

## Social media usage in higher education: Role in marketing and communication during COVID-19

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### Abstract

*Major higher educational institutions exert efforts on social media to establish relationships with students, aspirants, alumni and other stakeholders. These efforts have been increased in the worldwide pandemic of COVID-19 as institutions are left only with social media channels as a medium to communicate and build their branding. Therefore, it is important to examine the various Facebook posts that become important for delivering the information and building a positive association with its stakeholders. The current study adopted the content analysis method to examine the various posts of the top 20 Indian universities during June 2020-November, 2020. The results revealed that university type, post category and post format were the important factors to increase the reachability (likes and shares) and engagement (comments and total engagement) of the post with its stakeholders during the above-stated period. Additionally, the posts in the category of events and announcements recorded the highest engagements. The current study also examined that the top relevant comments, content (positive sentiments and negative sentiments), gender, and users were not the factor in increasing engagement. This study provides strategies for universities to increase reachability and engagement concerning content creation and its format on social media platforms.*

**Keywords:** Facebook; university communication; branding; digital marketing; content marketing; social media

### Introduction

It was apparent that the organisations changed drastically to cope with the COVID-19. The worldwide pandemic of COVID-19 entirely shook the education sector and forced almost every organisation to use online tools for businesses. COVID-19 pandemic outbreak forced the government to close the schools, colleges, and universities to an uncertain period to reduce gatherings of large crowds and ensure physical social distancing. Subsequently, a fear among the students has risen due to the performance effects on their previous semester. Various schools, colleges and universities have discontinued physical teaching since March 2020. Moreover, the COVID-19 pandemic has affected every university activity, i.e., admission, training, placement, marketing, etc. They are struggling to overcome this situation. This situation has pushed universities to use online tools for various activities such as teaching, mentoring, communication for its stakeholders etc. Some of the previous studies revealed that the organisational use of websites to maintain the relationship with the public (Taylor et al., 2001), using website to increase accountability relationships (Saxton & Guo, 2011), assist as communication tools (Waters, 2007), boost interactions with core stakeholders (Saxton et.al., 2007) and social media usage for branding and communication with stakeholders (Peruta & Shields, 2017). It was argued that a marketing perspective might be useful to universities in

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planning their relationship with stakeholders and responses to current market dynamics (Dirks, 1998).

Before designing any university marketing mix, it is essential to know about the stakeholder expectations and satisfactions which come from higher education activities done on various platforms. The stakeholders can be classified in sixteen major publics, for example, current students, prospective students, faculty, parents of students, administration and staff, alumni, suppliers, competitors, government agencies, business community, mass media, foundations, trustees, accreditation organisations, local community and the general public (Kotler and Fox, 1995). Various stakeholders' expectations may differ, so the current study investigated the perception of various stakeholders with respect to the Indian higher education institutions and their different activities on social media platforms, i.e. Facebook.

To maintain a consistent communication with current students, alumni, professors, aspirants and other stakeholders, marketing promotions play a vital role. As a communication platform during Covid-19, social media has been extensively used to correspond with various stakeholders, i.e. students, teachers and other vendors. The usage of social media by the universities has increased drastically to maintain their relationship with their stakeholders (Sobaih, 2020).

Various Indian universities have motivated faculties and staff members to use free communication platforms as Google meet, Webex and Zoom and social media platforms like Facebook, YouTube etc., to communicate with their students, aspirants, alumni and other stakeholders. In COVID-19, social media has given an opportunity for organisation-public relationship unlike the traditional websites and face to face interactions. Social media can record the dynamic presence of organisations and stakeholders' reactions. This has massive implications for the study related to organisation-public relationships. So far the previous studies can be classified in to two types, first the studies related to behavioral data captured from the websites and social media (Bortree & Seltzer, 2009; Rybalko & Seltzer, 2010; Taylor et al., 2001) and the studies related to Hon and Grunig (1999) organisation-public relationship indicators (Huang, 2001; Ki & Hon, 2007; Waters & Bortree, 2010) designed to measure the public reaction on organisation efforts exerted to build the relationship with its stakeholders.

