Even though the average preference is a little higher than 4, it is not enough to claim that on an average people's preference score for innovations in the travel industry is greater than 4. A z test is conducted to test the hypothesis -

Ho: Average preference score for innovations = 4 and Ha: Average preference score for innovations > 4

At a 5% significance level Z Critical is 1.65. Given the average score of 4.35 and Standard deviation of 2.02, Z stat is calculated as 0.177. Clearly, Z stat is bigger than Z critical, indicating evidence against the alternative hypothesis. P value of 0.46 (greater than 0.05) indicates there is a

huge probability that the mean of 4.35 is just by chance and there is not enough evidence to support our hypothesis - the average preference score of people in India is greater than 4.

Mode of the data is 5 , meaning that the most respondents score their preference towards innovations in the travel industry as 5 out of 7 . The average score of 4.35 is because of the extreme scores.

Fig 4.3

Smart luggage				
Average score:	3.44			
Average population score(Claim):	3			
Standard dev	1.635033			
Z score:	0.269108			
Z critical at 5% alpha	1.65			
H0:	Average preference score for voice control is = 3			
Ha:	Average preference score for voice control is > 3			
P value:	0.393			
Mode:	5			

Source : Primary Data

On an average, respondents scored their preference for the use of Smart Luggage Tracking System in the travel and hospitality industry as 3.44. Even though the average preference is a little higher than 3, it is not enough to claim that on an average people's preference score for innovations in the travel industry is greater than 3. A z test is conducted to test the hypothesis -

Ho: Average preference score for innovations = 3 and Ha: Average preference score for innovations > 3

At a 5% significance level Z Critical is 1.65. Given the average score of 3.44 and Standard deviation of 1.63, Z stat is calculated as 0.269 Clearly, Z critical is bigger than Z stat , indicating evidence against the alternative hypothesis. P value of 0.393 (greater than 0.05) indicates there is a huge probability that the mean of 3.44 is just by chance and there is not enough evidence to support our hypothesis - the average preference score of people in India is greater than 3.

Mode of the data is 5 , meaning that the most respondents score their preference towards innovations in the travel industry as 5 out of 5 . The average score of 3.44 is because of the extreme scores.

Fig 4.4

VR				
Average score:	7.08			
Average population score(Claim):	6			
Standard dev	2.9			
Z score:	0.372414			
Z critical at 5% alpha	1.65			
H0:	Average preference score for voice control is = 6			
Ha:	Average preference score for voice control is > 6			
P value:	0.354			
Mode:	10			

Source : Primary Data

On an average, respondents scored their preference for the use of Virtual Reality in the travel and hospitality industry as 7.08. Even though the average preference is a little higher than 6, it is not enough to claim that on an average people's preference score for innovations in the travel industry is greater than 6. A z test is conducted to test the hypothesis -

Ho: Average preference score for innovations = 6 and Ha: Average preference score for innovations > 6

At a 5% significance level Z Critical is 1.65. Given the average score of 7.08 and Standard deviation of 2.9, Z stat is calculated as 0.372 Clearly, Z critical is bigger than Z stat , indicating evidence against the alternative hypothesis. P value of 0.354 (greater than 0.05) indicates there is a huge probability that the mean of 7.08 is just by chance and there is not enough evidence to support our hypothesis - the average preference score of people in India is greater than 6.

Mode of the data is 10 , meaning that the most respondents score their preference towards innovations in the travel industry as 10 out of 10 . The average score of 7.08 is because of the extreme scores.

