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Instagram as a Marketing Tool for Smart Tourism Businesses: An Analysis

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Abstract: The purpose of this study is to examine how tourism businesses use Social Networking Sites (SNS) to promote their products with building a network ecosystem. The findings show that the majority of tourism businesses use online platforms like Facebook, Instagram, LinkedIn, and Twitter to engage with the public and provide a varied range of information to develop E-branding. Tourism businesses use specific social media sites, and the level of use of these sites varies depending on the degree of their business. The study also revealed that the social media accounts of tourism businesses follow various other social media accounts to establish a network as a part of smart tourism ecosystem. The study's findings will help improve the use of social networking sites for online content production, social media campaign management, tourism marketing, branding, and promotion of tourism businesses. Theoretical contributions and managerial implications of this study are discussed.

Keywords: *Social networking sites (SNS), Smart Tourism Ecosystem (STE), Tourism Businesses, and Network Analysis.*

1. Introduction:

This is the era of smart technology and has taken the central position in the tourism industry. Currently, most Tourism businesses are focusing as much on the use of smart technology, so they can be ahead of their competitors. The biggest challenge for any business is to create a strong and active presence in the target market whereas; Social Media Networking sites(SNSs) are providing different platforms easily and cost-effectively. The number of Individual users is increasing on SNSs day by day. As per wearesocial.com[19] , currently,4.95 billion internet users and 4.65 billion active social media users worldwide, and expected to increase to 6 billion internet users by 2027 [17].

SNSs are the best platform for each individual to share his thoughts, opinions, and creations on the Internet easily. Latest research shows that global internet users spend almost 7 hours per day on the internet and an average of 2 hours 27 minutes per day on social media [19]. That is the reason SNSs attracts tourism businesses to be present on social media to do cost-effective promotions and engage with the customers as long as possible.

Social media offers not only cost-effective promotion tools but can also instantly reach millions of people. They can also be used to create a platform that brings together local governments, tourism businesses, industry partners, and other institutions interested in developing business relationships in this sector [32]. For people working in the tourism industry, the social media offers both new opportunities and barriers. Information technologies have changed the behaviour of the current travellers.

These travellers can easily access online content about travel and tourism with the help of social media and rank tourism products and services on online rating sites [3] .This has drastically changed how information is created and disseminated on the internet [9] .Access to large amounts of data also allows analysing with greater precision patterns and segments, optimising marketing strategies not only for tourism businesses but also for tourism policymakers [21].

Developments in ICTs and, especially, the use of web technologies (Social Media Web 2.0), have brought the world closer and paved the way for new kinds of commitment and relationships. Opinion, Ratings and comments on the web, rankings, etc., are shaping the reputation of tourism businesses and business success, are closely linked and are inseparable [27].

As a part of smart tourism, this paper focuses on the SNSs used by tourism businesses for their promotions. This study more specifically investigates how Tourism businesses in India utilise Instagram accounts to promote their product for business development. This study also explores how Tourism businesses in India use Instagram accounts as a part of a smart tourism ecosystem and the

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degree of use by its type of tourism businesses. The study suggests how Instagram account networking helps tourism businesses to reach more Instagram users.

2. Review of Literature

2.1Instagram –Social Network Site

Instagram, a social networking site, was introduced to the world by Facebook in October 2010. Instagram is an ideal social platform because one can just snap a few photos and videos and see what is going on. Most of the brands are created through eWOM (electronic word of mouth), which involve users' opinion about products and services posted on Instagram. Instagram is a supporting factor in establishing the phenomenon of a tourism destination branding in public.

According to the most recent survey, Instagram is the "favourite" social networking site around the world. It is still a close call though: 14.8 percent of global internet users chose Instagram as their favourite's platform, compared with 14.5 percent for Facebook [19]. As per Meta's data in 2021, more than a quarter of a billion new users joined Instagram. Instagram global ad reached almost 1.5 billion users by the start of 2022 [19].Till January 2022, India had a total of 230.25 million numbers of Instagram users, the largest Instagram audience in the world[17].

Instagram users are heavily engaged with content on the site and blow other social media platforms away. Instagram has a 2.3% engagement rate per follower. Facebook (which owns Instagram) has only 0.2 percent and Twitter is at 0.3 percent [20]. Additionally, Instagram users share, like, and comment much more frequently. They are interacting with more than just pictures, too. Instagram videos have two times more engagement than videos on other networking sites.

