

## **Social media and Tourism: A cross-platform study of Indian DMOs**

### **Abstract**

Social media is an excellent medium for sharing content to promote destinations and engage tourists. This study aimed to examine the impact of content characteristics of social media posts shared by destination marketing organisations (DMOs) on tourist engagement. An analysis of over 12000 posts and 3.65 million tourist impressions recorded on 16 official Indian DMOs' Facebook and Twitter handles was undertaken. Tourist engagement was measured by likes, comments/tweets, and shares/retweets counts. The analysis revealed that interactive and informative posts gained maximum engagement on Facebook and Twitter, respectively. The varied effect of content richness and content elaborateness were explicated. The study contributes to the emerging literature on tourist engagement and provides practical prescriptions for DMOs to effectively design cross-platform content.

### **Keywords**

Content elaborateness, Content richness, Destination marketing, Facebook, Tourist engagement, Twitter

**Total Word count: 8843**

**Disclosure:** The authors report there are no competing interests to declare

## **1. Introduction**

Consumer travel research and decision-making are increasingly impacted by the faster and wider spread of word-of-mouth information via social media platforms (Leung, 2019). Resultantly, tourist destinations have also added social media platforms to their traditional marketing portfolio (Uşaklı et al., 2017). These platforms allow tourism destination marketers to undertake extensive brand-related activities engaging consumers in real-time two-way communication and peer-to-peer consumer engagement (Hollebeek & Brodie, 2016). Leveraging this, organisations use social media platforms like Facebook and Twitter to develop and transform their product/service offerings (Kumar et al., 2022). Facebook and Twitter account for 2910 million and 486 million active users (DataReportal, 2022). With such a large user base, these social media platforms become critical for providing a much richer experience to users by allowing them to read, use the information on travel choices, and post personal experiences (Chugh et al., 2019).

Public and private organisations involved in developing, maintaining and promoting destinations are referred to as Destination Marketing Organisations (DMOs; Morrison, 2013). Marketing communication by DMOs is being transformed with the growth of social media (Kumar et al., 2022). Recently, the public DMOs are also adopting social media platforms to reach, communicate and interact with local and global consumers (Chugh et al., 2019). Within social media platforms, Facebook and Twitter are the two most popular choices by public DMOs (Roque & Raposo, 2016). On the one hand, DMOs leverage it to communicate extensive information about their offerings to influence consumers' attitudes and preferences (Yang & Wang, 2015). On the other hand, there are many reviews, pictures and experiences shared by consumers on social media sites (McCreary et al., 2020). Consumers (tourists) use social media first to evaluate, then take up the destinations and finally share their experiences with others (Leung, 2019; Wong et al., 2020).

Despite the potential of social media, research is still limited in understanding the effective utilisation of social media as a marketing tool for tourism destinations (Mao et al., 2020). While researchers have explored the role of social media platforms for tourism organisations (Kumar et al., 2022; Uşaklı et al., 2017), destination managers are still not well-equipped with the platform and content strategies for

managing their social media marketing (Mao et al., 2020). The content strategy helps the destination increase its awareness, build a favourable attitude, strengthen its image, and increase the visitation numbers on social media (Kiráľová & Pavlíčka, 2015). Such objectives are achieved by providing interactive content like opinion polls and competitions and improving vividness through enhanced graphical representation. Secondly, different platforms vary in scope and functionality (Kietzmann et al., 2011) - e.g. platforms like Twitter facilitate the posting of short messages and updates of what users are doing, sharing of news, links etc., while rich media sharing platforms like Facebook concentrate on sharing experiences via videos, photos and links. Despite the growing research on DMOs' use of social media platforms, there is a need to understand the uniqueness of DMOs content strategy on different online platforms to effectively manage social media communication and enhance tourist engagement (Lalicic et al., 2020). Thirdly, most past studies have been done in either the Western (Lalicic et al., 2020; Leung, 2019) or Chinese (Mao et al., 2020; Yang & Wang, 2015) contexts. We extend the study scope beyond these geographies into India, the third-largest Asia Pacific country in international tourism expenditure (Statista, 2021). Travel and Tourism accounted for nearly 200 billion US dollars to India's GDP in 2019, and it ranked 10<sup>th</sup> among 185 countries in terms of contribution to GDP (IBEF, 2019).

Additionally, India is a very diverse country, with 36 DMOs representing the various states and Union Territories (UTs) in India (Kumar et al., 2022). The DMOs compete against one another to attract domestic and international tourists to their destinations. Despite the huge potential and the diversity of approaches followed by the various DMOs in India, there is limited research on their social media strategies. While a few studies have explored online behaviour in the Indian context, the focus has been limited to either sample from a single DMO (Chugh et al., 2019) or a sample from a single platform (Kumar et al., 2022) and hence a cross-platform study is necessitated (Lalicic et al., 2020). Facebook and Twitter are the two most widely used social media platforms by DMOs for communicating about destinations (Kumar et al., 2022). This becomes even more important since India has the largest number of Facebook users and the third-largest number of Twitter users worldwide (Statista, 2022a).

To bridge the above-highlighted gaps, this study aims to examine the relationship between DMOs' social media strategies and tourist engagement behaviour on two platforms – Facebook and Twitter with a larger sample of 16 Indian DMOs. Specifically, we explore whether the characteristics of posted content (content type) and the form in which it is posted (content richness) impact consumer engagement and whether it varies across platforms. Studies across Twitter and Facebook for Indian DMOs will help the DMOs to manage their social media presence effectively (Lalicic et al., 2020) through platform-specific content strategies. The study takes support from the Uses and Gratification theory (U&G; Katz et al., 1973) which assumes social media users as active participants engaging with the shared content and media (Rubin, 2009). Drawing from U&G theory and building upon previous empirical findings (Kumar et al., 2022; Lalicic et al., 2020), the present study posits that users of Facebook and Twitter would derive different gratifications from their use (demonstrating sociability and seeking information). Overall, the study offers insights into the utility of social media platforms for marketing the destination and tourist engagement behaviour.

The remainder of this paper is structured as follows: We start with the conceptual background and review the existing literature to derive the study hypotheses. We then discuss the method and data analysis section, followed by a commentary on our findings and study implications.

## **2. Theoretical framework and hypotheses**

### **2.1. Social media and DMOs**

Social media is a term used for a group of internet-enabled applications that allows the creation, communication and dissemination of user-generated content like comments, photos and videos (Kaplan & Haenlein, 2010). It is defined as "a web-based technological platform for online communication that enables users to connect and interact, share ideas and information, build and engage social networks, and develop online communities" (Chugh & Ruhi, 2019). The DMOs leverage social media platforms for favourably framing and marketing destinations, building relationships with current and potential visitors and increasing their advocacy (MacKay et al., 2017). This social media engagement by DMOs has been noted to significantly affect user intention

to visit a tourist destination (Pino et al., 2019). Further, with the increasing sophistication of tourists and their usage of social media as a source of destination information, it has become imperative for DMOs to leverage social media for communicating and engaging with tourists.

