

Digitalizing Wildlife Tourism in Madhya Pradesh for Sustainable Value Creation

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Abstract

Wildlife Tourism has gained significant recognition in last decade from both officials and researchers for the multiplier effect it creates, contributing to employment generation and entrepreneurship for the local community and conservation of biodiversity in local corridors. However the tourism activities remained regionally centred due to low awareness and distances until intervention of ICT tools and infrastructure. The aim of the study is to study the relationship between digitalization and wildlife tourism in generating sustainable value for its stakeholders. The study draws valuable inputs from existing literature and responses from 170 respondents through Google forms and conducting telephonic semi-structured interviews of stakeholders from wildlife tourism to study the intervening role of digitalization on wildlife tourism in Madhya Pradesh. The findings reveal the inevitable role of digital technologies like smart phones, social media, and websites and so on at various stages of decision making from selecting or exploring a destination, preference of channel for booking a holiday, tourism products and satisfaction. The advent of Pandemic covid-19 is anticipated to bring several transformations within the industry creating a spurt in digital and sustainable solutions in tourism industry. The study throws light on changing preferences of consumers post covid-19 discussing opportunities and limitations of wildlife tourism amongst existing dynamism and limited resources. The research aims to provide useful suggestions for integrating digital tools to enhance consumer satisfaction and experience with wildlife tourism addressing the current limitations with strategic resource management and planning bringing managerial effectiveness.

Keywords: Digitalization, Sustainable Economic Growth, Wildlife Tourism

1. Introduction

Tourism being one of the largest service industries has always been looked upon for its latent potential for promoting economic growth through the multiplier effect rather than its consumptive or leisure value. It has stimulated employment and entrepreneurial opportunities especially in rural or suburbs generating foreign exchange earnings and cultural harmony through nature based tourism or wildlife tourism. Wildlife Tourism in India has been on the global map amongst travellers for the rich environmental heritage and sustainable value. It has been the thrust

of government policies and actions both at the central and state level for the myriad of opportunities for community development.

India stands third in terms of inward investment of US \$45.7 billion in 2018 as per Tourism Competitiveness Index. Its unrealised potential in terms of environmental, religious, medical or natural biodiversity have attracted the attention of government and private bodies that aim at development of an ecosystem thriving on infrastructure, capital infusion, technology and capacity building programs.

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Tourism and Hospitality sector is undergoing tremendous changes with technological factors and growing sensitivity towards environment. Technology pervades every segment of the socio-economic processes existing today creating the foundation of shared economy. According to a report of United Nations World Travel Organization in 2016 Technology and technical skills should be given highest priority while developing future workforce and strategic plans within the sector. 52% of the Smartphone users belong to Asia Pacific and use technology for seeking information, exploring products or services and giving feedbacks post consumption creating a chain of digital footprints. Technology has developed new innovative means of addressing the present and future needs, limitations and decision making. It leads to customer engagement and satisfaction to draw useful insights to offer customised tour packages, differentiated pricing and better product experience. Use of artificial intelligence and vast data repository of customer search for information, bookings, reservations, ticketing, customer feedback, competitive market forces etc has developed new business models and dimensions of revenues. Digitalization further becomes inevitable with the impact of pandemic covid-19 that might act as a catalyst to carve out sustainability and digitalization within the sector to satisfy changing tourists' behaviour.

With growing environmental consciousness of tourists and social media engagement of people nature based tourism has been burgeoning in the last decade. Wildlife and ecotourism gathered huge pace with technological intervention in India. It further fulfils the goal of sustainable tourism development promoting conservation and community linkage. Madhya Pradesh-The Tiger state of India known for its wildlife reserves, national parks and sanctuaries has remarkably integrated technology and management lessons to attract travellers and environmentalists around the world. It has immense prospects of growth with technological intervention and customer centric approach for strategic revival of the local economy with resilience. This might prove to be the key to sustainable societal development and unparalleled economic growth for the road to recovery after numerous challenges faced due to pandemic. Thereby

the research study tries to understand the increasing technological intervention and prospects of sustainable wildlife tourism in Madhya Pradesh.

2. Review of Literature

Changing lifestyle, work and personal commitments have made tourism a core element for recreation, leisure or business along with its environmental impact (De Bloom *et al.*, 2017). Tourism industry thrives on improving well being and rejuvenating people through holiday travel or excursion trips.

Tourism is largely affected by socio-economic, political, technological and environmental changes. The researcher in his study examines six exogenous trends on global tourism mainly climatic changes, geopolitical issues like cross border negotiations, conflicts, social concerns, role of technology in marketing, managing, monitoring and enhancing tourists experience. An increased understanding of the above interactions will set the stage for future tourists' activities and research.