Instagram is a good social site platform to build a network and promote product. Tourism businesses also preferring Instagram compared with the other social networking sites. As 90% of all users on Instagram follow at least one business account**,** 83% of Instagram users discover new products and services on the platform,50% of Instagram users are more interested in a brand when they see ads on Instagram, 59% of micro-influencers believe that they get the best engagement on Instagram [18] . These Instagram statistics clearly prove its growth ratio. No wonder the world's biggest brands prefer Instagram over other social platforms to promote their products and services. Most of the studies conducted on Facebook compared to Instagram. That's why Instagram is selected for the study.

2.2Social Networking Sites (SNSs) and Tourism Businesses

Social media is described as "internet-based programs that transport user-generated content." [36]. .Social media permit internet users to exchange travel-related information all over the world through User-Generated Content (UGC), engaging in electronic word-of-mouth (eWOM) behaviours[11].SNSs are virtual communities that allow members to connect and communicate with other users on a particular issue and exchange knowledge and experiences[34]. SNSs are becoming an essential component of travel.Today's travellers use SNS to research travel-related goods and services before a trip. [23]; post and share real-time feelings [29] , tourism reviews, sentiments, and personal experiences while on their trip[36].

The way people travel has changed due to SNSs and mobile technologies, which is especially significant when making tourism-related decisions. Through peer-to-peer product recommendations and electronic word-of-mouth(eWOM), SNS have unquestionably converted travellers from passive consumers of tourism experiences to active co-producers of experiences [11].

User-Generated Content (UGC) is widely regarded as credibleand substantial information for travellers, managers, and researchers [22]. With the intangible service nature of the tourism product, the social Web represents an ideal venue for travellers to access information [33].

Social media is used in tourism businesses to gain competitiveness in many dimensions, including Providing information, Contact with the customer, Marketing to the tourist, Feedback from customers, Building a customer network, Brand engagement, Increasing profit, and Customer engagement[30]. Some of the key information of tourists like destination information search, information sharing among tourists as well as destination marketing and promotion by Destination Management Organizations (DMOs) for tourists, have been upgraded through the use of social media in the tourism industry [9].

Xiang and Gretzel and Ayeh emphasised the importance of social media in assisting travellers' purchase and decision-making processes in vacation planning [36,2]. Recently online social networking platforms like Linkdein Facebook, Google, YouTube, and Trip Advisor have been some of the widely used social media sites by tourists and tourism organisations [1].The importance of social media presence in marketing tactics has grown. Social media advertising and product promotion through business accounts have both been found to be effective. This study also shows as per the profile of tourism

businesses could impact the level of SNS use for promotions, below some important research questions considered for the study:

Research Question 1: Does the tourism businesses promptly use their Instagram accounts to offer tourism information to users as a promotion?

Research Question 2: Do the type of Tourism business vary the levels of Instagram account utilisation.

2.3Smart Tourism Ecosystem

The adjective "smart" is frequently added to technology terms to suggest remarkable capabilities, intelligence, and/or connection, such as Smartphone's and smart cards. It is defined as technology that operates with little to no human interaction, Computer Hope (n.d.).Oxforddictionaries.com (n.d.)[28] in the context of technology, the term "smart" denotes the capacity for independent action.Smart is increasingly also used to denote the efficient use of resources by utilising cutting-edge technologies [15].Smart tourism has multiple components and layers of smart that are supported by ICTs **(Figure 1)**

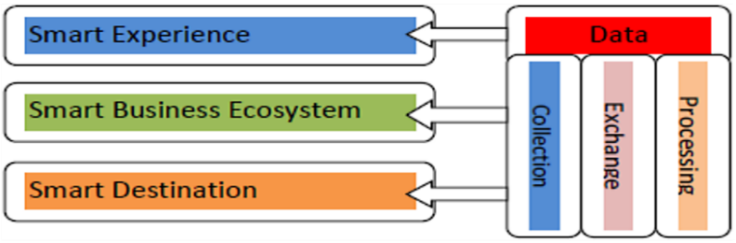

Fig 1.: Layers of Smart Tourism (Gretzel, 2015b)