Fig 4.5

	Travel domestically	Travel Internationally	Travel outstation by road	Travel outstation by air	Travel outstation by train	Preference of booking train tickets through a travel agent.	Preference of booking flight tickets through a travel agent.	Preference of booking accommodation (hotels/resorts/etc.) through a travel agent.	Websites to book your train tickets	Websites to book your flight tickets	Websites to book your accommodation (Hotels/Resorts/etc.)	Travel agents for domestic tour package	Travel agents for international tour package	Travel agents for business tour (if applicable)	Travel agents for leisure tour
Travel domestically	1														
Travel Internationally	0.0875	1													
Travel outstation by road	0.2271	0.1183	1												
Travel outstation by air	0.0749	0.3474	-0.4319	1											
Travel outstation by train	-0.3772	-0.1298	-0.0429	-0.1854	1										
Preference of booking train tickets through a travel agent.	0.3479	0.4457	0.2319	0.1183	-0.0568	1									
Preference of booking flight tickets through a travel agent.	0.4198	0.4233	0.1097	0.2282	-0.2598	0.7828	1								
Preference of booking accommodation (hotels/resorts/etc.) through a travel agent.	0.4019	0.4086	0.2891	0.0882	-0.078	0.8324	0.7956	1							
Websites to book your train tickets	-0.3362	-0.3879	-0.1642	-0.2216	0.3846	-0.5271	-0.6612	-0.5042	1						
Websites to book your flight tickets	-0.1932	-0.2654	-0.1242	0.0966	-0.0292	-0.5476	-0.4984	-0.6368	0.5556	1					
Websites to book your accommodation (Hotels/Resorts/etc.)	-0.2146	-0.1885	-0.0286	-0.0857	0.111	-0.5384	-0.7053	-0.686	0.5827	0.7182	1				
Travel agents for domestic tour package	0.0412	0.2745	-0.0462	0.0467	0.167	0.4444	0.462	0.5132	-0.1773	-0.3992	-0.3474	1			
Travel agents for international tour package	0.1978	0.5638	-0.0757	0.2718	-0.0987	0.3295	0.5279	0.3768	-0.3322	-0.1741	-0.2931	0.4382	1		
Travel agents for business tour (if applicable)	0.2547	0.38	0.0767	0.3071	-0.1921	0.4553	0.5496	0.4252	-0.3955	-0.2488	-0.423	0.247	0.4459	1	
Travel agents for leisure tour	0.1557	0.2132	0.0394	0.0933	-0.0251	0.3956	0.4173	0.3533	-0.3623	-0.306	-0.3326	0.4472	0.3516	0.5163	1

Correlation Matrix

One of the objectives of this paper was to analyze the change in preference of Indians from conventional methods of managing their travel and tourism to online methods. This paper considers the following factors to capture the preference of respondents.

Booking through travel agents, online booking, domestic travel, international travel, travel for business, travel for leisure, travel by train, travel by air, travel by road, booking accommodation through travel agents and booking accommodation through online websites. The first two factors are clubbed to form the variable source of booking; next four factors explain the variable travel purpose ; the variable, mode of commute contains the factors; travel by train, travel by air, travel by road. The factor accommodation is explained by the last two factors.

A correlation matrix is constructed for all the factors to find meaningful inferences. As described by the heat map in figure 4.5 , a strong negative correlation is clearly visible between people's preference for online methods and their preference towards consulting travel agents for booking their tickets or accommodations. This result points towards a polarized preference. People who prefer to book their tickets and accommodations through websites rate their preference for travel agents poorly.

Another interesting result is that there is a strong positive correlation between people's preference for booking their accommodations through websites and booking their flying and train tickets through online methods. This means across all variables if people prefer online modes over travel agents their preference remains constant.

There is a strong positive correlation of 0.5132 between these two factors , preference towards booking tour packages through travel agents and preference of booking accommodation through travel agents.

There is again a strong positive correlation between people's preference to travel internationally and their preference towards travel agents to book their package; this result shows that the international travelers confine their trust in the travel agents. International travelers prefer to book their tour package and their flight tickets through the travel agents. This result is supported by a strong correlation of 0.52.

Travel agents are preferred to book flight tickets when respondents rate them above average for booking business tours. A positive correlation of 0.51 indicates if people tend to consult travel agents for leisure tours they go for the same mode of booking for their business travel as well.

Another polarized result is observed amongst people who prefer travel agents over online booking. People who often travel outstation by air do not often travel by road which is depicted by the strong negative correlation of -0.432.

Fig 4.6

Age		Gender	
30-35	6	Female	16
21- 25	2	Male	6
25-30	8		
35-40	4		
40+	2		

Income	
8,00,000 - 10,00,000	4
0 - 2,00,000	2
10,00,000 - 15,00,000	8
15,00,000 +	6
5,00,000 - 8,00,000	2

Source : Primary Data

Most frequent travelers , be it domestic or international, still prefer travel agents for booking packages, tickets and accommodation over online websites. This result can be observed in the correlation matrix's rows 6 to 11 and column 1 and 2.

Most of these frequent travelers are observed to be women between the age of 25 to 35. They lie under the income bracket of 10 lacs to 15 lacs per annum. The reliance of women on personalized mode of tour and travel management instead of online methods can be a scope of further study.