In COVID-19, universities have evolved digitally and, in a few cases, some have made their first steps into social media. Consistency in university branding and communication with the users pays a vital role in retaining the students (Alessandri et al., 2007; Bosch et al., 2006), yet universities are in a dilemma to find a suitable balance. Even aspirants have shown a distinct presence to reach out to their prospective universities through social media, particularly Facebook (Hayes et al., 2009; Hesel, 2013) during the pandemic. On the one hand, particularly students and aspirants were felt anxious due to an uncertain future. On the other hand, universities tried to reach out to the students to retain and aspirants for new enrollment. Universities were trying hard to overcome this dilemma by using social media. Social media plays a vital role in communicating and maintaining relationships with stakeholders. However, no studies were found related to social media content characteristics and its engagement with the users in the pandemic. Therefore, it is interesting to identify the characteristics of different types of posts posted by the universities and their stakeholder reactions, particularly in COVID-19.



To represent university on social media is a tedious task nonetheless to build goodwill in the market maintaining University-public relationship through social media will always be helpful. Universities consistently struggle to communicate their marketing strategies on social media as compared to traditional marketing. Schultz and Schultz (2004) found that marketing communication on multiple channels can help the organisation in brand communication. Although social media usage increased among youth, they ranked social media last to inform about their future university (Constantinides and Stagno, 2012). Nyangua and Bado (2012) found that higher education institutions were using social media for recruitment and admission purposes. However, their findings were not clear on what kind of content can influence the public regarding prospective students, current students, and other users' decisions to seek admission to particular universities. Even there are certain social media posts which are popular among the students and some are not. This challenge becomes more tedious in COVID-19, when a huge flood of posts was there on social media. These studies suggested that social media platforms are dynamic marketing channels, but the marketing practitioners do not fully understand the social media post characteristics.

To increase their reachability, universities are trying their best on social media. In order to meet the maximum reach, universities frequently change the content of their posts to be engaged by their followers. The posts may contain text, video, images, websites links, event links etc. To understand the characteristics of ideal content of the post which can have the potential to become popular and reach to the maximum user, it is important to understand the current scenario and examine the type of post and the user's reaction to the particular posts for Indian universities. Although, Peruta & Shields (2016) found significant differences in post engagement with respect to institution type. Furthermore, type of media and posting frequency contribute to user engagement. Yet, more studies are required to enlighten the universities on various characteristics of the content posted on social media and their engagement with various users, particularly in educational institutions, specifically during COVID-19.

The current study contributes to the literature in a number of ways. Firstly, it is important to examine the characteristics of the Facebook post content of top Indian higher educational institutions to increase the reach (likes and shares) and engagement (comments and total engagement) with its stakeholders. The total engagement has been calculated from the number of likes, shares and comments on the posts. Secondly, this analysis is conducted in COVID-19 pandemic outbreak, which is an ideal situation for online users' engagement. Thirdly, this study also included the analysis of the comments classified as positive and negative, which reveals the stakeholders' perception and satisfaction.

## Method

Data was collected from the top 20 Indian universities' (MHRD, National Institute Ranking Framework (NIRF), 2020) Facebook official pages. As Indian youth treat Facebook to be their 'home site' and visit the site many times in a day (Yan, 2011) and even universities treat Facebook platform as an important tool to disseminate university information. The official university page was identified with verification by Facebook itself and tag (@university) on the top of the page. Data were collected manually by visiting each university's Facebook posts from June-2020 to November-2020. A total of 15 out of 20 official universities pages were found on Facebook. The posts only in English language were taken into consideration. This

was the transition period from offline to online for the universities for conducting examinations, admissions and placements etc. Social media played a vital role in communicating changing strategies of the universities.

Various page level and post level data were collected from the university's pages. Page level information included university name, page likes and page followers. In contrast, post level information included post text, description, post type, number of likes, number of comments, number of shares and total engagement. The total engagement was calculated by summing total post likes, comments and shares (Peruta & Shields, 2017). In addition, data also included top relevant comments, comments sentiments, comment users and their gender. Top relevant comments were shown in the comment section of the page.

Furthermore, total engagement was calculated for various post format (images, text, link, videos etc., see table 4). The current study adopted the mixed research design method, including qualitative and quantitative methodology. Data were manually entered into Microsoft excel and subsequently imported in SPSS version 21 for quantitative analysis.

Publicly available data were collected from Facebook for the current study and ethical considerations for assembling the data were also kept in mind. The individual profile data and user personality behavior were not accessed during the data collection process. The data were neither anonymised nor personal identifying user's data were stored nor used for analysis.