Information and communication technologies have been essential in tourism ecosystems for connecting the different players that add value to the experience [35]. consequently, a smart tourism ecosystem (STE) is a tourism system that uses smart technology to develop, manage, and offer intelligent touristic services and experiences. It is distinguished by intense information sharing and value co-creation. A key responsibility of the STE is gathering, processing, and exchanging data related to tourism [37]. The STE consists of several stakeholders including tourists and residents, suppliers, tour operators, travel agents, support services like telecom, banking/payment services, and social media. It also includes regulatory bodies and NGOs, transportation providers, travel technology and data companies (Amadeus, Sabre, etc.), consulting services, and more (medical services, retailing, etc.).

It is crucial to understand that while an STE cannot be built, the required technological and legal foundations may and must exist for the tourism ecosystem to become intelligent. According to the literature review, various technologies appear to be crucial to the success of STE.Due to the increased mobility of its consumer species, mobile and wireless technologies are crucial in a STE [25]. The importance of social media is also highlighted by the fact that consumer species are highly motivated to create, distribute, and consume social content [36]. Tourism businesses use Instagram for sharing the travel products as an information ecology, which refers to the interrelationships between relevant online sites. Information ecology is a concept that focuses on the interactions between individuals, organisations, technologies, and the surrounding information environment [32]. Humans are at the centre of the information ecosystem, which includes information strategies, information-seeking behaviours, information management, and information structures. Thus, by examining smart tourism ecosystems, we can describe how business actors in smart tourism are dynamically interconnected, collaborating, and seamlessly exchanging resources with stakeholders. This research focuses on information communicated through Instagram. On Instagram, customers visit tourist business pages to learn more about the products they offer or the destinations they promote.

Through these networks, tourism businesses can also interact with users and share information. Tourism businesses might also connect to information from other organisations or media outlets on their social media pages. Tourism business sites are now linked to other tourism business sites via link services such as "likes" or comments and shares. Furthermore, in a smart tourism ecosystem, tourism businesses become more open and technology-focused as infrastructure and data providers by using SNSs. Keeping this in mind, the current study seeks to investigate the network structure of Tourism businesses' Instagram accounts and the organisations "liked" (or linked) by them as part of a smart tourism ecosystem. As per literature below research question developed.

Research Question 3: As part of a smart tourism ecosystem, how Tourism Businesses Instagram accounts are following other accounts?

3. Research Methodology

This study is exploratory. The methodology is adopted from Park, J. H., et al.2016 and Dogra.J and Kale S, 2020.

3.1 Selection of Tourism Businesses

study total of ten tourism businesses as the study investigates the types of tourism businesses and if there is any variation in the use of Instagram accounts. So the tourism businesses selected on the basis of their presence in PAN India, Presence in Multiple states and presence in one state. Only those tourism businesses finalized for the study that followed others Instagram account, as it is assumed that they are interconnected with third party stakeholders with regard to the smart tourism ecosystem.

The selected tourism organisation are also categorised into three types. First, entirely online operated tourism businesses (ex. MakeMyTrip, Cleartrip, and Yatra.com). Second, the tourism businesses those operate in a mixed mode online and offline (Physical premises) ex. Veena World, Kesari tour, Akbar Travels, Thomas cook and SOTC. Whereas the Third type includes offline mode tourism businesses

but that has a website and social media accounts ex. Girikand Travels.

3.2Development of Variable and Data

In preparation for content analysis, the number of 'total postings' and 'total responses to users' postings' were collected during three months for this study. The network data depicts the relationships between Tourism firms' Instagram profiles and their co-liked accounts. A network based on these interactions, on the other hand, is a 2-mode network since it contains two distinct sets of entities, viz. (1) Instagram accounts for travel companies and (2) Instagram accounts for travel channels, Food and culture channels, Tourism boards, celebrities sport and film, other tourism businesses, and organisations. If the rows and columns in a matrix index represent different sets of entities, the matrix is a 2-mode matrix [7].