Social media platforms like Facebook and Twitter allow tourists to share their travel experiences, and tourism organisations can disseminate content about their offerings (Lalicic et al., 2020). For DMOs, social media offers an opportunity for a lot more demographic penetration at a significantly lower cost than traditional media (Kaplan & Haenlein, 2010). While the harnessing of social media by DMOs to attract tourists is still evolving, the pace with which DMOs are leveraging social media to engage tourists is pretty fast (Pachucki et al., 2022). DMOs are using social media as a promotional tool for supplementing the more traditional channels (Mao et al., 2020). Tourists use social media before deciding on their destination, on being at the destination, and after their trips (Leung & Jiang, 2018). Hence, social media play a considerable role for DMOs in creating an impact for tourists at the pre-trip stage, reducing risk, visualising the destination and making the destination choice (Kumar et al., 2022). Existing literature suggests that DMOs do not effectively utilise social media strategies resulting in a limited impact on tourists (Atwood & Morosan, 2015; Leung, 2019; Mao et al., 2020).

## **2.2. Difference between social media platforms**

The number and variety of social media platforms on the internet are large and growing. For instance, Facebook is a social networking site where users create their pages and share personal information, interests, photos, and videos. The users can also engage with others by liking, commenting or sharing the posts of their friends, other users and by brands on Facebook (Pachucki et al., 2022). On the other hand, Twitter is a micro-blogging site that allows users to publish content (tweet), like, forward (retweet) and comment on others' tweets. Tweets may include texts, hyperlinks to other sites, videos and photos but are limited in the number of words that can be included in the post. Each platform demands unique cognitive attributes and offers different value propositions that persuade consumers to use that platform (Pelletier et al., 2020). For instance, Facebook is considered to promote dialogues and social connectedness. However, for Twitter, the

emphasis is more on information dissemination. Specifically, Facebook is characterised by 'cognitively passive' discussions, while Twitter is characterised by 'attentive' discussions on shared information. Further, the platform characteristics also determine the nature of content that drives subsequent engagement on the platform. Twitter works on the limited attention span of individuals (the tweet length limit) and has been observed to satisfy informational requirements (Orellana-Rodriguez & Keane, 2018) while sharing information on Facebook is likely to be camouflaged by the personal social circle (Pelletier et al., 2020).

Given their differential nature, user interactions with posts on platforms are also different (Uşaklı et al., 2017). Kietzmann et al. (2011) identified seven blocks as part of the honeycomb framework and suggested that sites vary depending on which blocks they focus on. These blocks were identified as identity, presence, relationship, sharing, groups, reputation, and conversation. Kietzmann et al. (2011) noted that Facebook focuses primarily on relationships and concentrates less on presence, identity, reputation, and conversation. Twitter is likely to focus more on sharing information with a secondary concentration on presence, identity, reputation, and conversation. Understanding user motives on individual platforms is expected to aid DMOs to build effective social media content strategies.

### **2.3. DMO landscape in India**

India is home to a large number of historical places and destinations with unparalleled beauty. To leverage this, Indian DMOs use social media to disseminate information to international and domestic audiences (Chugh et al., 2019). Indian DMOs are classified as a) National Tourism Office (NTO) and b) State/Regional Tourism Office (STO/RTO). Ministry of Tourism, India manages NTOs, while STO/RTOs are managed by Indian states/UTs (Pike, 2004). India has 36 DMOs managed by 28 states and 8 UTs tourism departments (National portal of India, 2020). With India boasting the largest number of social media users globally, the state DMOs are investing in social media platforms for destination promotion (Kumar et al., 2022). Despite a large number of DMOs and their different platforms for promotion, there is scant literature analysing the content strategies of Indian DMOs across platforms.

## **2.4. Characteristics impacting Tourist engagement on social media**

A user's engagement with a post is measured by their liking, sharing or commenting on the post (Sabate et al., 2014). A review of content strategy on social media suggests that content interactivity, vividness, and elaborateness are the key determinants of user engagement with marketer-generated posts (Antoniadis et al., 2019; Tafesse, 2015). The determinants of content strategy (interactivity, vividness, elaborateness) have received mixed results across studies. However, such differences could also be on account of the social media platform (Facebook, Twitter) since, as discussed above, different platforms have different concentrations. The subsequent sub-sections deal with each content strategy element, leading to a build-up of our hypothesis.

### **2.4.1. Content type**

Content type details the tourism-related message shared by the DMOs on social media to facilitate tourist interactivity. Interactivity is defined as "the degree to which two or more communication parties can act on each other, on the communication medium or on the messages and the degree to which such influences are synchronised" (Liu & Shrum, 2002). Posts with only texts and without call for any user action to comment or give feedback are likely to rank lower on the interactivity continuum than posts that call for an immediate reaction from the user (Fortin & Dholakia, 2005). The research on the impact of interactive content versus purely informational content has also been mixed (Mao et al., 2020). Some researchers have argued that interactivity results in a positive attitude of the user toward the brand/site/post (Fortin & Dholakia, 2005) and resultantly higher user engagement (Schultz, 2017).

On the other hand, studies have argued that highly interactive brand content can lead to lower user engagement (Sabate et al., 2014; Tafesse, 2015). Interactive contents contain various interactive tools like hashtags, people/person tags, and links to external websites (Liu & Shrum, 2002), which add to the structural complexity of the post (Tafesse, 2015). These scholars argued that greater cognitive resources might be required for processing the posts with interactive content and hence

may reduce users' enthusiasm to engage with the same. While research gives mixed findings on whether interactive or informative content has a higher impact on user engagement, we argue that this could also be a function of the channel or media where the content is posted. The tweets posted on Twitter are primarily about sharing information, opinions, complaints, news or other similar activities (Hodeghatta & Sahney, 2016). DMOs primarily use Twitter for sharing destination-related information (Hays et al., 2013). Facebook, on the other hand, is about people building social capital, keeping up with people's lives and communicating with others (Lalicic et al., 2020). Hence, the essence of Twitter is more around information, while Facebook is more around interaction. With these differential characteristics of the two mediums, we argue that while content type will impact user engagement on social media, the impact will differ on different platforms depending on their unique characteristics and purposes. On Twitter, since users seek and share information, informative content is likely to generate a higher engagement. On Facebook, since the emphasis is on engagement and building social capital, users are likely to engage with posts that demand an interaction with the user. With this background, we hypothesise that:

*H1: Content type influences user engagement on social media, such that*

*H1a: Informative content type results in higher user engagement than interactive content type on Twitter*