4.2 Findings and Recommendations

Findings:

Voice Control: Voice Control technology is new in India. Not many people are so tech savvy. Some may feel uncomfortable using their voice to control things in a public place. There can be a language barrier also while using voice control. Some tools can not understand the Indian accent and making it available in the regional languages is a costly affair. But there is a scope of this

innovation in the industry in the long term. It can assist the differently abled people and smoothen their travel experiences.

Smart Luggage Tracking System: The smart luggage tracking system is an expensive system. It relies on GPS and it can increase the overall travel budget of the price sensitive Indian travelers. This service can be obtained by the premium class travelers but it is going to be a challenge to make it a mass product or service in India.

Virtual Reality: Virtual Reality is a known innovation of recent times. It has been used in various fields already and its popularity is growing day by day. From gaming to Travel industry, people are using it . But in order to become a mass product and get economies of scale , it has to sail a long river. It is expensive to implement for the small Travel agents for now.

Recommendations:

1. Voice control technology can have a significant impact on the travel and tourism sector in India. Some potential areas where this innovation could be applied include:

1.1. Hotel room automation: With voice control technology, guests could use their voice to control various aspects of their hotel room, such as lighting, temperature, and entertainment systems. This could improve the overall guest experience and make their stay more comfortable.

1.2. Virtual assistants: Tourists could use voice-controlled virtual assistants to get information about local attractions, restaurants, and events. These assistants could provide personalized recommendations based on the user's preferences and help tourists plan their itinerary.

1.3. Language translation: India is a diverse country with many languages spoken across different regions. Voice control technology could be used to translate languages in real-time, enabling

tourists to communicate more easily with locals and making their travel experience more enjoyable.

1.4. Transportation: Voice control could also be used to control various aspects of transportation, such as booking a ride or navigating public transit systems.

Overall, voice control technology has the potential to enhance the travel experience for tourists in India by providing greater convenience, personalization, and accessibility.

While voice control technology has several benefits, there are also some potential downsides to consider, such as:

1.1. Privacy concerns: Voice control technology involves the collection of personal data, which could raise privacy concerns among some users. There is a risk that this data could be used for unauthorized purposes or accessed by hackers.

1.2. Technical issues: Voice control technology is still relatively new, and there could be technical issues that arise during its implementation. For example, the system might not recognize certain accents or dialects, which could lead to frustration among users.

1.3. Reliance on technology: Over Reliance on voice control technology could lead to a decrease in face-to-face interactions and human contact, which could negatively impact the overall travel experience.

1.4. Cost: Implementing voice control technology can be expensive, and smaller hotels or tourism companies might not have the resources to invest in this technology.

1.5. Accessibility issues: Not all tourists may be able to use voice control technology, such as those with hearing or speech impairments, which could create accessibility issues.

2. Virtual reality (VR) technology can have a significant impact on the travel and tourism sector in India. Here are some potential applications of virtual reality in the tourism industry:

2.1. Destination promotion: Virtual reality can be used to create immersive experiences of popular tourist destinations, allowing potential visitors to explore and get a feel for the location before they book their trip. This can help to attract more visitors to India's various tourist destinations.

2.2. Museum and historical site tours: Virtual reality can be used to create virtual tours of museums and historical sites, allowing visitors to explore and learn about these sites in a more engaging way.

2.3. Training: Virtual reality can be used to train travel professionals, such as tour guides and hotel staff, allowing them to learn and practice in a realistic virtual environment.

2.4. Entertainment: Virtual reality can be used to provide visitors with unique and exciting entertainment experiences, such as virtual reality theme parks, which can be an added attraction for tourists.

2.5. Accessibility: Virtual reality can provide a more accessible experience for individuals who may have physical limitations, such as those with disabilities or mobility issues, allowing them to experience travel and tourism in a more inclusive way.

While virtual reality has numerous potential benefits, there are also some potential downsides to consider, such as:

2.6. Technical limitations: Virtual reality technology is still relatively new, and there may be technical limitations that impact the quality of the virtual experience.

2.7. Cost: Implementing virtual reality technology can be expensive, particularly for small tourism businesses that may not have the resources to invest in this technology.