Consumer behaviour has always been the focal point of tourism research narrative review of quantitative and longitudinal researches which discuss key concepts, external influences and opportunities primarily decision-making, technology, socio-psychological influences, ethical consumption and lifestyle of Generation Y on tourism behaviour. Generation Y basically referred as netizens are more frequent travellers than former. They have access to more information and seek immediate gratification of needs (Cohen *et al.*, 2014). The transformation in the way people interact, socialize or share information have led organizations to divert their marketing spends on social media platforms (Ali *et al.*, 2020). The study further develops a conceptual model based on usage of user generated content for travel communities and its impact. There by enhancing the existing knowledge on factors like customer characteristics, source and content credibility as antecedents for making well informed choices and strategically positioning products using social media platforms.

Promotions have graduated from traditional means to omnipresent customised offerings advancing through digital communication, innovative products, pricing and promotions with better customer knowledge. With access to various smart applications and features like Google analytics, etc at minimal price even small businesses have taken a step towards digitalization leveraging technology and resources to take informed decisions and sustainable market development. The impact of digital promotional and marketing campaigns significantly capitalize competitive value for better credibility and brand valuation to gain customer loyalty and retention (Sofiati & Limakrisna, 2017).

According to Carr *et al.* (2016) indigenous tourism pertains to development of tourism products within the hinterlands highlighting the unique cultural values apart from socio-economic empowerment. Various researches opine its instrumental role in conserving cultural landscape, environment and socio-economic well-being. U.N. Environment Programme (UNEP) states Sustainable tourism as one of the most reliable tools for conserving the resources, culture along with aiding economic growth, employment opportunities and so on. The five A's – Attraction, Accessibility, Amenities, Accommodation and Activities to engage tourists in culture, cuisine and community by employing local people for inclusive economic growth (Ramesh & Muralidhar, 2019). It shall be further aided by local and state government's sustainable tourism initiatives at multiple levels from promoting, project approval, monitoring or creating awareness within the community for pro-environment measures. Wildlife tourism, a form of nature based tourism or ecotourism, is experiencing growth in tourists domestically and internationally as well, increasing human wildlife interaction. It facilitates people's engagement with wildlife and establishes connectivity of nature and wildlife (Newsome *et al.*, 2017).

Natural landscapes and wildlife have a positive effect on mental well being of people healing them psychologically or emotionally (Lackey *et al.*, 2019; Curtin & Kragh, 2014). According to Meekan *et al.* (2019) it has not just benefitted conservation activities in the area but also boosted the local economy with

a range of potential direct and indirect benefits. Natural Landscapes and rich cultural diversity without extensive investment in infrastructure has made home stay tourism one of the attractive opportunities for developing countries (Acharya & Halpenny, 2013). Another study visualizes customer engagement and digital technology as the potential driver of tourism post covid-19 producing a multiplier effect through multiple linkages at several points. The study discusses the avenues of home stay tourism for exhibiting the natural inhibited beauty, rural community and socio-cultural intricacies of a destination without overcrowding or disturbing the ecological balance. It has further suggested its role in promoting pro-women tourism, gender equality and sustainable development. It has also addressed the concerns of economically disadvantaged groups bringing social equality.

The research study is conducted to know the impact of tourism on livelihood, tourists and community perception with associated linkages. It stimulates socio-economic growth opportunities in the local economy through backward and forward linkages which rest on participation in management and ownership of tourism assets (UNWTO and UNEP, 2005). A study conducted in Ranthambore Tiger Reserve to explore economic benefits to host population from tourism in livelihood (Rao & Saksena, 2021). A survey through a detailed questionnaire on their demographics, income and consumption was done on 224 households around Ranthambore National Park to elicit changes in their living standard. The research contributes to the existing body of knowledge and empirical approach by adopting a systematic study on control-group and study group model to deduce the economic impacts. The findings show a contrasting view from the qualitative study that it has benefitted largely the large private players. But it has supported conservation activities and better infrastructure but has a negative impact on socio-cultural and environment. However, environmental consciousness and education of local communities in conservation encourages participation for reinforcing sustainable tourism (Chundawat *et al.*, 2018; Karanth *et al.*, 2012).

Kumar and Shekhar (2020) identified factors that propelled digitalization in the tourism industry and established hierarchical relationships to measure its impact on various stakeholders. The study uses structural modelling (interpretive) to develop a strategic digital framework with growing customer demands, shared economy and its challenges in presence of social media. The findings highlight the strategy implications, government's digitalization focus for competitive advantage and dynamics of different stakeholders. It reviewed previous research in other countries to highlight the influence of digital technology/communication on decision making and tourist's experiences in terms of relative competitive advantage to tour operators and tourists, pricing and convenience. However interrupt network and power supply, implementation and legislative problems are big hindrances.

Ulfy *et al.* (2021) studies on achieving maximum advertising value using social media for eco-tourists. It proposes use of "Technology Acceptance Model (TAM)" to know the awareness and usage of social media advertisements. It further explores knowledge, service and behavioural intent of using social media through a survey of 395 Malaysian tourists. The findings indicate positive effects on perceived ease of use and usefulness with reference to informative and service functionality. It contributes to behavioural purpose and ensuring reliability through proper utilization and understanding. It shall be supported with appropriate sources of information requirements updated timely and product ratings. These factors lead to tourists re-visiting the park.