*H1b: Interactive content type results in higher user engagement than informative content type on Facebook.*

#### **2.4.2. Content richness**

Content richness denotes the inclusion of media such as photos and videos to enhance post vividness (Sabate et al., 2014). The vividness of a post represents a sensory stimulus that may be considered to be part of the peripheral route of decision-making as per the Elaboration Likelihood Model (ELM) of persuasion (Petty et al., 1983). Vividness is a function of sensory qualities activated by a medium/content and the experience it generates (Fortin & Dholakia, 2005). It is a characteristic feature of the medium and content (Tafesse, 2015). In terms of medium, a newspaper/magazine is

considered less vivid than television or browsing on the internet as the latter stimulates a higher visual and/or auditory sense (Tafesse, 2015). Within the medium, vividness is also considered to vary with content. Thus, within an online medium, content having photos or videos is considered to be more vivid than content that has only text (Annamalai et al., 2021; Daugherty et al., 2008). Past research signals a positive effect of vividness on audience response across all online mediums, including social media (Sabate et al., 2014). Since vivid content is rich in visual, auditory or other cues, it will likely produce a satisfying experience for the user (Daugherty et al., 2008). This case is likely truer in destination tourism, where content with greater vividness is likely to stimulate feelings similar to the eventual experience the user intends to have. A photograph/video showing the destination location or people enjoying their experiences at those locations is likely to evoke a stronger response from users than posts that describe the same in words. We hence hypothesise that:

*H2: Visual content has a positive association with user engagement on both Twitter and Facebook*

### **2.4.3. Content elaborateness**

Content elaborateness measures the length of the information shared in the message (Hernández-Ortega et al., 2020). In advertising literature, elaborateness measured using message length was found to affect outcome measures such as click-through rates (Robinson et al., 2007). On social media, the post length has been found to significantly affect user engagement (Antoniadis et al., 2019). The length of the post represents the amount of information passed on to the user and impacts the user's ability to process that information (Sabate et al., 2014). The impact of post length on user engagement is yet to be conclusively established, with certain studies suggesting a positive impact (Antoniadis et al., 2019; Sabate et al., 2014) while others suggest a negative or non-significant impact (Lee et al., 2018; Schultz, 2017).

A higher post length is related to more information (Schultz, 2017). Extensive information provided in a long post may help the individual assess the attributes of the offering (Gupta & Harris, 2010).

Lahuerta-Otero et al. (2018) observed that tweet lengths significantly impacted the likes and retweets of posts on Twitter. Similarly, Mariani et al. (2016) found that the length of the posts significantly impacted user engagement on Facebook. A post employing less number of words may be difficult to understand and not be able to establish effective communication, resulting in lesser popularity (Hernández-Ortega et al., 2020). While a higher post length provides greater information, there is an inflexion point beyond which there could be an adverse reaction from the users (Hernández-Ortega et al., 2020) since overtly long posts require higher effort and may even prevent users from reading them. Mariani et al. (2016) found that user engagement reduced as the length of tourist destination posts increased. Mariani et al. (2016) found that while most posts by DMOs were 100-300 words, the posts with 200 words evinced greater engagement from users compared to longer or shorter posts signalling an inverted U-shaped relationship between the post length and user engagement.

We argue that in the case of destination marketing, travellers actively seek out destination-related information – what to see, where to stay, what activities to do and how to make the most of the destination travel. A post with greater information relevant to what the tourist is looking for will likely evoke greater interest in the tourist. However, in line with arguments for higher cognitive processing requirements for very long posts, we propose an inverted U-shaped relationship between the length of posts and the users' engagement on Twitter and Facebook. Hence, the following hypothesis is proposed:

*H3: Content elaborateness has an inverted U-shaped influence on user engagement on both Twitter and Facebook*

Having explored the impact of individual elements of content strategy, we now explore the impact of the interaction between interactivity and vividness on user engagement. This interaction is likely to occur since users typically view the post holistically by combining these elements, shaping their engagement (Mao et al., 2020).

#### **2.4.4. Interactions between content type and content richness**

Applying ELM of persuasion on social media engagement, the content type takes the central route as it necessitates extensive thinking and elaboration. Content richness, determined by the type of media shared, requires minimal cognitive efforts and takes the peripheral route (Annamalai et al., 2021). Having argued earlier that informative content is likely to elicit greater user engagement on Twitter and interactive content likely to elicit greater user engagement on Facebook, we now argue that this engagement is expected to be magnified in the presence of a vivid post as against a non-vivid post. In the case of Twitter, users are likely to seek and share information. In the case of destination tourism, photos/videos are a significant contributor to information related to the experience at the location. The informational content the user is looking for is likely amplified in the presence of images/videos of the destination. Thus, a visual post, in the case of Twitter, is likely to contribute to the informational element embedded in the Tweet and enhance the user experience (Wang et al., 2019). In the case of Facebook, a user coming to the platform primarily focus on the relationship. A rich post with a photograph/video about the destination location generates sensory stimuli of persuasion. Inviting people to interact with the post (interactive content) while in that state is likely to elicit greater engagement. With these arguments, we propose the following hypotheses:

*H4a: The relationship between informative content type and user engagement is enhanced through the visual post (vs non-visual post) on Twitter*

*H4b: The relationship between interactive content type and user engagement is enhanced through the visual post (vs non-visual post) on Facebook*

### **3. Method**

#### **3.1. Data**

With over 1.39 billion and 211 million daily active users (Statista, 2022b), Facebook and Twitter have become the most important social media platforms for DMOs (Lalicic et al., 2020). Approximately one-fourth and one-fifth of leisure travellers worldwide turn to Facebook and

Twitter platforms to make the initial decision on vacation destinations (Forbes, 2014). Thus, we considered Facebook and Twitter platforms for this study.

For data collection, we first searched for and validated the presence of official Indian state DMOs' Facebook and Twitter accounts. Out of 28 states and 8 UTs in India, 14 states and two UTs had verified and active accounts (identified by a blue tick mark) on both Facebook and Twitter (Table 1). For the selected period from 1st January 2019 to 31st December 2019, the tweets and Facebook posts published in English by 16 official DMO handles were retrieved and manually processed on 1st May 2020. A total of 4853 posts on Facebook and 7273 posts on Twitter, recording over 3.65 million impressions, were retrieved. For each Facebook/Twitter post, the post content, media shared, like count, comment/reply count and share/retweet count was captured. The unit of analysis was the Facebook post and Twitter tweet shared by the official DMOs.