2.8. The need for high-quality content: Virtual reality experiences require high-quality content to be effective. Creating engaging and realistic virtual experiences can be challenging, and it requires skilled professionals with specialized knowledge and experience.

2.9. Accessibility: While virtual reality can provide a more accessible experience for some individuals, it may not be accessible for all, particularly those who have sensory issues or who are prone to motion sickness.

Overall, virtual reality has the potential to enhance the travel experience in India by providing immersive, engaging, and accessible experiences, but it is important to consider the potential downsides and address them proactively.

3. A smart luggage tracking system can have a significant impact on the travel and tourism sector in India. Here are some potential benefits and applications of this innovation:

3.1. Improved baggage handling: With a smart luggage tracking system, airlines and airports can more accurately track and manage baggage, reducing the risk of lost or misplaced luggage. This can improve the overall travel experience for passengers.

3.2. Personalized notifications: Passengers can receive personalized notifications about their luggage, such as when it is loaded onto the plane or arrives at the baggage claim. This can help to reduce anxiety and uncertainty about luggage whereabouts.

3.3. Increased security: A smart luggage tracking system can also increase security by allowing airlines and airports to track the movement of luggage more closely and identify any potential security risks.

3.4. Customer service: A smart luggage tracking system can improve customer service by providing passengers with real-time information about their luggage and enabling airlines and airports to respond quickly to any issues that arise.

3.5. Data analysis: A smart luggage tracking system can also provide airlines and airports with valuable data on luggage movement, which can be used to identify trends and improve baggage handling processes over time.

While a smart luggage tracking system has numerous potential benefits, there are also some potential downsides to consider, such as:

3.6. Technical issues: A smart luggage tracking system requires robust and reliable technology to function effectively, and technical issues can arise that impact the system's accuracy and reliability.

3.7. Privacy concerns: A smart luggage tracking system involves the collection of personal data, which can raise privacy concerns among some passengers.

3.8. Cost: Implementing a smart luggage tracking system can be expensive, particularly for smaller airlines or airports that may not have the resources to invest in this technology.

3.9. Compatibility issues: A smart luggage tracking system may not be compatible with all luggage types, which could create challenges for passengers who are using non-standard or older luggage.

Overall, a smart luggage tracking system has the potential to improve the travel experience in India by enhancing baggage handling, security, customer service, and data analysis, but it is important to consider the potential downsides and address them proactively.

4.3 Limitations of the Study

This study is subjected to the following limitations ; fewer number of respondents making it a smaller sample size , preference for limited time frame post covid which could change gradually as the world opens up. And , lack of geographical diversity amongst the respondents.

CHAPTER V

Conclusion

The travel and hospitality industry can incorporate sustainability and innovation in their business model in several ways, the industry can use technological innovation to reduce its environmental footprint, improve customer experiences, and streamline operations. For example, smart technologies can be used to manage energy and water consumption, digital platforms can be used to improve guest experiences and reduce paper usage, and data analytics can be used to optimize operations. To promote sustainability and innovation, the industry can work with stakeholders such as local communities, governments, and environmental groups. This can include partnering with local communities to promote conservation efforts, as well as engaging with policymakers to influence regulations and policies. It can adopt sustainable practices in their operations, such as reducing energy and water consumption, reducing waste, and using eco-friendly products. The industry can promote sustainable tourism practices, such as responsible and eco-friendly travel, conservation of natural resources and biodiversity, and support for local communities. It can adopt a corporate social responsibility (CSR) approach to sustainability and innovation. This can include setting sustainability goals, measuring and reporting on environmental impact, and engaging in philanthropic activities to support local communities and environmental initiatives. By adopting sustainable and innovative practices, the travel and hospitality industry can not only contribute to a more sustainable future but also improve the customer experience and increase profitability.

Also, the shift to remote work has had a significant impact on the travel industry, enabling employees to work from anywhere and travelers to take advantage of flexible work arrangements. The use of innovative technology has improved connectivity and communication, resulting in better services for customers. This trend is expected to continue, with the tourism sector set to experience tremendous growth in the coming years, creating more job opportunities and contributing to socio-economic development. The internet and technology have transformed the tourism industry, enabling modern-day tourists to access sophisticated sources of information and

book their travel arrangements independently. Tourism agents who utilize the internet become more competitive, and investment in technological skills is necessary for the industry's continued growth and success. As an essential driver of socio-economic progress, tourism has become a priority for many countries, which have invested in its development to reap its numerous benefits. The travel industry has undergone significant changes over the past two decades, largely due to technological advancements and the widespread availability of the internet. The once prevalent practice of relying on local travel agents and guidebooks has been replaced by a more independent and digitally-driven approach. Travelers can now book their travel arrangements directly, choose unique accommodation options, and access a wealth of information and resources while on the go. These developments have given rise to a more authentic, personalized, and connected travel experience for many. The women traveler rely on travel agents for their travel arrangements.