Prakash *et al.* (2019) in their research "Reasons for Visitor Dissatisfaction with Wildlife Tourism Experience at highly visited National Parks in Sri Lanka" stated high accessibility to information technology and mobile phones used for accessing information on travel websites, blogs and social media. The study analysed 206 negative reviews posted on Trip Advisor travel related websites to identify the prominent reasons. The majority of problems were related to park management, visitor safety, ethical or legal concerns and tour operators. Thus they should

focus on improving professional standards through formal training and education.

Potential socio-economic benefits of wildlife tourism are often cited as motivation behind introduction of wildlife as cited by O'Rourke (2014) with reintroduction of white tailed Sea Eagle in Ireland. A case study on Reintroduction of Beavers within the catchment of River Otter in South West England showcased supportive community behaviour for reintroduction and so it analysed impact on local business and community. The study demonstrates increased tourists footfall and improvement in the living standard of the community with increased earnings (Auster *et al.*, 2020). It will further explore the transferable benefits to other communities, areas and wildlife species.

The key lies in up-skilling the operators and community through relevant capacity building programs and commercializing destination brands using social media. The researchers suggest an active role in capacity building, skill development and awareness complying with policy measures benefiting the community. Pro environmental strategies focusing on quality of technical, marketing, and scientific research activities delivering value propositions to gain competitive advantage. Eco-innovations have significantly contributed increasing eco-consciousness and processes for sustainable businesses with usage of innovative marketing communications (Zaušková *et al.*, 2015).

3. Research Objective

Digital media has converged as a platform for information sharing and communication providing an enhanced virtual experience to tourists. It influences the destination image and it's perception on consumers. It's used as an interactive medium in user friendly multimedia format for disseminating and exchange of information to plan, confirm or cancel their itineraries and sharing their experience 24*7.

The research is conducted with a primary objective to analyze the role of technological intervention in wildlife and nature based tourism throwing light

on tourists' interaction with technology for various tourism products and services at various stages. It will further throw light on understanding the influence of digitalization, its prospects and challenges from the perspective of other stakeholders. Lastly it studies the consumer sentiment post covid-19 for sustainable tourism and role of technology as its key driver.

4. Research Methodology

The study adopts a comprehensive approach comprising of semi-structured interviews with 12 tour operators and collecting primary responses from 170 respondents through a predesigned questionnaire using Google form circulated through emails and social media groups. It further study published reports, research papers and articles available both online or offline mainly research reports of well known research agencies like Mckinsey, UNWTO and domestic tourism websites. The researcher analyzes the characteristics of tourists, role of technological intervention at various decision making stages and changes in tourists' behaviour through statistical tools in Excel and SPSS. It also throw light on tourist's behaviour post covid-19, willingness to travel to wildlife destinations and preferences in future, role of digitalization in creating sustainable tourism models.

5. Findings

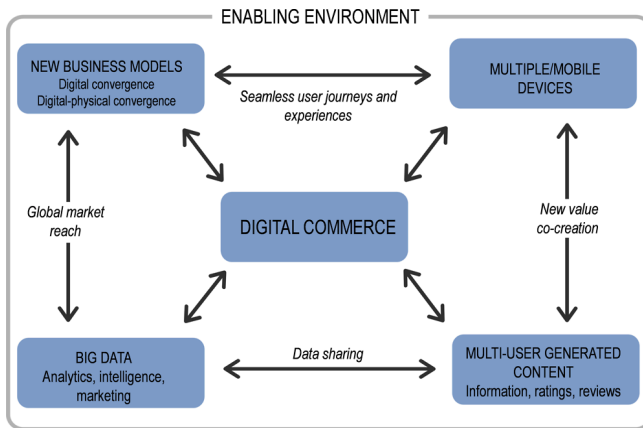
Technology has touched each and every area of tourism in the current age of smart phones and increasing internet usage on mobiles. This has led to a huge change in economic order in terms of the medium of services offered and employability skills of the operators. A United Nations World Travel Organization report 2016 states accentuated use of social media in the tourism and hospitality sector as South Asians control a fifty two percent market share of smart phones. A phenomenal growth in mobile travel sales consisting of booking and planning trips using smart phones to 12 percent currently from 2 percent in 2012 emphasizes the increasing technological access among people. Industrial revolution 4.0 has led to emergence of digital commerce enabling an ecosystem based on technological advances, omnipresent marketing

channels and new business models in shared economy as shown in Figure 1.

As per a current report on Google statistics travellers make nearly 400 searches for planning their trips or vacations. Travel companies (tour operators, agents) use the data to influence tourists' decisions. Internet technologies and telecommunications have increased people's response for online purchase of travel products and brought transparency like hotel bookings, safaris, etc. to multiple touch points. Tourism internet services are classified as commercial (Online tours), non commercial (Kayak, Flight radar) and crowd funding (cooperative pooling of funds for a voluntary purpose like Couch surfing) most of them are B2C while the rest are B2B and C2C like Airbnb where both the parties are not technically or legally business owners. There has been a prominent transition in tourism with digitalization with consumer searches, online bookings, engagement and destination marketing. It suggests hyper personalisation and customisation of travel offers with data analytics, chat bots and personal assistants.