**Table 1: Indian state DMO handles on Twitter and Facebook**

|                 |                       | Twitter |                   |                      | Facebook |                   |                                |                                     |
|-----------------|-----------------------|---------|-------------------|----------------------|----------|-------------------|--------------------------------|-------------------------------------|
| No.             | State/Union Territory | Used    | Active & Verified | Verified handle name | Used     | Active & Verified | Verified handle name           | Active & verified on both platforms |
| State           |                       |         |                   |                      |          |                   |                                |                                     |
| 1               | Andhra Pradesh        | ✓       | x                 |                      | ✓        | ✓                 | andhrapradeshtourism           | 0                                   |
| 2               | Arunachal Pradesh     | ✓       | x                 |                      | ✓        | x                 |                                | 0                                   |
| 3               | Assam                 | ✓       | x                 |                      | ✓        | x                 |                                | 0                                   |
| 4               | Bihar                 | ✓       | x                 | TourismBiharGov*     | ✓        | ✓                 | TourismBiharGov                | 0                                   |
| 5               | Chhattisgarh          | ✓       | ✓                 | GoChhattisgarh       | ✓        | ✓                 | GoChhattisgarh                 | 1                                   |
| 6               | Goa                   | ✓       | ✓                 | TourismGoa           | ✓        | ✓                 | officialgoatourism             | 1                                   |
| 7               | Gujarat               | ✓       | ✓                 | GujaratTourism       | ✓        | ✓                 | gujtourism                     | 1                                   |
| 8               | Haryana               | ✓       | x                 |                      | ✓        | ✓                 | haryanatourismindia            | 0                                   |
| 9               | Himachal Pradesh      | ✓       | ✓                 | hp_tourism           | ✓        | ✓                 | himachaltourismofficial        | 1                                   |
| 10              | Jharkhand             | ✓       | x                 |                      | ✓        | x                 |                                | 0                                   |
| 11              | Karnataka             | ✓       | ✓                 | KarnatakaWorld       | ✓        | ✓                 | KarnatakaWorld                 | 1                                   |
| 12              | Kerala                | ✓       | ✓                 | KeralaTourism        | ✓        | ✓                 | keralatourismofficial          | 1                                   |
| 13              | Madhya Pradesh        | ✓       | ✓                 | MPTourism            | ✓        | ✓                 | MPTourism                      | 1                                   |
| 14              | Maharashtra           | ✓       | ✓                 | maha_tourism         | ✓        | ✓                 | MaharashtraTourismOfficial     | 1                                   |
| 15              | Manipur               | ✓       | x                 |                      | ✓        | x                 |                                | 0                                   |
| 16              | Meghalaya             | ✓       | x                 |                      | ✓        | ✓                 | Meghtourism                    | 0                                   |
| 17              | Mizoram               | x       | x                 |                      | x        | x                 |                                | 0                                   |
| 18              | Nagaland              | x       | x                 |                      | ✓        | x                 |                                | 0                                   |
| 19              | Odisha                | ✓       | ✓                 | odisha_tourism       | ✓        | ✓                 | OdishaTourismOfficial          | 1                                   |
| 20              | Punjab                | ✓       | x                 |                      | ✓        | ✓                 | tourismboardpunjab             | 0                                   |
| 21              | Rajasthan             | ✓       | ✓                 | my_rajasthan         | ✓        | ✓                 | rajasthantourism               | 1                                   |
| 22              | Sikkim                | ✓       | x                 |                      | x        | x                 |                                | 0                                   |
| 23              | Tamil Nadu            | ✓       | ✓                 | tn_tourismofficial   | ✓        | x                 |                                | 0                                   |
| 24              | Telangana             | ✓       | x                 |                      | ✓        | ✓                 | tourismtelanganastate          | 0                                   |
| 25              | Tripura               | ✓       | ✓                 | TripuraTourism       | ✓        | ✓                 | www.tripuratourism.gov.in      | 1                                   |
| 26              | Uttarakhand           | ✓       | ✓                 | UTDBofficial         | ✓        | ✓                 | UttarakhandTourismOfficialPage | 1                                   |
| 27              | Uttar Pradesh         | ✓       | ✓                 | uptourismgov         | ✓        | ✓                 | UttarPradeshTourism            | 1                                   |
| 28              | West Bengal           | ✓       | ✓                 | TourismBengal        | ✓        | ✓                 | tourismwb                      | 1                                   |
| Union Territory |                       |         |                   |                      |          |                   |                                |                                     |
| 1               | Andaman & Nicobar     | x       | x                 |                      | x        | x                 |                                | 0                                   |
| 2               | Chandigarh            | ✓       | x                 |                      | ✓        | ✓                 | tourismchandigarh              | 0                                   |
| 3               | Dadra & Nagar Haveli  | x       | x                 |                      | ✓        | x                 |                                | 0                                   |
| 4               | Delhi                 | ✓       | ✓                 | tourism_delhi        | ✓        | ✓                 | delhitourism                   | 1                                   |
| 5               | Jammu and Kashmir     | ✓       | ✓                 | JandKTourism         | ✓        | ✓                 | JKTourismOfficial              | 1                                   |
| 6               | Ladakh**              | x       | x                 |                      | x        | x                 |                                | 0                                   |
| 7               | Lakshadweep           | ✓       | x                 |                      | ✓        | x                 |                                | 0                                   |
| 8               | Puducherry            | ✓       | x                 |                      | ✓        | ✓                 | pondytourism.in                | 0                                   |

\* Verified but not active during the considered period

\*\*Ladakh was announced as a UT on 31st October 2019. Therefore not eligible.

### 3.2. Variable operationalisation

The content type, richness, and elaborateness are operationalised as part of DMO engagement. The primary engagement activities of the users are operationalised under tourist engagement. The proposed research model with the operationalised variable is detailed in Figure 1.