References

- 1) Hjalager, A. M., & Madsen, E. L. (2018). Business model innovation in tourism: Opportunities and challenges. IC Cooper, S. Volo, WC Gartner, & N. Scot t (Eds.), *The sage handbook of tourism management*, 373-390.
- 2) Pencarelli, T. (2020). The digital revolution in the travel and tourism industry. *Information Technology & Tourism*, 22(3), 455-476.
- 3) Bilgihan, A., & Nejad, M. (2015). Innovation in hospitality and tourism industries. *Journal of hospitality and Tourism Technology*, 6(3).
- 4) M. J., Costa, C., & Au-Yong-Oliveira, M. (2021). Tourism towards sustainability and innovation: A systematic literature review. *Sustainability*, 13(20), 11440.
- 5) Coles, T., Fenclova, E., & Dinan, C. (2013). Tourism and corporate social responsibility: A critical review and research agenda. *Tourism Management Perspectives*, 6, 122-141.
- 6) Shaw, G., & Williams, A. (2009). Knowledge transfer and management in tourism organizations: An emerging research agenda. *Tourism management*, 30(3), 325-335.
- 7) Verma, R., Stock, D., & McCarthy, L. (2012). Customer Preferences for Online, Social Media, and Mobile Innovations in the Hospitality Industry. *Cornell Hospitality Quarterly*, 53(3), 183–186. <https://doi.org/10.1177/1938965512445161>
- 8) Molina-Collado, A., Santos-Vijande, M. L., Gómez-Rico, M., & Madera, J. M. (2022). Sustainability in hospitality and tourism: a review of key research topics from 1994 to 2020. *International Journal of Contemporary Hospitality Management*.
- 9) *The Benefits of Working Remotely in Travel and Tourism Sector Jobs*. (2022, October 26). Home Jobs by MOM. Retrieved April 16, 2023, from <https://www.homejobsbymom.com/benefits-of-working-remotely-in-travel-tourism-sector-jobs/>
- 10) Lorente Bayona, Laura Vanesa & Ruiz-Rua, Aurora. (2019). The importance of online payment on Travel and Tourism incomes - A Cross-Country Panel Data Study. 20. 191-214. 10.7336/academicus.2019.20.15.

Annexure

Questionnaire

Technological advancement & Innovations in Hospitality and Tourism in India

Dear Respondent,

I am writing this to request your participation in a brief survey. Please take a moment to fill out the survey below. This survey is a part of my MBA Dissertation research work.

The objective of this research are :

- 1.To examine the impact of technological advancements on hospitality and tourism in India.
- 2.To investigate the potential of innovative hospitality and tourism services in India.

The data collected for this study will be used for academic and research purpose only. All of your information and as well responses will be kept confidential.

I sincerely thank you for valuable time in responding to this Survey.

Best regards

Yash Saini
2K21/DMBA/145
Delhi Technological University

Demographic Information

Age (in years) *

- 18 - 21
 - 21- 25
 - 25-30
 - 30-35
 - 35-40
 - 40+
-

Gender *

- Male
 - Female
 - Other: _____
-

Profession *

- Student
 - Employed
 - Self-Employed/ Business
-

Income (INR Per Annum) *

- 0 - 2,00,000
- 2,00,000 - 5,00,000
- 5,00,000 - 8,00,000
- 8,00,000 - 10,00,000
- 10,00,000 - 15,00,000
- 15,00,000 +

Customer Behavior and Preference

How often do you travel outstation ? *

- Weekly
- Monthly
- Quarterly
- Half-Yearly
- Yearly
- Other: _____

How often do you travel outstation for work ? (If applicable)

- Weekly
- Monthly
- Quarterly
- Half- Yearly
- Yearly
- Other: _____

How often do you travel outstation for leisure ? *

- Weekly
- Monthly
- Quarterly
- Half- Yearly
- Yearly
- Other: _____

On a scale of 1 to 5 (1 being least often and 5 being most often) How often do you travel domestically ? *