Digital bookings are in Asia-Pacific accounts for 35 percent sales globally with China alone contributing 18.5% to e-sales. The diverse portfolio of e-services or systems includes ticket reservations, self check in facilities at airports, hotels or cab bookings facilitating tourism services via digital aids at every step. Digital technologies like mobiles, laptops and applications are largely used for information dissemination to customers. While social media platforms are engaging and informing the customers at various stages from creating awareness, interest, visiting, liking and revisiting/recommending the destination. Digital communications have transformed consumers from content consumer to producer thereby making him one of the founders of destination marketing strategy. 31% travellers regularly share their travel experiences on the internet outside their family and friends (producing Vlogs, Blogs and so on) - TCI Research.

As per our survey with the respondents, 85% of customers sought out holiday locations and sites for their travel trips using digital tools largely. They look



Source: Preparing Tourism Businesses for Digital Future: OECD Tourism Trends and Policies 2020.

Figure 1. Digital ecosystem in tourism.

for reviews, pricing, past experiences etc on several online booking sites, applications and comparisons through experts on their websites. Customers usually check four or more websites before booking their flight tickets or hotels for the most economical and worthy product offers. 55% respondents rely on reviews of their kin's and friends prior travelling and booking a holiday destination especially for their place of stay, local tourism, shopping, and food and so on. However, credibility is low (39%) for online general travel blogs or vlogs accounts as they travel with family (with or without kids) rather than solo travellers. Nearly 23% respondents mostly from the age group of 18-25 years rely on mobiles and mobile applications for their bookings while majority of those in the age group of 25-40 years and 40-55 years (68% respondents) do their bookings through laptop or office systems with good wifi and secure network. While a few still depend on the traditional mode of travel agents or agencies for travel arrangements especially for foreign trips. Due to lack of knowledge of foreign culture, laws and tourists rights most of the respondents (64%) rely on renowned tour operators and agencies having foreign tie-ups for making travel bookings, customised arrangements and acquaintances with foreign laws, currency and so on.

Regular travellers to wildlife destinations (34%) usually book their gypsies for wildlife safari directly through the recognised website or portal and have a priority for forest resorts, state tourism hotel, home

stays as the best option to enjoy nature, wildlife in a quiet economic place. While most of the travellers make their hotel arrangements and safari booking through a tour operators, agents or in advance for the jungle safaris for a confirmed booking, comfortable stay and go for on an average two jungle safari. However an increased percentage of local/domestic tourists within the age group of 25-40 years active on social media have opened new channels for digitalization. They mostly seek information, book safaris, hotels, tickets and connect to social networks for reviews or feedbacks using modern technological aids. The new aspects of nature based or ecotourism activities like treks, adventure camps are actively search and explored by millennial tourists (travellers within the age group of 25-40 years) followed by their young followers for nature photography and so. While travellers above 40 years and above mostly explore the local market for cuisine and shopping, and travel in groups of four to eight people. Mostly 80% travellers book their travel at least 4-6 weeks prior for wildlife destinations due to high demand and fixed quota of safaris every day, while the prices of good hotel rooms and facilities increases dramatically in peak seasons or with high occupancy. Nearly 35% users book trips using mobile apps, travel sites like makemytrip being most popular followed by cleartrip, goibibo, oyo, easytrip, etc. with an increased usage year on year every year since the past few years.

Most of the travellers within the age group of 25-40 years (44 respondents) have preference for wildlife/ecotourism locations followed by urban destinations within the same age group (39 respondents out of 97). While same number of respondents (18 each) have preference for wildlife locations followed by urban destinations (13 and 9) and religious or historical (6 and 7) in both age group 15-25 years and 40 years and above as shown in Figure 2.

Preferred channel for booking within all age groups are for websites or portals both private and public domain for domestic travel as depicted in Figure 3. As private operators like Makemytrip etc. are easy to operate, gives options to customize according to consumer and economic too. While the bookings of safari in wildlife reserves or ecotourism resorts are

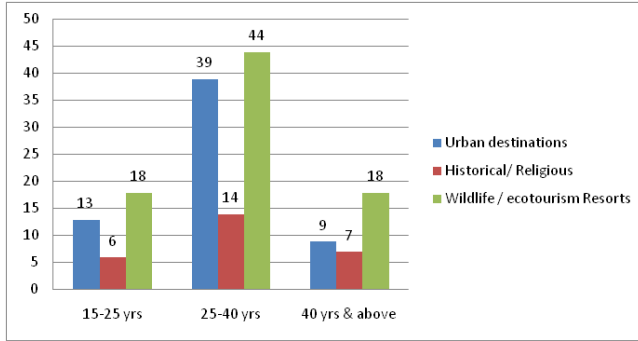


Figure 2. Preference of holiday destination with respect to age.