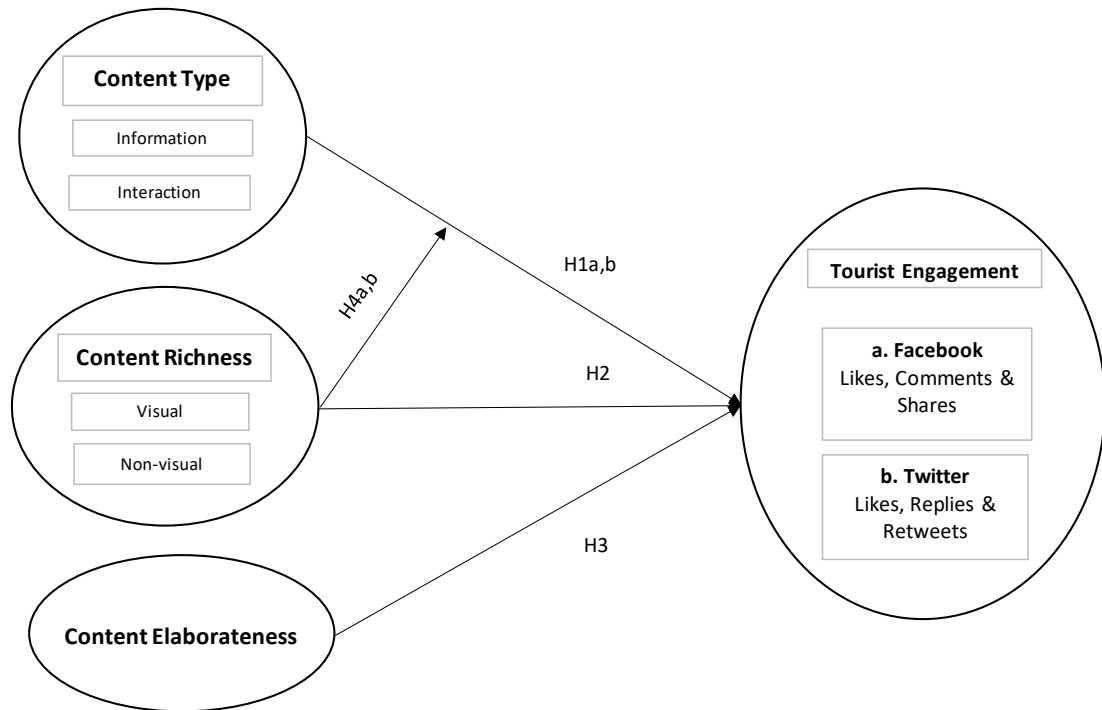


Figure 1: Research model for tourist engagement on social media

#### 3.2.1. Content type

The content was classified into two types (Mao et al., 2020): interactive and informative. Posts that call for actions like conducting contests, opinion polls, and asking questions are classified as interactive content. Posts that share destination-specific information like natural landscapes, cultural or historical significance, monumental landmarks etc., are classified as informative content.

The study used a qualitative content analysis approach (Krippendorff, 2018) to operationalise the content types. Two independent coders categorised the social media posts as informative or interactive based on the content message. To ensure uniformity in the coding process, the coders were detailed about the conceptualisations of the unit of analysis. The reliability of the coding

process between the independent coders was measured using the agreement ratio (Annamalai et al., 2021). The inter-coder reliability was 0.94 and within the permissible range of 0.8–1.0 (Krippendorff, 2018).

### **3.2.2. Content richness**

The richness of the content was observed at two levels: content sharing videos, photos, and GIFs as visual and others as non-visual (Mao et al., 2020).

### **3.2.3. Content elaborateness**

Post elaborateness was calculated by the total number of characters present in the post (Khan & Ahmad, 2021).

### **3.2.4. Dependent variables**

User engagement was measured as like count, comment/reply count and share/retweet count (Annamalai et al., 2021).

### **3.2.5. Control variables**

Consistent with the literature (Mao et al., 2020), other post-related aspects such as the day of posting (weekday/weekend), time of posting (business/non-business hours), season (rainy/summer/winter/autumn), number of hashtags assigned for a post and the number of followers of the DMO page were used as control variables.

## **3.3. Model specification**

The hypotheses are tested using the Poisson regression model as the dependent variables are count variables. Further, the dependent variables, namely the number of likes, comments/replies and shares/retweets of Facebook/Twitter, exhibit dependency among themselves (Table 2). Hence, multivariate Poisson models are used to estimate the effect of the predictors on the dependence structure among dependent variables. This enables estimating a single coefficient under the assumption that the effect of a predictor does not differ significantly across the correlated variables.

**Table 2: Descriptive statistics of engagement measures**

| Dependent variables | Mean   | Variance  | Likes   | Replies  | Retweets |
|---------------------|--------|-----------|---------|----------|----------|
| <i>Twitter</i>      |        |           |         |          |          |
| Likes               | 101.91 | 344685    | 1       |          |          |
| Replies             | 2.38   | 102.27    | 0.58*** | 1        |          |
| Retweets            | 15.35  | 3548.40   | 0.96*** | 0.64***  | 1        |
| <i>Facebook</i>     |        |           | Likes   | Comments | Shares   |
| Likes               | 503.20 | 11860225  | 1       |          |          |
| Comments            | 9.46   | 1505.32   | 0.75*** | 1        |          |
| Shares              | 60.78  | 289302.50 | 0.72*** | 0.66***  | 1        |

As posts are nested under different pages, page-specific effects on social media platforms can be expected because of the inherent preferential difference for various destinations (Chandrasekaran et al., 2019). Multi-level models control for the difference in the page-specific effects that can influence tourist engagement. Thus, we define a multi-level model with two levels: level 1: to understand the post-specific effect and level 2: to account for the page-specific variation across posts. To understand the platform-specific effects, two different sets of models are developed, one for Facebook and another for Twitter, rather than accounting platforms at a different level.

As the data showed over-dispersion (Table 2), the parameters of the model are estimated using Markov chain Monte Carlo (MCMC) estimations. MCMC estimates the over-dispersion by adding a unit-level random effect to the model (Harrison, 2014). Individual models were established to test the linear effect, linear and quadratic effect and a complete model combining linear, quadratic and moderating effects.

The empirical model of the multivariate mixed effect model is as follows:

The interdependence between the dependent variables is given as a joint Poisson distribution conditional on a latent parameter  $\theta$ , defined as a function of the mean of each variable and the covariances between them.

Given  $\theta_{ijk}$  is the expected Poisson rate for post 'i' of DMO 'j' for the dependent variable 'k', the final multivariate mixed effect model is given as

$$\text{Model 1: } \log \theta_{ijk} = \gamma_{k00} + \gamma_{kj1} \text{Type}_{(ij)} + \gamma_{kj2} \text{Richness}_{(ij)} + \gamma_{kj3} \text{Elaborateness}_{(ij)} + e_{kj} + u_{kj}$$

where  $\gamma_{kjn}$  denotes the post-level random effect coefficients,  $\gamma_{k00}$  is the overall mean like counts across all DMOS,  $e_{kj}$ , the post-level residual and  $u_{kj}$ , the page-level residual.