## **Data Analysis**

Data entry and analysis were conducted on SPSS software version 21. One-way ANOVA and an independent t-test were performed to compare various variables' means with a p-value <0.05 considered significant. Additionally, Pearson correlation was performed to examine the association between the posts' characteristics variable, which helps build relationships with the stakeholders and improve the branding of the universities.

## **Results**

In total, 877 posts were collected from the top 20 Indian universities. These posts were classified in 13 various categories with respect to post content, sentiments of the posts and users commented on the posts (Table 1). The sample content of the various classified posts was represented in Table 2. The total Facebook posts were categorised as page level information (page likes and followers) and post level information (post likes, comments, shares).

Furthermore, the post-level information also included post format (images, texts, videos, etc.). The quantitative characteristics of Facebook posts were provided in Table 3 in which mean of the various university official page likes was 120566 (SD= 249218.4, range= 2156-987459), page followers (M= 153466, SD= 270241.8, range= 2238-102739). The total page likes of public universities (Total likes= 1304060) which were far more than private universities (Total likes= 504426) and the same pattern found for page followers as well (public= 1284282, private= 710770).



**Table 1.** Classification of the Facebook Posts

| Types of Posts                  | Classification Criterion  |
|---------------------------------|---|
| Research                        | Posts related to university published research, patents, projects, collaborations and opinion   |
| Event                           | Posts related to university organised events like convocation, webinars, outreach activities, Magazine launch, old university event videos/images, celebrity visiting campus, orientation of new admitted students, convocation.  |
| Admission                       | The posts contain announcements and events related to university admission, counselling, information related to new admitted students   |
| Award and Appreciation          | This post contains award announcements and appreciation received for any research or academic events. The posts related to university, faculty, students and alumni achievements, ranking information, contest winner, model creation.  |
| Alumni related information      | The posts related to alumni, their achievements, research, support extended to university, meetings   |
| Announcement                    | The post includes class reopening announcement. Fees and exam related information, feedback from students, university donation for flood relief, new joining, results, recruitments, student's participation information, students support, new program initiatives, information of online classes. |
| Condolence                      | The posts related to condolence messages and events organised by the university   |
| COVID-19 related information    | The posts related to COVID-19 information, trial etc.   |
| Wishes                          | These posts related to university wishes audience for Diwali and Eid.   |
| Infrastructure Development      | These posts related to infrastructure development and renovation.   |
| Placements                      | These posts are related to placement information.   |
| Promotional posts               | The posts related to promotion of university, department.   |
| Funny Postings                  | These posts are related to memes, jokes, student's activity images.   |
| <b>Sentiment based comments</b> |   |
| Positive                        | <p>The comments related to following factors</p> <ul style="list-style-type: none"> <li>• Appreciation</li> <li>• Support</li> <li>• Enquiry</li> <li>• Information</li> <li>• Positive emoji</li> <li>• Suggestions</li> <li>• Tagging</li> <li>• Help seeking</li> </ul>                          |
| Negative                        | <p>The comments related to following factors</p> <ul style="list-style-type: none"> <li>• Sarcasm</li> <li>• Humor</li> <li>• Unsupportive</li> <li>• Bullying</li> </ul>   |
| Neutral                         | <p>The comments related to following factors</p> <ul style="list-style-type: none"> <li>• Promotional</li> <li>• Non-relevant</li> <li>• National day wishes</li> </ul>   |
| <b>Users' comments</b>          |   |
| Employee                        | The users who commented on the posts includes faculty and staff of the university.  |
| Alumni                          | The passed-out students from the university.  |
| Aspirants                       | The candidates looking for admission in the university.   |
| Students                        | The users are studying in the university  |
| Others                          | Any other person outside of the university like friends of the university students, parents, vendors, etc.  |