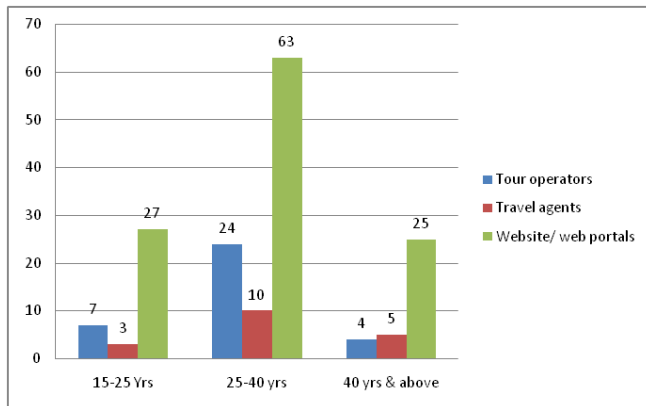


Figure 3. Preference of channel for booking holiday with respect to age groups.

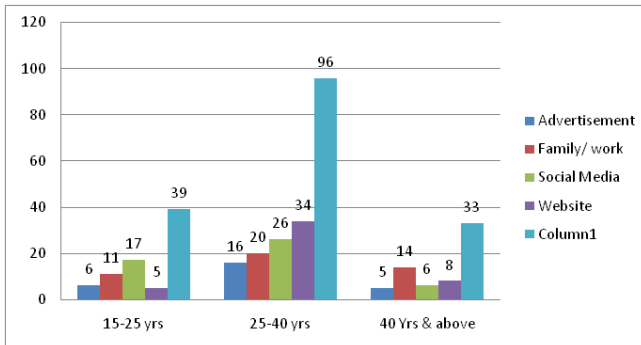


Figure 4. Factors influencing for booking a holiday with respect to age groups.

operated and maintained by the state government with full transparency and real time update 3-4 months in advance. Tour operators are the second best option as mostly contacted for foreign travel, customized or group tours, etc.

Digitalization has severely affected travel agents who were the best option until early nineties. The seamless incorporation of ICT tools and hi speed internet

connectivity have facilitated both tourism and tourist by eliminating the intermediaries. The factors influencing the decision making of a consumer prior to booking a holiday varies in every age group as seen in Figure 4 that respondents above 40 years are mostly affected by family, friends or kins. While in the age group of 25-40 years its website or website updates in comparison to age group 15-25 years who are mostly influenced by social media content. Majority respondents believe technological intervention has changed the tourism prospects in wildlife or ecotourism areas with interventions at each stage of decision making or pre to post purchase of tourism service as in Figure 5.

There is a significant difference between different age groups and the influence on decision making of the source of information (like social media, family, website or advertisements) prior to booking a holiday and preference of channel to book a holiday (Table 1 and 2) as chi square test is rejected with 95% confidence level.

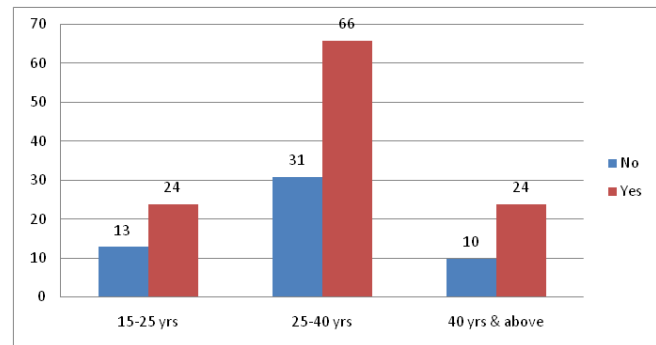


Figure 5. Respondent poll on digitalization has aided wildlife tourism.

Table 1. Preference of channel to book a holiday with reference to age group.

Age Group		Tour Operators	Travel Agents	Website/ web portal
15-25 Years	Observed	7	3	27
	Expected	7.7	4	25.3
25-40 Years	Observed	24	1	63
	Expected	20.2	10.4	66.4
40 Years & above	Observed	4	5	25
	Expected	7.1	3.6	23.3

Chi Square Test value $\chi^2=11.835$ (df=4) at 95% significance level, rejects null hypothesis.

Table 2. Influence of source prior to booking a holiday with reference to age group