To test the curvilinear relation of content elaborateness with engagement, Model 1 is extended with a higher order (squared) term, as shown in Model 2. Model 2 gives the curvilinear relationship between user engagement y and content elaborateness, where *Elaborateness* and *Elaborateness*<sup>2</sup> represent the linear and quadratic components of the total effects. The model also suggests that the effect of content elaborateness on user engagement is curvilinear, whereas the effects of content type and content richness are linear.

$$\text{Model 2: } \log \theta_{ijk} = \gamma_{k00} + \gamma_{kj1} \text{Type}_{(ij)} + \gamma_{kj2} \text{Richness}_{(ij)} + \gamma_{kj3} \text{Elaborateness}_{(ij)} + \gamma_{kj4} \text{Elaborateness}^2_{(ij)} + e_{kj} + u_{kj}$$

Model 3 is the extension of model 2 that includes the interaction effect of content type and content richness on user engagement.

$$\text{Model 3: } \log \theta_{ijk} = \gamma_{k00} + \gamma_{kj1} \text{Type}_{(ij)} + \gamma_{kj2} \text{Richness}_{(ij)} + \gamma_{kj3} \text{Elaborateness}_{(ij)} + \gamma_{kj4} \text{Elaborateness}^2_{(ij)} + \gamma_{kj5} (\text{ContentType}_{(ij)} * \text{ContentRichness}_{(ij)}) + e_{kj} + u_{kj}$$

## 4. Results

### 4.1. Twitter

Table 3 shows the estimates of Bayesian Multivariate Poisson models for Twitter. Informative content type and content richness had a positive and significant effect in all three multivariate models (Model 1:  $\beta_{\text{informative}} = 0.489$ ,  $p < 0.001$ ;  $\beta_{\text{visual}} = 0.674$ ,  $p < 0.001$ ). Thus, hypotheses H1a and H2 are supported.

Content elaborateness has a positive and significant linear term ( $\beta_{\text{elaborateness}} = 0.260$ ,  $p < 0.001$ ) and a negative significant squared term ( $\beta^2_{\text{elaborateness}} = -7.795$ ,  $p < 0.001$ ) on user engagement which indicates an inverted U-shaped effect. A comparison of the Deviance information criteria (DIC) of model 2 with model 1 (model with the simple linear slope of post elaborateness) shows an improvement in DIC (Browne & Rasbash, 2009). The requirement that the squared term be negative and significant, and the linear term be positive and significant is one of the necessary conditions but not sufficient to establish the curvilinear effect. Traditional tests like simple slope tests, slope difference tests and regions of significance do not apply to multi-level models with random effects (Dawson, 2014). Hence, two separate linear multi-level multivariate models were developed, one for low elaborateness value and the other for high elaborateness value. The data was split at the value of elaborateness corresponding to the highest predicted value of the multivariate response, and two different models were constructed. The models aid in detecting the direction (sign) of the average estimated effect without any functional-form assumptions. For the lower half of the data, there was a significant positive relationship ( $\beta_{\text{elaborateness}} = 0.266$ ,  $p < 0.001$ ) between post elaborateness and user engagement. At the same time, there was a significant negative relationship for the upper half of the data ( $\beta_{\text{elaborateness}} = -0.046$ ,  $p < 0.05$ ). The increasing and decreasing slopes of the models imply that the posterior means for user engagement were the least for the smallest and largest values of post elaborateness, thus supporting hypothesis H3.

In Model 3, the interaction between informative content type and visual content is statistically significant ( $\beta_{\text{informative*visual}} = -1.571$ ,  $p < 0.001$ ), supporting hypothesis H4a. The mean response of dummy-coded interaction variables, informative and visual, is 1.68 compared to the mean response of 1.29 for informative and non-visual. This indicates that content richness (visual) enhances user

engagement for informative content more than non-visual posts. Interestingly, the coefficient value is negative, signifying that the combined effect of informative content and visual media is less than the sum of the individual effects.

## **4.2. Facebook**

Table 4 shows the estimates of Bayesian Multivariate Poisson models for Facebook. The informative content type had a significant negative effect (Model 1:  $\beta_{\text{informative}} = -0.085$ ,  $p < 0.01$ ), and content richness had a significant positive effect ( $\beta_{\text{visual}} = 0.538$ ,  $p < 0.001$ ). Thus, hypotheses H1b and H2 are supported. The linear term of post elaborateness was not significant, while the squared term was negative and significant ( $\beta^2_{\text{elaborateness}} = -4.584$ ,  $p < 0.05$ ). Further, the slopes of post elaborateness derived using the two independent models turn out to be insignificant. Thus, hypothesis H3 is not supported. In Model 3, the interaction between content type and content richness is not significant. Thus, hypothesis H4b is not supported on the Facebook platform.

**Table 3: Results of Bayesian Multivariate Poisson Models - Twitter**

|                                    | Model 1        |              | Model 2                      |                             |                |              | Model 3                                                         |                             |                |              |                             |                             |
|------------------------------------|----------------|--------------|------------------------------|-----------------------------|----------------|--------------|-----------------------------------------------------------------|-----------------------------|----------------|--------------|-----------------------------|-----------------------------|
|                                    | Linear effects |              | Linear and quadratic effects |                             |                |              | Linear effects, quadratic effects and linear moderating effects |                             |                |              |                             |                             |
|                                    | Posterior Mean | Posterior SD | Lower Bound of 95% Interval  | Upper Bound of 95% Interval | Posterior Mean | Posterior SD | Lower Bound of 95% Interval                                     | Upper Bound of 95% Interval | Posterior Mean | Posterior SD | Lower Bound of 95% Interval | Upper Bound of 95% Interval |
| <i>Linear effects</i>              |                |              |                              |                             |                |              |                                                                 |                             |                |              |                             |                             |
| Content type (ref: Interactive)    | 0.489***       | 0.037        | 0.423                        | 0.566                       | 0.490***       | 0.036        | 0.423                                                           | 0.556                       | 1.430***       | 0.051        | 1.327                       | 1.527                       |
| Content richness (ref: non-visual) | 0.674***       | 0.028        | 0.623                        | 0.724                       | 0.690***       | 0.028        | 0.640                                                           | 0.749                       | 1.965***       | 0.059        | 1.851                       | 2.077                       |
| Elaborateness                      | 0.258***       | 0.000        | 0.234                        | 0.289                       | 0.260***       | 0.013        | 0.233                                                           | 0.284                       | 0.253***       | 0.013        | 0.228                       | 0.280                       |
| <i>Quadratic effect</i>            |                |              |                              |                             |                |              |                                                                 |                             |                |              |                             |                             |
| Elaborateness. Squared             |                |              |                              |                             | -7.795***      | 1.961        | -11.270                                                         | -3.734                      | -5.250**       | 1.858        | -8.952                      | -1.544                      |
| <i>Moderating effects</i>          |                |              |                              |                             |                |              |                                                                 |                             |                |              |                             |                             |
| Content type * Content richness    |                |              |                              |                             |                |              |                                                                 |                             | -1.571***      | 0.064        | -1.700                      | -1.456                      |
| <i>Control variables</i>           |                |              |                              |                             |                |              |                                                                 |                             |                |              |                             |                             |
| Hashtags                           | 0.087***       | 0.008        | 0.072                        | 0.100                       | 0.079***       | 0.008        | 0.062                                                           | 0.093                       | 0.065***       | 0.008        | 0.050                       | 0.079                       |
| Season-Rainy (ref: Autumn)         | -0.179***      | 0.037        | -0.254                       | -0.109                      | -0.186***      | 0.037        | -0.264                                                          | -0.116                      | -0.201***      | 0.036        | -0.263                      | -0.122                      |
| Season- Summer (ref: Autumn)       | -0.059         | 0.040        | -0.137                       | 0.009                       | -0.068         | 0.039        | -0.142                                                          | 0.010                       | -0.127***      | 0.037        | -0.196                      | -0.053                      |
| Season -Winter (ref: Autumn)       | -0.142***      | 0.039        | -0.206                       | -0.060                      | -0.148***      | 0.038        | -0.221                                                          | -0.074                      | -0.161***      | 0.036        | -0.227                      | -0.087                      |
| Day (ref: weekday)                 | -0.022         | 0.032        | -0.079                       | 0.036                       | -0.027         | 0.030        | -0.086                                                          | 0.033                       | -0.023         | 0.030        | -0.078                      | 0.038                       |
| Time (ref: non-business hours)     | -0.163***      | 0.027        | -0.213                       | -0.114                      | -0.165***      | 0.026        | -0.221                                                          | -0.118                      | -0.129***      | 0.026        | -0.176                      | -0.076                      |
| DMO-specific effect                | 0.892          | 0.387        | 0.363                        | 1.560                       | 0.871          | 0.410        | 0.367                                                           | 1.589                       | 0.996          | 0.410        | 0.401                       | 1.775                       |
| Constant                           | 1.019***       | 0.247        | 0.546                        | 1.492                       | 1.091***       | 0.248        | 0.612                                                           | 1.595                       | 0.608*         | 0.257        | 0.095                       | 1.086                       |
| DIC                                | 114467.6       |              | 114436.1                     |                             |                |              | 114470.3                                                        |                             |                |              |                             |                             |