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On a scale of 1 to 5 (1 being least often and 5 being most often) How often do you travel internationally ? *

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On a scale of 1 to 5 (1 being least often and 5 being most often) How often do you travel outstation by road ? *

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On a scale of 1 to 5 (1 being least often and 5 being most often) How often do you travel outstation by air ? *

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On a scale of 1 to 5 (1 being least often and 5 being most often) How often do you travel outstation by train ? *

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On a scale of 1 to 5 (1 being least preferred and 5 being highly preferred) Rate your preference of booking train tickets through a travel agent. *

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On a scale of 1 to 5 (1 being least preferred and 5 being highly preferred) Rate *
your preference of booking flight tickets through a travel agent.

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On a scale of 1 to 5 (1 being least preferred and 5 being highly preferred) Rate *
your preference of booking accommodation (hotels/resorts/etc.) through a travel
agent.

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On a scale of 1 to 5 (1 being least often and 5 being most often) How often do *
you use online websites to book your train tickets ?

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On a scale of 1 to 5 (1 being least often and 5 being most often) How often do *
you use online websites to book your flight tickets ?

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On a scale of 1 to 5 (1 being least often and 5 being most often) How often do *
you use online websites to book your accommodation ? (Hotels/Resorts/etc.)

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On a scale of 1 to 5 (1 being least often and 5 being most often) How often do you consult travel agents for domestic tour package? *

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On a scale of 1 to 5 (1 being least often and 5 being most often) How often do you consult travel agents for international tour package? *

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On a scale of 1 to 5 (1 being least often and 5 being most often) How often do you consult travel agents for business tour ? (If applicable)

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On a scale of 1 to 5 (1 being least often and 5 being most often) How often do you consult travel agents for leisure tour ? *

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Innovation in Travel Industry

This section is to understand the scope of innovations in travel industry to predict their inclusion in the business models of travel startups.

Travel companies now offer voice search and control for their customers. You can do your bookings through voice control. Not only this, but many hotels have voice control installed in their rooms so customers can control lighting and heating devices within rooms, or to obtain tourist information without speaking to a member of staff. Now please answer the following questions based on this innovation.

Did you know about the voice control and voice search innovation in the travel industry? *

- Yes
- No

Do you feel voice search and control could improve your overall experience when making travel bookings? *

- Yes
- No
- Maybe
- Can't Say

Would you prefer a 3 Star hotel offering voice control devices over a 5 star hotel with conventional services and a slightly higher price? *

- Yes
- No
- May be
- Can't say

Are you more likely to use voice search and control if it is integrated with other travel apps? Eg - (MakeMyTrip, EaseMyTrip, Go Ibibo, etc.) If no , then why? *

Your answer _____

A travel agency provides Smart Luggage tracking and storage services, allowing customers to track their luggage throughout its journey and store it securely. The tracking device allows customers to track their luggage from their home to their destination, and the storage service provides extra storage for customers. Based on this information, answer the following questions:

How likely are you to use the smart luggage tracking and storage services offered by the travel agency? *
(where 1 being least likely and 5 being Very likely)

- | | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

While travelling, which of the following modes of transportation would you prefer ^{*} to use the Smart Luggage Tracking and Storage Services? (You can choose more than 1 option)

- Train
- Flight
- Bus
- Car
- None

What percentage of your travel budget are you willing to allocate towards using ^{*} the Smart Luggage Tracking and Storage Services?

- 2-5%
- 5-7%
- 7-10%
- 10-12%
- Other: _____

Which of these factors affect your decision to include this service in your travel ^{*} package:

(You can choose more than 1 option)

- Duration of the journey
 - Number of travelers
 - Travelling Distance
 - Charges for the service
-

Virtual reality (VR) can be used by travel agents to provide customers with an immersive experience of their destination. VR can be used to create virtual tours of a destination, allowing customers to explore the area in a more engaging and realistic way. It can also be used to create interactive experiences such as virtual reality games and activities that can be enjoyed by customers. Additionally, VR can be used to create virtual reality marketing campaigns to showcase the destination to potential customers.