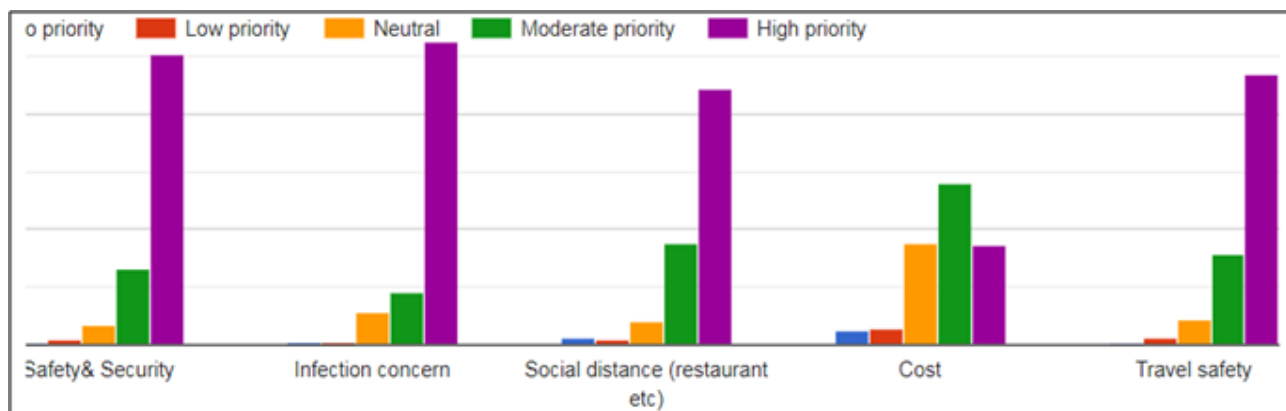
Age Group		Advertisements	Family/Friends	Social Media	Website / Web Portal
15-25 Years	Observed	6	11	17	5
	Expected	6.26	10.44	11.38	10.91
25-40 Years	Observed	16	20	26	34
	Expected	15.43	25.71	28	26.85
40 Years & above	Observed	5	14	6	8
	Expected	5.305	8.83	9.625	9.23

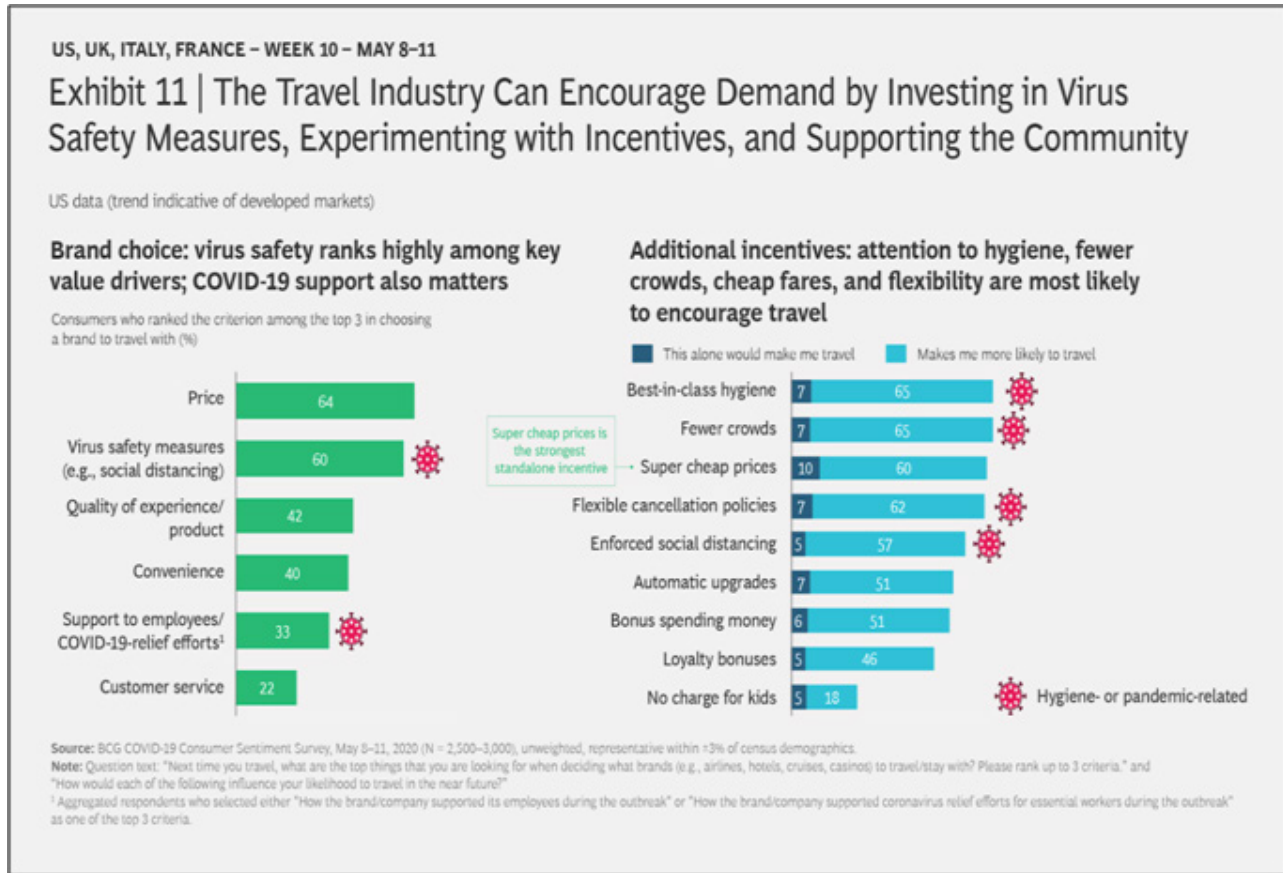
Chi Square Test value $\chi^2=13.9275$ (df=6) at 95% significance level, rejects null hypothesis.