**Table 2.** Sample content of the Facebook posts

| Types of Posts               | Sample Content   |
|------------------------------|--|
| Research                     | <p>Researchers in the Department of ECE have developed a versatile tunnel diode suitable for both low-power and cryogenic electronics.</p> <p>The restoration project has been undertaken by the Civil Engineers from the Department of Structural and Geo-technical Engineering under the School of Civil Engineering (SCE)</p>   |
| Event                        | <p>Independence Day celebration at IISc: The national flag was hoisted by the Director</p> <p>Watch the live streaming of the webinar by Atal Incubation Center-Jawaharlal Nehru University Foundation for Innovation.</p>   |
| Admission                    | <p>Mid-term PhD admissions for international students for the March 2021 session are now open.</p> <p>DBT Supported M.Sc. Medical Biotechnology - Counselling Schedule</p>   |
| Award and Appreciation       | <p>Congratulations to Prof Gurunath Gurrula (EE) &amp; Prof Venkatesh Babu Radhakrishnan (CDS) on being selected for SERB-STAR (Science and Technology Award for Research)</p> <p>Amrita Academic Excellence Award 2021 for School Principals and Teachers.</p>  |
| Alumni related information   | <p>We are delighted to announce the recipients of IISc's Distinguished Alumnus/ Alumna awards 2020: Dr K Rajalakshmi Menon, Prof BS Murty, Prof Sethuraman Panchanathan, Dr Keshab Panda<br/>Congratulations to all the awardees.</p> <p>Madhusudan Verma (VIT Chennai Alumnus, B.Tech CSE, 2019 batch) was one among the data scientists of Pucho Technology Information.</p>   |
| Announcement                 | <p>Interested to know more about faculty positions at IISc? Sign up for the upcoming Young Researchers to be held online on Nov 19 &amp; 20, 2020.</p> <p>As #BHU prepares to re-open in a phased manner from 23.11.2020, steps are being taken to further bolster #OnlineTeaching. Computer Centre will purchase 200 licences for use of departments to ensure large number of online classes simultaneously accommodating a bigger number of students.</p> |
| Condolence                   | <p>We are sad to report that Violet Bajaj, one of IISc's oldest alumni, passed away last month. She had just turned 103 in January this year.</p> <p>India's 13th President, Bharat Ratna Pranab Mukherjee's demise is a loss to the nation...</p>   |
| COVID-19 related information | <p>If colleges open, students should be isolated for 14 days - UGC announces.</p> <p>Steps to get epass in Tamil Naidu</p>   |
| Wishes                       | <p>Independence Day</p> <p>Happy Diwali from Vice Chancellor</p>   |



|                                 |   |
|---------------------------------|---|
| Infrastructure Development      | On 13 Aug 2020, the Defence Minister of India, Shri Rajnath Singh, inaugurated the HAL-IISc Skill Development Centre established at IISc's Challakere campus.                       |
|                                 | Dr. Tamilisai Soundararajan, Governor of Telangana, virtually inaugurated two new Ladies Hostel blocks  |
| Placements                      | 2000+ Offers from 250 Companies and Counting!   |
|                                 | Incidentally, ITER was one of the only three institutes in Odisha visited by Microsoft this season, the other two being IIT, Bhubaneswar and NIT, Rourkela, for campus recruitment. |
| Promotional posts               | Hello Future BITS'ians! Hope you are all keeping safe in these unprecedented times. One can't help but hope for a healthier tomorrow.   |
|                                 | The Periyar EVR Central Library spread over 7 floors is a world of knowledge with 2,42,000+ Printed Books, 1,90,000+ E-Books and Newspapers   |
| Funny Postings                  | Memes   |
|                                 | Farewell and student's meme   |
| <b>Sentiment based comments</b> |   |
| Positive                        | Congratulations to both Professors  |
|                                 | The Future of Bionics. Awesome  |
| Negative                        | Pandemic Profiteering. So, these Inhumans are also trying to Profit by the Death of Innocent Lives. Awesome   |
|                                 | Worst admission policy of Delhi University this year, all minor languages disappeared because of absence of medium column in admission form.  |
| Neutral                         | Very good morning All   |
|                                 | Jai Hind  |
| <b>Users' comments</b>          |   |
| Employee                        | It is good that a Professor with a vast experience is taking as the Director of the Great institute.  |
|                                 | After a long time, I am watching our Hon. Chancellor speech   |
| Alumni                          | Wow. I am an IISc alumnus and my daughter goes to WashU   |
|                                 | RIP   |
| Aspirants                       | How to fill merit based? It's not showing right now on the form?  |
|                                 | I am from Kabul, Afghanistan and want to study Graphic designing animation in your college  |
| Students                        | Congratulations Sir!  |
|                                 | I think we are waiting for results so please discuss about our result   |
| Others                          | Pranami Hayaran:Whoa!   |
|                                 | Any person from botany department? I am from Pakistan   |