Have you ever tried VR ? If yes, how would you rate your experience on a scale of 1 to 5 (where 1 being very poorly and 5 being excellent

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How likely are you to use VR to explore a destination before booking a trip?(where 1 being least likely , and 5 being very likely

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What type of VR experiences would you like to see for a destination? (You can choose more than 1 option)

- Interactive experiences
- Virtual tours
- Virtual reality games
- All of the above
- None of the above

What other benefits could a VR experience provide you with when booking a trip?

- Increased convenience : Less research efforts about the destination
- Improved understanding of the destination : All the activities that can be performed at the destination.
- Reduced costs : No unnecessary expenses in trying all the expensive activities at the destination
- All of the above
- None of the above

Table 1

Countries	1970
World	310441392
Switzerland	3397400
Brazil	3339800
Colombia	3010200
Mexico	2966600
Netherlands	2881100
India	2671600
Sweden	2550000
Norway	2412300
Philippines	2369000
Argentina	2332000
New Zealand	1862000
Denmark	1775300
Greece	1614700
Vietnam	1525600
South Africa	1519000

Ireland	1476300
Portugal	1415400
Belgium	1366200
Pakistan	1335900
Finland	1279500
Venezuela, RB	1253300
Korea, Rep.	1208100
Czechia	1171900
Turkiye	1035700
Bulgaria	988900
Poland	904000
Cuba	873500
Indonesia	826400
Thailand	764200
Malaysia	748900
Singapore	748900
Iran, Islamic Rep.	715600

Chile	574700
Algeria	563200
Saudi Arabia	558000
Lebanon	548600
Egypt, Arab Rep.	542500
Austria	511400
Israel	485000
Iceland	457900
Romania	452500
Ecuador	419500
Peru	390500
Trinidad and Tobago	361100
Myanmar	345800
Kuwait	315200
Panama	307400
Congo, Dem. Rep.	305000

Honduras	295600
Morocco	289500
Hungary	282300
Jamaica	278700
Zimbabwe	267400
Costa Rica	255900
Tunisia	244800
Bolivia	244000
Bahrain	241000
Ethiopia	231600
Uruguay	219300
Nepal	203400
Iraq	197700
Libya	190200
Zambia	187800
Nigeria	173000
Kenya	171500
Uganda	171500

Tanzania	171400
Madagascar	168000
Luxembourg	167000
Korea, Dem. People's Rep.	165000
Syrian Arab Republic	139000
El Salvador	138200
Malta	127800
Sudan	124700
Gabon	120200
Jordan	118800
Ghana	116700
Guatemala	112500
Cote d'Ivoire	108700
Nicaragua	107100
Cyprus	106500
Sri Lanka	104600

Senegal	85100
Afghanistan	84700
Mauritania	84500
Paraguay	80600
Central African Republic	69500
Cameroon	65800
Lao PDR	55900
Congo, Rep.	55800
Chad	55400
Niger	54700
Malawi	51700
Guinea	48900
Cambodia	40500
Mali	39200
Burkina Faso	30100
Togo	29900
Benin	29500

Yemen, Rep.	25900
Somalia	25700
Mauritius	23000
Guyana	17800
Haiti	10400

Table 2

Countries	# Passengers carried in 2020
World	1809388959
China	417255845
United States	369501000
India	68959633
Ireland	54582262
Japan	51131122
Brazil	45405756
Turkiye	44722690.06
Indonesia	37523686.82

Mexico	34133108
Vietnam	31771202
United Kingdom	30967519.53
Korea, Rep.	30033310
Thailand	28179302.67
Canada	27620000
Saudi Arabia	26987701.89
Spain	26557078
United Arab Emirates	26116897
Germany	25758450
France	24956343
Australia	23627140.51
Malaysia	15893988
Netherlands	14748517.33
Hungary	14597294
Denmark	14041322.8
Norway	14041322.8

Sweden	14041322.8
Austria	13285414
Iran, Islamic Rep.	12744853.78
IDA blend	12727159.61
Heavily indebted poor countries (HIPC)	12656138.62
Colombia	12273939.72
Philippines	11178423.08
Qatar	10640789
Pre-demographic dividend	10479452.53
Switzerland	9009607.2
New Zealand	8516619.501
Low income	8312127.57
South Africa	8304771.044
Chile	8019753
Singapore	7884373