However there is an expected shift in tourists behaviour post covid-19 as shown in Figure 6 who rate health safety and hygiene as priority over other things like cost, following covid-19 protocols and precautions at hotels, ticketing counters, restaurants, tourists outlets, cab services etc wherein staff is trained, aware and support emergency problems. They would prefer following social distancing so prefer travelling to less crowded natural places, stay in less crowded clean hotels having low active covid-19 patients. They would to have more flexible options in reservations, pricing and so on looking at sudden emergence of cases, lockdowns or cancellations to recover the sector as shown in Figure 7.

According to interviewed stakeholders in tourism at destination, technology has made a significant influence on destination branding like Bandhavgarh, Kanha, Pench and so on. Travel accounts (pictures/videos/written) of environmentalists, nature observers documented

on multiple channels like television, websites, blogs, social media handles have increased destination popularity among masses. Wildlife destinations in Madhya Pradesh have gained tremendous shares of information, pictures, and videos on social media in last decade with increase usage of Smartphone that acts like a travel companion prior to travel and post travel with reviews, comments and posting pictures/videos. Travel and tour operators are going for an omni-channel marketing model for competitive advantage. Consumers compare several providers and their offers in terms of products, pricing, tailor made holiday offers for higher user experience. Realizing the increasing usage of technology for travel and related services many big destination marketing operators, groups of hotels or marketers have developed their travel apps, have personal social media page, use search engine optimization, or analytics to link their websites with travel destinations (wildlife parks, nearest stations etc). They are compatible for usage on various digital platforms (laptops, mobiles while being expensive but fast expanding with increase in number of mobile users and hi speed internet accessibility. Many small players are either collaborating with other local partners digitally or registering as service providers or vendors on third party platforms. These third party platforms are operating and managing several small players having limited financial and technical knowledge through smart travel apps saving both money and time exploring entrepreneurial opportunities. Travel applications and businesses strongly rely on smart applications designed and developed using artificial

**Figure 6.** Response to post covid concerns of travellers.



Source: BCG COVID-19 Consumer Sentiment Survey May 2020.

Figure 7. BCG Covid-19 Consumer sentiment survey May 2020.

intelligence, cognitive computations and cloud as shown in Figure 8. It supports decision making based on past reviews, customer insights, historical data, and previous searches and so on for customising the offers. As per our survey 24% respondents are willing to pay a premium for unique and customised travel offerings like for a jungle resort, trekking or bird watching etc.

The destination managers, tour operators are playing an active role in using technological aids for marketing, booking and facilitating travellers apart from user generated content about forest tourism, wildlife and local community. The most effective source of information for digital communication is search engines, tourism websites, travel and allied websites like airlines, social media posts while the least was newspaper/magazine and its websites, personal emails or e-groups.

The next section deals with significant insights from personal communication and interviews with the State forest department, local experts, some active NGO leaders and members actively working with people, (forest products, handicrafts etc) and community people as a qualitative study. The local businesses have grown in magnitude and volumes with adoption of digitalization with enhanced real time customer interaction, market projections and data sharing helping them to improve customer experience for long term loyalty and finally managerial effectiveness to maximize wealth as mentioned in Table 3. However most of them fail to transform the traditional business models due to high cost of technology, poor or insufficient knowledge and low skilled or trained human resources prominently as stated in Table 4.

The local community people expressed their disappointment from tourism activities which have



Source: How Digital Transformation affect Travel & Tourism Industry: Mobile Apps and Technological Innovations.

Figure 8. Highlights of latest digitalization trends in tourism.

Table 3. Comparison of traditional with digital business practices

Issue	Traditional business	Digital business	Implications
Customer interaction and engagement	Face-to-face product facing selling strategies	Customer-facing tools and technologies facilitate a seamless customer journey with multiple customer touch points and customer-led interaction	<i>Customers</i> - enhanced visitor experiences through mixed face-to-face and digital interactions <i>SMEs</i> - reduced transaction costs, real time engagement
Market analysis and marketing	Market projections, segmentation	Data analytics, intelligent decision-making, real-time customer data and data-sharing	<i>Customers</i> – customised products, experiences; data privacy concerns <i>SMEs</i> – increase product-customer match; data security and privacy management
Business management processes	Management cycle (annual, quarterly, monthly)	Process automation, increased efficiencies, adaptive management	<i>Customers</i> – price reductions, product improvements <i>SMEs</i> – management efficiencies and timeliness, increased cost efficiencies
Business planning	Business projections and strategic planning	Adopt continuous improvement; rapid testing; real time feedback and decision-making	<i>SMEs</i> - management efficiencies and timeliness, increased cost efficiencies, production innovation
Product development	Led by product investment and financial assets	Customer-led and driven by information assets and co-creation and collaboration	<i>Customers</i> – greater choice, customisation, satisfaction <i>SMEs</i> – increase competitiveness, cost efficiencies, reduced risk in new product development
Business models	Traditional business-as-usual, supplier and customer roles clearly defined	Collaborative, networked commerce, open architectures, multi-sided platforms blur roles of consumers-producers (prosumers).	<i>Customers</i> – greater choice, seamless experiences, increased satisfaction <i>SMEs</i> - management efficiencies and timeliness, increased cost efficiencies

Source: OECD Country Survey Results.