The term mode refers to a class of entities in this context. Members in the 1-mode scenario have social relationships with other members, whereas members in the 2-mode instance have social ties with members in another class. Members in the 1-mode scenario have social relationships with other members, whereas members in the 2-mode instance have social ties with members in another class. A node can be an individual or a higher-level component of the system, such as an organisation or a country. This link is generally the frequency of communication among the nodes in communication studies [5].In this scenario, the study gathered information on which tourism businesses' Instagram accounts liked other organisations' accounts.

This type of information is also known as affiliations, co-memberships, and co-link relationships with other organisations. It creates opportunities for social relationships among tourism enterprises as actors, as well as a result of existing tourism linkages. As a result, this study gathered information on how tourism businesses are tied together through various travel channels, organisations, and so on. This research used 10X77 matrices (each Tourism Businesses listed X each organisation 'following' by the Tourism Businesses Instagram accounts). where each cell was labelled with a '1' for following and a '0' for not-following. To create a 10 (Tourism Businesses) 10 matrix of joint affiliation of Tourism Businesses in the Instagram network, the primary dataset was pre-multiplied by its transposition.

Then, two forms of centrality were assessed using UCINET 6 [8] to identify which tourism businesses or organisations have a substantial influence on the Instagram accounts, degree centrality and eigenvector centrality. The degree centrality in this study first shows how many organisations between two tourism businesses are associated with one another. A greater degree-centrality score is obtained by having more like relationships rather than merely increasing the degree centrality score. Second, according to Barnett, eigenvector centrality takes into account both direct and indirect social links between nodes. More central Tourism businesses could boost their centralities due to the inherent circularity involved in the calculation of eigenvector centrality.

4. Result and Discussion

4.1 Social Networking Sites (SNSs) and Tourism Businesses

In the first finding, Facebook, Instagram and Twitter are the most preferred SNSs accounts used by tourism businesses for their promotions. Youtube and LinkedIn are in the second position followed by Pinterest. Tumblr is just used by only Kesari Tours. SOTC, Thomas Cook and Veena World found the greatest number of activated accounts on SNSs. Kesari tour found the highest accounts on the SNSs.(Table No. 1)

Table 1.: Social Media Platform used by Tourism Businesses

	Facebook	Instagram	Twitter	YouTube	LinkedIn	Pinterest	Tumblr
Akbar Travels	√	√	√	–	–	–	–
Cleartrip	√	√	√	–	√	–	–
Kesari Tours	√	√	√	√	√	√	√
Make My Trip	√	√	√	–	–	–	–
Girikand Travels	√	√	√	–	–	–	–
SOTC	√	√	√	√	√	√	–
Thomas Cook	√	√	√	√	√	√	–
Vacation Exotica	√	√	√	–	√	–	–
Veena World	√	√	√	√	√	–	–
Yatra.com	√	√	√	√	√	–	–

Table 2.: Post and profile of followers and following accounts by the Tourism Businesses

Type of Post posted by Tourism businesses	Profile of followers	Profile of accounts followed by Tourism businesses
Tourist Destination	Individuals	Travel Channels
Customer experience	Travel Bloggers	Travel Magazines
Product offers	Hotels	Airlines
Corporate affairs	Retail Travel Agent	Hotels
Monuments	Tourism Academician	State tourism Boards
Adventure	Land service Supplier	International Tourism Boards
Wildlife	Hoteliers	Celebrities (Sport/Film)
Nature	Tourism stakeholders	Business Global leaders
Culture		Political leaders
Cuisine		News Channels
Spirituals		Tourism stakeholders

Table 3.: Basic information of Tourism Businesses Instagram accounts

Tourism Businesses	Post Within Three Months (15 Oct-15 Jan 2022)	Likes	Total Post	Followers	Following
Kesari	266	66013	1634	27000	66
Veena World	206	59586	4226	27700	235
Thomas Cook	141	64580	4202	50400	144
Yatra.com	103	833441	1422	39200	54
SOTC	93	31251	1906	30700	28
Make My Trip	88	1293074	1344	166000	43
Cleartrip	35	214876	851	49400	31
Vacations Exotica	33	822	1133	4511	185
Akbar Traveles	16	473	191	14000	662
Girikand Travels Pvt Ltd	3	46	391	1015	100

4.2 RQ1 and RQ2

The content analysis indicates that both mixed mode offline and online tourism businesses like Kesari Tour, Veena World, and Thomas Cook are active on the Instagram account as compared with online Tourism Businesses. They are posting more posts in three months and trying to reach large numbers of users and want to be more engaged with the customers. Those tourism businesses already providing online services like Makemytrip, Cleartrip.com and yatra.com arenot focusing more on the SNSs accounts. However, as they are online travel service providers, they have more likes and followers on Instagram accounts compared with both mixed offline and online tourism businesses.