Significance levels: \*\*\*p<0.001; \*\*p<0.01; \*p<0.05

**Table 4: Results of Bayesian Multivariate Poisson Models - Facebook**

|                                    | Model 1        |              |                             |                             | Model 2                      |              |                             |                             | Model 3                                                          |              |                             |                             |
|------------------------------------|----------------|--------------|-----------------------------|-----------------------------|------------------------------|--------------|-----------------------------|-----------------------------|------------------------------------------------------------------|--------------|-----------------------------|-----------------------------|
|                                    | Linear effects |              |                             |                             | Linear and quadratic effects |              |                             |                             | Linear effects, quadratic effects, and linear moderating effects |              |                             |                             |
|                                    | Posterior Mean | Posterior SD | Lower Bound of 95% Interval | Upper Bound of 95% Interval | Posterior Mean               | Posterior SD | Lower Bound of 95% Interval | Upper Bound of 95% Interval | Posterior Mean                                                   | Posterior SD | Lower Bound of 95% Interval | Upper Bound of 95% Interval |
| <i>Linear effects</i>              |                |              |                             |                             |                              |              |                             |                             |                                                                  |              |                             |                             |
| Content type (ref: Interactive)    | -0.085**       | 0.296        | -0.028                      | -0.141                      | -0.087**                     | 0.030        | -0.026                      | -0.141                      | 0.053                                                            | 0.107        | -0.254                      | 0.151                       |
| Content richness (ref: non-visual) | 0.538***       | 0.058        | 0.437                       | 0.666                       | 0.549***                     | 0.054        | 0.455                       | 0.666                       | 0.492***                                                         | 0.070        | 0.366                       | 0.637                       |
| Elaborateness                      | 0.016          | 0.016        | -0.013                      | 0.046                       | 0.021                        | 0.0156       | -0.007                      | 0.054                       | 0.021                                                            | 0.016        | -0.007                      | 0.054                       |
| <i>Quadratic effect</i>            |                |              |                             |                             |                              |              |                             |                             |                                                                  |              |                             |                             |
| Elaborateness. Squared             |                |              |                             |                             | -4.584*                      | 1.815        | -7.995                      | -1.045                      | -4.568*                                                          | 1.871        | -8.149                      | -0.891                      |
| <i>Moderating effects</i>          |                |              |                             |                             |                              |              |                             |                             |                                                                  |              |                             |                             |
| Content type * Content richness    |                |              |                             |                             |                              |              |                             |                             | -0.151                                                           | 0.111        | -0.050                      | 0.372                       |
| <i>Control variables</i>           |                |              |                             |                             |                              |              |                             |                             |                                                                  |              |                             |                             |
| Hashtags                           | 0.010          | 0.005        | -0.001                      | 0.020                       | 0.008                        | 0.006        | -0.003                      | 0.019                       | 0.008                                                            | 0.006        | -0.002                      | 0.020                       |
| Season-Rainy (ref: Autumn)         | 0.071          | 0.042        | -0.012                      | 0.149                       | 0.078                        | 0.040        | -0.008                      | 0.156                       | 0.077                                                            | 0.043        | -0.007                      | 0.163                       |
| Season- Summer (ref: Autumn)       | -0.123**       | 0.045        | -0.219                      | -0.042                      | -0.114*                      | 0.045        | -0.198                      | -0.025                      | -0.114**                                                         | 0.047        | -0.208                      | -0.030                      |
| Season -Winter (ref: Autumn)       | -0.370***      | 0.044        | -0.463                      | -0.293                      | -0.369***                    | 0.042        | -0.455                      | -0.288                      | -0.368***                                                        | 0.046        | -0.461                      | -0.287                      |
| Day (ref: weekday)                 | -0.035         | 0.036        | -0.116                      | 0.030                       | -0.028                       | 0.037        | -0.101                      | 0.043                       | -0.029                                                           | 0.036        | -0.098                      | 0.041                       |
| Time (ref: non-business hours)     | -0.057         | 0.035        | -0.125                      | 0.008                       | -0.055                       | 0.034        | -0.130                      | 0.002                       | -0.053                                                           | 0.034        | -0.117                      | 0.014                       |
| DMO-specific effect                | 1.347          | 0.578        | 0.537                       | 2.339                       | 1.317                        | 0.589        | 0.551                       | 2.480                       | 1.353                                                            | 0.572        | 0.465                       | 2.432                       |
| Constant                           | 4.247***       | 0.296        | 3.716                       | 4.848                       | 4.223***                     | 0.300        | 3.644                       | 4.802                       | 4.283***                                                         | 0.306        | 3.686                       | 4.861                       |
| DIC                                | 92986.6        |              |                             |                             | 93045.7                      |              |                             |                             | 93386.3                                                          |              |                             |                             |

Significance levels: \*\*\*p<0.001; \*\*p<0.01; \*p<0.05

## **5. Discussion**

### **5.1. Content type**

The study findings suggest a significant difference in engagement (between Twitter and Facebook) with respect to the content type. As expected, the interactive post gained more engagement than the informative post on Facebook and vice versa on Twitter. The difference in outcomes results from the intended objectives of the two platforms. Facebook is about building and maintaining relationships and communicating with others (Lalicic et al., 2020). Facebook enables self-promotion through communication with other users and emphasises building a network of real-time relationships (Kietzmann et al., 2011). As interactive content facilitates these functionalities, it probably plays a focal role in gaining increased engagement on the Facebook platform.