Table 4. Barriers and opportunities for digital transformation of tourism SMEs

Sl. No.	Issue	Barrier	Opportunity
1	Uptake of technologies	The digital infrastructure is still limited to mostly urban areas with low access, broadband speed and availability of secured high speed internet connection which impedes visitor experience.	There is a huge scope of innovation and enhanced customer experience and satisfaction by new private players facilitating internet connectivity in regional pockets.
2	Access to resources	Skilled and trained resources in service industry is limited to big players while small enterprises lacks both capital and skilled resource also ineligible for various financial or other assistance.	Rendering policy, financial and managerial support to co-operative start-ups that leverage shared skills, costs and operations to reduce financial burden and risk on single entity.
3	Information exchange, learning and research	There is a continuous need to up skilling and re-skilling the workforce for meeting the current demands with increased usage of ICT to restructure the enterprise.	Digital transformation led by collaborative approach in partnership with government, local community / businesses and academic institutes to increase productivity.
4	Business Innovation	Traditional business models and practices lack agility and innovativeness to face macro environmental challenges (legal, political etc).	Incubating innovative business models by developing think tanks comprising of all the stakeholders, educational, business, government and technical supportive mechanism for building smart tourism and to increase resilience of business.
5	Perceptions of risks and benefits	Hovering fear of costly operations and increased production cost of novel technologies due to lack of professional and trained staff which is engaged in regular operations thereby lacks strategic managerial plans	Strategic management plans for future needs based on modern technological tools, data analytics, digital aids and so on by increased awareness, incorporation and usage.

Source: OECD Country survey result, Dredge *et al.* (2018); European Commission (2016).

affected the cultural beauty and environmental aesthetics without serving the development purpose as most of the well paying jobs remain with people not belonging to the area. The local community remains contended with low paying and seasonal jobs. Well known big chain hotels have monopolized the local transport services, jungle safaris and packages, handicrafts and tourist market with high tourist engagement with large resources at their hand. There is no reservation for local communities either in forest services, conservation or tourism activities who remain overpowered by the corporate giants and faltered administrative policies failing to offer tangible benefits. While the forest management is continuously under force to improve the revenue from wildlife parks, conduct several conservation and tourism activities with limited capital, technological and knowledge support. Local advisory committee contributes to park management as an advisory appointed by the state government therefore mostly dysfunctional. Further studies can be done on market segments, travel motives of people and comparison of attributes of important wildlife destinations with tourism influx and opportunities for local community.

6. Conclusion

Digitalization has unprecedented latent potential to push the tourism sector and businesses across boundaries and different geographies with large scale implications driving the value chain. It has led to the emergence of numerous opportunities for developing new products and service offerings, models, processes through seamless digital integration in wildlife tourism creating a resourceful ecosystem. It can give a huge boost to the quality of tourism services and products using available resources efficiently and strategically as online bookings have increased transparency, informing and intimating them of any changes, latest changes in park timing, management, and so on. Digitalisation has the potential to boost innovation, to generate economic and environmental efficiencies and increase productivity, including in the highly globalised tourism sector (OECD, 2018) as in Table 3 and 4. With consumers increasingly using digital technologies to search, plan and book travel, it becomes increasingly important for tourism businesses to incorporate digital technologies and leverage advanced capabilities.

Digital transformation will generate value-added benefits for a wider society with improved transparency, security and saving time, cost and environment up to USD 700 billion. As per a report by OECD (2020) digital technology, e-commerce along with e-payments and social media has changed the outlook of the travel and tourism sector. Nearly 54% purchase travel products and holiday accommodations in the age group of 25-54 years, more than 70% users of social media are largely dependent on information available online. It has significantly influenced the purchasing process for tourism service providers and products, e-payments which have motivated 57% participants within the age group of 25-54 years to purchase travel and holiday. Tourism businesses have large untapped potential with digital applications and solutions, online advertisement and sales. However limited availability of finance, ICT knowledge, skills and time are barriers to digital transformation (OECD, 2020). Low internet speed especially in rural and wildlife areas impede business operations and traveller's experience.

The key elements focus on reshaping tourism business operations, emerging business models and fundamental policy changes facilitating digitalization. Convergence of technology with public administration, policy and infrastructure can give a right spurt to socio-economic order. Thereby it moves to replicate visitor experiences from linear value chains to value ecosystems. As per OECD (2018), digital innovation boosts economic productivity and environmental efficiencies. It further leverages channels for stakeholders who collaborate and create value with more and better options to search, plan and book travel destinations, products and services. Like geo-tagged photos shared around social media creates business for the local economy when used to market the product, while it also generates revenue for upkeep and maintenance of wildlife reserves, parks and facilities. The key challenge lies in facilitating and enabling digitalization invoking the local community for economic development.

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