The Make My Trip has the highest 1,66,000 followers on its Instagram account. The Medium scale offline mode service providing Tourism businesses like Grirkand Travels Pvt. Ltd.and Vacation Exotica is not yet focused on the SNSs,they have posted few posts in three months and do not have many followers on SNSs accounts. There is a significant difference in the number of posts posted by tourism businesses on Instagram accounts and likes to their post.

Online tourism businesses post very few posts like Makemytrip and Cleartrip.com on Instagram accounts but as they have a high number of followers, that is why they have more likes per post compared with mixed mode offline and online tourism businesses (Table no. 3).A regular and average of 10 to 20 posts are posted per week by Kesari Tour, Veena World, and Thomas cook so that customers should engage with them continuously. Very negligible posts posted by offline tourism businesses like Girikand Travels Pvt. Ltd. (Table no. 4).

The result indicates that the level of Instagram account use varies as per the types of Tourism businesses. The Tourism businesses Instagram accounts sharing most of the posts related to Tourist destinations, Product offerings, Nature, Monuments, and Adventure tourism, and their accounts try to share as much information to users for their promotion online. Most of the followers of the tourism businesses' Instagram accounts are retail travel agents, Individuals, Travel bloggers, Land service providers, and Hoteliers (Table no. 2).

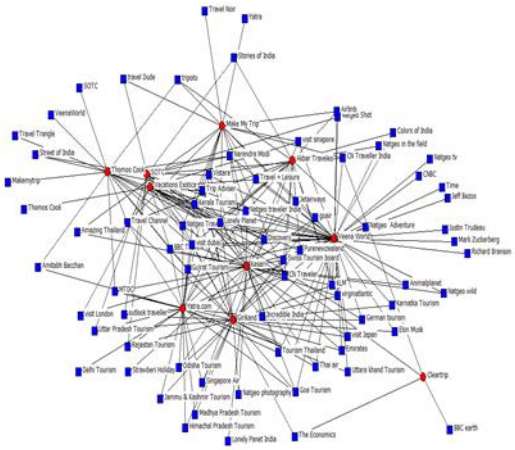

Fig 2.: Tourism business's SNS Instagram accounts network visualization

4.3 RQ3

The social network analysis was conducted to find out the tourism businesses' centrality in the Instagram account network. The researchers have given more emphasis on the Tourism businesses' accounts that are following other tourism businesses' or stakeholders' Instagram accounts to promote their business and reach out to the large number of Instagram users who are connected with them. Fig. 2 displays a graphic representation of the network analysis outcomes. To create the network's multi-dimensional graph, the network's first two dimensions were plotted, with the idea being that the ties between organisations in the tourism industry are more similar the closer they are to one another.

The study found that Tourism businesses follow most of the Travel or news channels, state or International Tourism boards, Travel magazines, and Celebrities' Instagram accounts (Table no. 2) as they have a large number of Instagram followers. As per Table 4, The Veena world has the highest degree of centrality (136) and Eigenvector centrality (0.504). The result indicates that the Veena world is using the Instagram account in a better way for promotion and developing a good Instagram account as a part of the smart tourism ecosystem. Followed by the Kesari tour has the degree of centrality (127) and Eigenvector centrality (0.458) in the second position and Girikand travel has the degree of centrality (118) and Eigenvector centrality (0.452) in the third position. Girikand travels Pvt. Ltd. has a good degree of centrality but the number of posts per week in three months is very less.