On the contrary, Twitter is primarily designed for sharing information and providing real-time updates through short messages (Kietzmann et al., 2011). Tweets posted on Twitter are mostly about sharing information, opinions, complaints, news or other similar activities (Hodeghatta & Sahney, 2016). Twitter does not emphasise identity creation and management as much as Facebook but on building conversation through information sharing (Hodeghatta & Sahney, 2016). As informative content facilitates conversation through information sharing, it is likely to garner increased engagement on Twitter. For this reason, DMOs' shared interactive content is likely to record increased engagement on Facebook as against higher engagement for informative content on Twitter.

### **5.2. Content richness**

The findings suggest that content richness significantly and positively influences user engagement on both Facebook and Twitter. A possible explanation for the platform-independent results is that the content richness that represents the media type of the post is possibly processed through the peripheral route of persuasion (Annamalai et al., 2021). Posts sharing visual content garner increased engagement compared to non-visual content. Our results align with documentation by practitioners and academicians that posts rich in visual content perform better in engaging audiences on social media (Mao et al., 2020). Rich content provides greater sensory stimulation that possibly enhances the post's

message articulacy and drives user engagement (Sabate et al., 2014). The study results find grounding in Daugherty et al. (2008)'s explanation that vivid content being rich in visual, auditory, or any other cues is likely to produce a satisfying experience for the user.

### **5.3. Content elaborateness**

Study findings demonstrate that post elaborateness has an Inverted-U-shaped effect on user engagement on Twitter. This effect is consistent with the results obtained by Hernández-Ortega et al. (2020). The study reveals the hassle of elaborating posts with more (or fewer) characters because the greatest influence of post elaborateness on user engagement is achieved with an optimal number of characters. This draws support from the findings of Mariani et al. (2016), who noted that there was an optimal post length that evinced greater engagement from users compared to longer or shorter posts, signifying an inverted U-shaped relationship between post length and engagement.

Gupta & Harris (2010) observed that limited information provided in short posts might hinder an individual's ability to assess the attributes of the offering. On the other hand, higher elaborateness posts demand higher comprehension efforts that may impede engagement (Lee et al., 2018; Sabate et al., 2014; Schultz, 2017). Therefore, a post attracts lower engagement if its elaborateness is too high or too low. With optimal post elaborateness (inflexion point of the curve), user engagement will likely record maximum value on Twitter. However, no such effect is observed on Facebook. A possible explanation is that the Facebook platform permits sharing long-form content (with a generous character limit of 63,206 characters) that does not necessitate succinct representation.

### **5.4. Interactions between content type and content richness**

The interaction between content type and content richness was envisaged since users view the post holistically, i.e. what is posted and in what form. Given the differential nature of Twitter and Facebook, we also anticipated that this interaction between content type and richness would vary across the two platforms.

The results suggest that moderating effect of content richness on informative content shared on Twitter is positive. This indicates that informative posts have enhanced user engagement if they have visual

elements compared to non-visual elements on Twitter. The effect is probably because users rely on low-level elaboration gained through visual elements for information processing (Wang et al., 2019) that aids in processing destination-related information on Twitter with minimal effort. However, the moderating effect of media richness on interactive content does not impact engagement on Facebook. A likely conclusion based on moderation effect results is that the addition of media may supplement an informative post against a post eliciting interaction. Since the Facebook platform serves the primary function of building relationships among users (Kietzmann et al., 2011), interactive content that initiates dialogue in the network, thereby strengthening relationships, may take precedence through the central route of information processing for user engagement (Annamalai et al., 2021).

#### **4. Conclusion**

The study examined the relationship between the social media communication strategies of 16 DMOs and tourist engagement behaviour on two platforms – Facebook and Twitter in the Indian context. We specifically explored the impact of posted content (content type) and the form in which it is posted (content richness) on consumer engagement. We also studied the variation in this relationship between content type, richness and consumer engagement across different platforms.

The results highlighted the differences and similarities between Facebook and Twitter and can be seen in user engagement. The analysis revealed that interactive posts gained higher engagement on Facebook while informative posts gained higher engagement on Twitter. On the other hand, content richness significantly influenced user engagement on both Facebook and Twitter. This is important for destination marketing as photos and videos of the destination are the key attractions for potential tourists; hence, such posts are likely to garner greater engagement. Also, the study confirmed that elaborateness and engagement have an Inverted-U-shaped relationship in the tourism context. Finally, the results confirmed a moderating effect of media richness on informative content on DMOs' Twitter platforms.

##### **6.1. Theoretical implications and managerial contributions**

The present study represents a new step in understanding the role of social media platforms in the tourism context. Based on the interaction data, this study is the first to investigate the cross-platform communication between Indian DMOs and tourists. Empirical evidence suggests interrelationships among tourist engagement measures of likes/favourites, comments/replies and shares/retweets. This implies that the affective and cognitive behaviours (Kim & Yang, 2017) are not significantly differentiated in tourist engagement. Since each engagement measure increases the message's reach and affects additional measures, DMOs should take note of these synergic effects in designing social media content. The findings offer guidance for DMO marketers regarding cross-platform content strategy. For example, they may consider sharing interactive and informative content to achieve higher engagement measures on Facebook and Twitter platforms. The marketers are recommended to use visual features in the informative tweets to register increased engagement. Also, the DMOs need to balance the elaborateness of the tweets for optimal engagement outcomes.

## **6.2. Limitations and further research**

Despite delivering novel findings, the study has certain limitations that may hamper the generalizability of the results. First, although the data were extracted over one year to assess the long-term impact of social media posts on tourist engagement, the study is limited to Indian DMOs on Facebook and Twitter. Future studies may include other social networking sites such as Instagram and YouTube (Uşaklı et al., 2017). Second, the study employs interaction data to study the effect of DMOs' social media content characteristics on tourist engagement that provide insights into the operational use of social media. Combining data analysis with interviews with tourism department managers handling the social media accounts could provide comprehensive coverage of the strategic use of social media. Third, the research used volume measures to study tourist engagement. Future studies, including valence measures such as tourist sentiments, may yield rich insights. Finally, the imbalanced dataset with the dominance of visual delivery may have some biased test results. Limitations notwithstanding, the study provides significant insights into the differential influence of content characteristics on tourist engagement on Facebook and Twitter.

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