Italy	7801490
Portugal	6219531.061
Hong Kong SAR, China	5878548
Peru	5705074
Greece	5647917
Africa Western and Central	5528130.74
Kazakhstan	5282205
Ethiopia	4940183
Egypt, Arab Rep.	4638192.256
Pakistan	3711456.87
Argentina	3680874
Belgium	3520849.848
Finland	3500299
Nigeria	3401186.766
Panama	3074172
Morocco	3012310
Bangladesh	2984121.694

PAPER NAME

YashSaini_2k21dmba145.docx

WORD COUNT

8820 Words

CHARACTER COUNT

49777 Characters

PAGE COUNT

73 Pages

FILE SIZE

680.1KB

SUBMISSION DATE

Apr 19, 2023 3:23 PM GMT+5:30

REPORT DATE

Apr 19, 2023 3:23 PM GMT+5:30

● 8% Overall Similarity

The combined total of all matches, including overlapping sources, for each database.

- 5% Internet database
- Crossref database
- 7% Submitted Works database
- 2% Publications database
- Crossref Posted Content database

● Excluded from Similarity Report

- Bibliographic material
- Cited material
- Quoted material
- Small Matches (Less than 8 words)

● **8% Overall Similarity**

Top sources found in the following databases:

- 5% Internet database
- Crossref database
- 7% Submitted Works database
- 2% Publications database
- Crossref Posted Content database

TOP SOURCES

The sources with the highest number of matches within the submission. Overlapping sources will not be displayed.

1	researchgate.net Internet	<1%
2	Palm Beach State College on 2023-03-18 Submitted works	<1%
3	eprints.qut.edu.au Internet	<1%
4	essaycompany.com Internet	<1%
5	Mont Blanc Palace on 2023-04-03 Submitted works	<1%
6	scholarship.sha.cornell.edu Internet	<1%
7	Curtin University of Technology on 2020-12-18 Submitted works	<1%
8	The University of the West of Scotland on 2023-03-10 Submitted works	<1%

9	Mont Blanc Palace on 2011-08-02	<1%
	Submitted works	
10	Asia Pacific University College of Technology and Innovation (UCTI) on...	<1%
	Submitted works	
11	University of Sussex on 2016-12-08	<1%
	Submitted works	
12	coursehero.com	<1%
	Internet	
13	Texas A&M University, College Station on 2020-11-06	<1%
	Submitted works	
14	academicus.edu.al	<1%
	Internet	
15	Universitas Brawijaya on 2023-02-27	<1%
	Submitted works	
16	dspace.daffodilvarsity.edu.bd:8080	<1%
	Internet	
17	Anusha Thakur. "chapter 4 Technological Innovations in the Hospitality..."	<1%
	Crossref	
18	link.springer.com	<1%
	Internet	
19	Swinburne University of Technology on 2018-10-26	<1%
	Submitted works	
20	repository.cam.ac.uk	<1%
	Internet	

21	Lincoln University on 2013-08-23	<1%
	Submitted works	
22	Tennessee State University on 2017-11-07	<1%
	Submitted works	
23	businessperspectives.org	<1%
	Internet	
24	London School of Commerce on 2019-04-09	<1%
	Submitted works	
25	Asia Pacific University College of Technology and Innovation (UCTI) on...	<1%
	Submitted works	
26	mdpi.com	<1%
	Internet	
27	Arturo Molina-Collado, María Leticia Santos-Vijande, Mar Gómez-Rico, ...	<1%
	Crossref	
28	Birkbeck College on 2020-08-30	<1%
	Submitted works	
29	Global Banking Training on 2022-01-24	<1%
	Submitted works	
30	IUBH - Internationale Hochschule Bad Honnef-Bonn on 2021-07-29	<1%
	Submitted works	
31	Desiderio Juan García-Almeida, Larry Yu. "Knowledge Transfer in Hotel..."	<1%
	Crossref	
32	EThames Graduate School on 2011-05-16	<1%
	Submitted works	

33	Northern Arizona University on 2021-07-15 Submitted works	<1%
34	Our Lady of Fatima University on 2022-07-27 Submitted works	<1%
35	Oxford Brookes University on 2022-04-28 Submitted works	<1%
36	Vaal University of Technology on 2021-06-07 Submitted works	<1%
37	dergipark.org.tr Internet	<1%
38	digitalcommons.usf.edu Internet	<1%
39	davidpublisher.com Internet	<1%
40	tandfonline.com Internet	<1%