Table 4.: Tourism Businesses Instagram Accounts utilisation and centrality

Tourism Businesses	Posting / Week in 3 Month		Likes on Post in 3 Month		Degree Centrality of Tourism Businesses		Eigenvector Centrality	
	M	SD	M	SD	Degree	N degree	Eigenvector	N Eigenvector
Kesari	20.5	9.4	248.2	490.6	127	0.487	0.46	64.7
Veena World	15.8	3.55	289.2	452.9	136	0.521	0.50	71.3
Thomas Cook	10.8	2.44	458	676.6	67	0.257	0.21	29.5
Yatra.com	7.92	2.17	8091.7	24800	99	0.379	0.34	47.6
SOTC	7.15	4.48	355.1	464.7	57	0.218	0.17	24.4
Make My	6.76	1.92	15393.7	80240	72	0.276	0.22	30.7

Trip								
Cleartrip	2.69	1.97	6139.3	30456	10	0.038	0.03	3.7
Vacations Exotica	2.53	0.51	24.9	37.09	79	0.303	0.24	34.4
Akbar Travels	1.23	2	29.56	11.47	79	0.303	0.25	35.4
Girikand Travels Pvt Ltd.	0.23	0.43	15.33	4.16	118	0.452	0.42	59.9

5. Conclusion

This study investigated the utilisation of Instagram accounts by Tourism businesses for their promotion. The result indicates that some Tourism businesses promptly use multiple social networking sites, including Instagram, to coordinate with market and do a promotion of their products. On base of study, we can argue that social media is playing an important role in building a smart business ecosystem. According to the findings of this study, the tourism businesses were highly ranked in the network, which indicated they had more co-linked organisations on their Instagram account.

This implies that they will actively use Instagram and will have a greater scope to reach Instagram users all over the world. When compared to mixed mode tourism businesses, those who simply operate online are less active on Instagram. It might be because these tourism businesses have been operating online for more than 15 years and have established a name in the industry, or it could be because they are actively using SNS accounts other than Instagram.

Network analyses have been used to show how Tourism businesses Instagram accounts follow as part of a smart tourism ecosystem. The result shows that Tourism businesses follow other Instagram accounts of International News Channels, International Travel Channels, International sports/film celebrities, International magazines, International Political leaders,etc. The main reason for following these accounts is these accounts have a large number of followers all over the world and it is an excellent opportunity to reach up to them. NatGeo Travel, Lonely Planet, CN Tavel, TripAdvisor, and Kerala Tourism board Instagram accounts are most followed by Tourism businesses as these are important tourism-related channels and tourism board has strong followers all over the world on Instagram.

Tourism businesses also follow other tourism businesses, tourism service providers, and tourism stakeholders' Instagram accounts. It creates a smart tourism ecosystem in which all stakeholders are connected to produce a good experience for the traveler or be in touch with the other tourism stakeholders. The study suggest that the tourism businesses have to build their own business ecosystem by following the Instagram account of other tourism stakeholders like other tour operators, Hotels, Airline, Travel channels, Tourism boards, Travel magazines, (Film, social, political, & sport celebrities), tourism suppliers, government bodies, and DMOs for a strong network. The same network will help tourism businesses to reach out the target audience and enhance the traveller’s experience. The number of connection mode tourism businesses increase with the stakeholders it will make their strong centrality position in the tourism network.

The Mix mode tourism businesses have fewer followers compared with other entirely online mode tourism businesses. Although, they have a high degree of centrality compared with online tourism businesses as they have concentrated more tourism stakeholders 'Instagram accounts as followers rather than simple individual accounts. Vice versa, fully online mode tourism businesses have the highest number of followers but they have less degree of centrality as they have high individual followers and very few are tourism stakeholders and also following more Individuals accounts rather than tourism stakeholders.

It indicates that the mix mode tourism businesses using SNS accounts smartly to focus on those Instagram accounts that have a high number of followers and other tourism stakeholders to build a smart network. The mixed mode tourism businesses also provide chatbot services on their websites for their customers. More accessibility, information visibility, product availability, and visitor pleasure will be made possible by effectively combining ICT into the tourism sector [4]. It is fascinating to see how social media can be utilised to generate massive data that can be used for policy development and tourism business research. This study's

key contribution is that it provides a comprehensive overview of how Indian tourism enterprises have recently used SNSs for promotional objectives.