**Table 3.** Descriptive Statistics of Facebook Postings (n=15)

| Variable                      | Mean   | S.D      | Min  | Max    | Public University | Private University | Total   |
|-------------------------------|--------|----------|------|--------|-------------------|--------------------|---------|
| <b>Page level information</b> |        |          |      |        |                   |                    |         |
| Page likes                    | 120566 | 249218.4 | 2156 | 987459 | 1304060           | 504426             | 1808486 |
| Page followers                | 153466 | 270241.8 | 2238 | 102739 | 1284282           | 710770             | 1995052 |
| <b>Post level information</b> |        |          |      |        |                   |                    |         |
| Post likes                    | 153.10 | 207.57   | 0    | 1803   | 68736             | 47013              | 115749  |
| Number of shares              | 15.38  | 48.86    | 0    | 731    | 6409              | 4948               | 11357   |
| Comments                      | 7.85   | 34.33    | 0    | 605    | 4260              | 1749               | 6009    |
| Total Engagement              | 58.92  | 141.62   | 0    | 1803   | 79405             | 53710              | 133115  |
| <b>Post Format</b>            |        |          |      |        |                   |                    |         |
| Only Images                   | 107.72 | 140.85   | 0    | 1600   | 58                | 22                 | 80      |
| Only Text                     | 67.36  | 149.43   | 0    | 452    | 34                | 4                  | 38      |
| Only Video                    | 65.56  | 140.68   | 0    | 319    | 4                 | 19                 | 23      |
| Only Link                     | 35.26  | 130.17   | 0    | 847    | 7                 | 32                 | 39      |
| Text and link                 | 33.72  | 141.03   | 0    | 1000   | 98                | 88                 | 186     |
| Image and Text                | 73.56  | 141.62   | 0    | 1803   | 101               | 174                | 275     |
| Image and link                | 19.64  | 142.26   | 0    | 388    | 53                | 1                  | 54      |
| Image, Text and link          | 54.65  | 141.62   | 0    | 737    | 34                | 26                 | 50      |
| Text and Video                | 30.4   | 152.05   | 0    | 157    | 0                 | 5                  | 5       |

The quantitative characteristics of post level information which includes the post likes (M= 153.10, SD= 207.57, range= 0 - 1803), number of shares (M= 15.38, SD= 48.86, range= 0 - 731), comments (M= 7.85, SD= 34.33, range= 0 - 605) and total engagement (M= 58.92, SD= 141.62, range= 0-1803). It was found that total engagement of public universities (59.65%) was better than private universities (40.34%). The major difference was made by comments (70.89%) as compared to likes (59.38%) and shares (56.43%) of public universities (Table 3).

The analysis comprised post format for example images (M= 107.72, SD= 140.85, range= 0 -1600), text images (M= 67.36, SD= 149.43, range= 0 -452), video (M= 65.56, SD= 140.68, range= 0 - 319), links (M= 35.26, SD= 130.17, range= 0 -847). The combined post format was also included in the statistical analysis. Among the various post formats, image and text (41.04%) and text and link (27.76%) were the most prominent format used by public and private universities.

The descriptive statistics according to the post category is represented in Table 4. The most common post category was event category (40.34%) in which public university posted 180 event posts and private universities posted 125 event posts. It is a general perception of the higher institutions that if a post from any post category records highest likes, then all the post of that category will be able to increase the user's engagement. But surprisingly one of the posts related to alumni information recored highest likes and contrary to it the highest mean was recorded by event posts category. Furthermore, one of the public universities posted funny images and meme etc. categoried as funny posts (3.44%). The lowest posts were related to condolences (0.53%) evenly distributed between public and private universities. The user's comments were categoried on the basis of emotions felt by reading the comments named as sentiments-based comments which includes positive (80.48%), negative (11.13%) and neutral (8.61%) sentiments-based comments. This may be due to admin of university page have the rights to delete or hide the negative/any comments. The positive comments comprised of appreciations, support, enquiry, information, suggestions, tagging and help seeking comments





whereas, negative comments comprised of sarcasm, humor, unsupportive and bullying comments, neutral were non-relevant and promotional comments which is not related to particular posts (see Table 1). Additionally, the user's comments were followed and recorded the user's gender (male and female) and users' category (employee, alumni, students, aspirants and others). It was found that most of the comments were from male (80.09%) than females (19.90%) and maximum users were from outside the university (61.57%). It has also been revealed from the results that students from public universities (14.36%) were more outspoken as compared to private universities (2.96%).