According to this study, using SNSs by tourism firms is advantageous for businesses and potential customers who are searching for information and various tourism service providers online at any time and from any location. Tourism businesses can get benefit by developing a good smart business ecosystem where they can develop a strong network and business with minimum cost. However, we acknowledge that our study has certain drawbacks, the most notable of which is that it is a small study that only covers one SNS, namely Instagram. Further studies may consider other social media platforms. The utilisation of larger datasets from additional SNSs, more complex variables, and global studies are thus encouraged for future empirical research. In-depth interviews with social media marketing managers of tourism businesses may also help to improve our understanding of how social media is used for active promotion. Therefore, future studies that use content analysis with a bigger sample size and in-depth interviews with practitioners may offer more precise findings.

References

[1] Abou-Shouk, M. A., &Hewedi, M. M. (2016). Antecedents and consequences of social media adoption in travel and tourism: Evidence from customers and industry. International Journal of Economics and Management Engineering, 10(2), 652–659.

[2] Ayeh JK, Au N, Law R. Predicting the intention to use consumer-generated media for travel planning. Tourism Management 2013;35:132-43.

[3] Baker, M.A. and Kim, K. (2019), "Value destruction in exaggerated online reviews: the effects of emotion, language, and trustworthiness", International Journal of Contemporary Hospitality Management, Vol. 31 No. 4, pp. 1956-1976.

[4] Bethapudi, A. (2013). The role of ICT in the tourism industry. Journal of Applied Economics and Business, 1(4), 67–79.

[5] Barnett, G. A., Danowski, J. A., & Richards, W. D. (1993). Communication networks and network analysis: a current assessment. In W. D. Richards, & G. A.

[6] Barnett (Eds.), Progress in communication science (Vol. 12) (pp. 1–19). Norwood, NJ: Ablex. Barnett, G. A., Danowski, J. A., Feeley, T. H., & Stalker, J. (2010). Measuring quality in communication doctoral education using network analysis of faculty-hiring patterns. Journal of Communication, 60, 388–411.

[7] Borgatti, S. P., & Everett, M. G. (1997). Network analysis of 2-mode data. Social Networks, 3, 243–269.

[8] Borgatti, S. P., Everett, M. G., & Freeman, L. C. (2002). UCINET for windows: software for social network analysis. (Version 6). Harvard, MA: Analytic Technologies.

[9] Buhalis, D., & Law, R. (2008). Progress in information technology and tourism management: 20 years on and 10 years after the internet – The state of etourism research. Tourism Management, 29(4), 609–623.

[10] Chang, Y.-C., Ku, C.-H. and Chen, C.-H. (2019), "Social media analytics: extracting and visualising Hilton Hotel ratings and reviews from TripAdvisor", International Journal of Information Management, Vol. 48 No. 10, pp. 263-279.

[11] Chu, S.C.; Kim, Y. Determinants of consumer engagement in electronic word-of-mouth (eWOM) in social networking sites. Int. J. Advert. 2011, 30, 47–75. [CrossRef]

[12] Computer Hope (2015). Smart. Accessed online (January 27, 2015) at .<htpp://.www.computerhope.com/jargon/s/smart.htm>.

[13] Dogra, J and Kale,S. (2020). Network Analysis of Destination Management Organization Smart Tourism Ecosystem (STE), Handbook of Research on Social Media Application for the Tourism and Hospitality sector (PP 1-16),IGI Global,DOI:10.4018/978-1-7998-1947- 9.ch001

[14] Gretzel, U., Sigala, M., Xiang, Z., & Koo, C. (2015a). Smart Tourism: Foundations and developments. Electronic Markets, 25(3), 179–188. doi:10.100712525-015-0196-8

[15] Gretzel, U., Werthner, H., Koo, C., &Lamsfus, C. (2015b). Conceptual Foundations for Understanding Smart Tourism Ecosystems. Computers in Human Behavior, 50, 558–563. doi:10.1016/j.chb.2015.03.043

[16] Hunter, W. C., Chung, N., Gretzel, U., & Koo, C. (2015). Constructivist research in smart tourism. Asia Pacific Journal of Information Systems, 25(1), 105–120.

[17] https://www.statista.com/statistics/578364/countries-with-most-instagram-users/

[18] https://www.socialpilot.co/blog/instagram-over-other-social-media-platform

[19] https://wearesocial.com/uk/blog/2022/01/digital-2022-another-year-of-bumper-growth-2/

[20] John Walker ,2023 https://tedigitalmarketing.com/tourism-marketing/why-using-instagram-for-tourism-marketing-is-a-no-brainer/

[21] Julio N.M. et al. 2018, Progress in information technology and tourism management: 30 years on and 20 years after the internet - Revisiting Buhalis & Law's landmark study about eTourism, Tourism ManagementVolume 69, December 2018, Pages 460-470, https://doi.org/10.1016/j.tourman.2018.06.002

[22] Kar, A. K., Kumar, S., &Ilavarasan, P. V. (2021). Modelling the service experience encounters using user-generated content: A text mining approach. Global Journal of Flexible Systems Management, 22, 267–288. 10.1007/s40171-021-00279-5

[23] Kotler, P.; Bowen, J.T.; Makens, J.C. Marketing for Hospitality and Tourism; Prentice Hall: Upper Saddle River, NJ, USA, 2010.

[24] Lo, A.S. and Yao, S.S. (2019), "What makes hotel online reviews credible? An investigation of the roles of reviewer expertise, review rating consistency and review valence", International Journal of Contemporary Hospitality Management, Vol. 31 No. 1,pp. 41-60.

[25] Lamsfus, C., Martin, D., Alzua-Sorzabal, A., & Torres-Manzanera, E. (2015). Smart tourism destinations: An extended conception of smart cities focusing on human mobility.

[26] Tussyadiah& A. Inversini (Eds.), Information and communication technologies in tourism 2015 (pp. 363–375). Heidelberg, Germany: Springer

[27] Öğüt H., Onur Taş B.K. (2012): The influence of internet customer reviews on the online sales and prices in hotel industry. "The Service Industries Journal", Vol. 32, No. 2, February, pp. 197-214, http://dx.doi.org/10.1080/02642069.2010.529436.

[28] Oxforddictionaries.com (n.d.). Smart. Accessed online (January 27, 2015) at .<http://www.oxforddictionaries.com/definition/english/smart>.

[29] Pan, B.; MacLaurin, T.; Crotts, J.C. Travel blogs and the implications for destination marketing. J. Travel Res. 2007, 46, 35–45. [CrossRef]),

[30] Pannee Suanpang,International Journal of Innovation, Management and Technology, Vol. 11, No. 1, February 2020, doi: 10.18178/ijimt.2020.11.1.871)

[31] Park, J., & Oh, I.-K. (2012). A case study of social media marketing by travel agency: The salience of social media marketing in the tourism industry. International Journal of Tourism Sciences, 12(1), 93–106.

[32] Park, J. H., et al. An analysis of the utilisation of Facebook by local Korean governments for tourism development and the network of smart tourism ecosystem. International Journal of Information Management (2016), http://dx.doi.org/10.1016/j.ijinfomgt.2016.05.027

[33] Tan, G.W.-H., Lee, V.-H., Hew, J.-J., Ooi, K.-B. and Wong, L.-W. (2018), "The interactive mobile social media advertising: an imminent approach to advertise tourism products and services?", Telematics and Informatics, Vol. 35 No. 8, pp. 2270-2288.

[34] Wang, Y.; Yu, Q.; Fesenmaier, D.R. Defining the virtual tourist community: Implications for tourism marketing. Tour. Manag. 2002, 23, 407–417. [CrossRef]

[35] Werthner, H., & Klein, S. (1999). Information technology and tourism: A challenging relationship. Wien: Springer-Verlag

[36] Xiang, Z., & Gretzel, U. (2010). Role of social media in online travel information search. Tourism Management, 31(2), 179–188

[37] Zhang, L. (2012). Smart tourism: The coming age of customisation and intelligent public services. Journal of Tourism Tribune, 27(2), 3-5

[38] Ms. Pooja Sahu. (2015). Automatic Speech Recognition in Mobile Customer Care Service. International Journal of New Practices in Management and Engineering, 4(01), 07 - 11. Retrieved from http://ijnpme.org/index.php/IJNPME/article/view/34

[39] Wanjiku, M., Ben-David, Y., Costa, R., Joo-young, L., & Yamamoto, T. Automated Speech Recognition using Deep Learning Techniques. Kuwait Journal of Machine Learning, 1(3). Retrieved from http://kuwaitjournals.com/index.php/kjml/article/view/135