**Table 4.** Descriptive Statistics of content categories and formats by university type

| Posts                        | Public University (n = 9) |       | Private University (n=6) |       | Total       |
|------------------------------|---------------------------|-------|--------------------------|-------|-------------|
|                              | N                         | %     | N                        | %     | N (%)       |
| Post category                |                           |       |                          |       |             |
| Research                     | 52                        | 6.88  | 11                       | 1.46  | 63 (8.33)   |
| Event                        | 180                       | 23.81 | 125                      | 16.53 | 305 (40.34) |
| Admission                    | 10                        | 1.32  | 28                       | 3.70  | 38 (5.03)   |
| Award and appreciation       | 21                        | 2.78  | 70                       | 9.26  | 91 (12.04)  |
| Alumni related information   | 3                         | 0.40  | 61                       | 8.07  | 64 (8.47)   |
| Announcement                 | 77                        | 10.19 | 23                       | 3.04  | 99 (13.10)  |
| Condolence                   | 2                         | 0.26  | 2                        | 0.26  | 4 (0.53)    |
| COVID-19 related information | 3                         | 0.40  | 19                       | 2.51  | 22 (2.91)   |
| Wishes                       | 5                         | 0.66  | 10                       | 1.32  | 15 (1.98)   |
| Infrastructure Development   | 5                         | 0.66  | 12                       | 1.59  | 17 (2.25)   |
| Placements                   | 1                         | 0.13  | 6                        | 0.79  | 7 (0.93)    |
| Promotional posts            | 0                         | 0.00  | 5                        | 0.66  | 5 (0.66)    |
| Funny Postings               | 26                        | 3.44  | 0                        | 0.00  | 26 (3.44)   |
| Sentiments based comments    |                           |       |                          |       |             |
| Positive                     | 312                       | 35.82 | 348                      | 39.95 | 701 (80.48) |
| Negative                     | 84                        | 9.64  | 13                       | 1.49  | 97 (11.13)  |
| Neutral                      | 55                        | 6.31  | 20                       | 2.29  | 75 (8.61)   |
| Gender                       |                           |       |                          |       |             |
| Male                         | 375                       | 42.90 | 325                      | 37.18 | 700 (80.09) |
| Female                       | 80                        | 9.15  | 94                       | 10.75 | 174 (19.90) |
| Comment Users                |                           |       |                          |       |             |
| Employee                     | 20                        | 2.28  | 53                       | 6.04  | 73 (8.32)   |
| Alumni                       | 51                        | 5.81  | 39                       | 4.44  | 90 (10.26)  |
| Aspirants                    | 9                         | 1.02  | 11                       | 1.25  | 20 (2.28)   |
| Students                     | 126                       | 14.36 | 26                       | 2.96  | 152 (17.33) |
| Others                       | 247                       | 28.16 | 293                      | 33.40 | 540 (61.57) |

Pearson correlation was employed to investigate the relationship between post engagement (likes, shares, comments and total engagement) and post characteristics (post format, category, user's category, gender, university types and sentiment-based comments) (Table 5). The total engagement was strongly associated to university type ( $r = -0.97, p < 0.01$  and marginally associated with post format ( $r = -0.138, p < 0.01$ ) and post category ( $r = 0.183, p < 0.01$ ). It was interesting to note that likes of the posts were associated with number of shares ( $r = 0.479, p < 0.01$ ), comments ( $r = 0.437, p < 0.01$ ), total engagement ( $r = 0.963, p < 0.01$ ), university type ( $r = -0.119, p < 0.01$ ), post format ( $r = -0.158, p < 0.01$ ) and post category ( $r = 0.226, p < 0.01$ ). Number of shares were related to comments ( $r = 0.795, p < 0.01$ ) and total

engagement ( $r = 0.687, p < 0.01$ ) whereas comments on the posts were associated with total engagement ( $r = 0.641, p < 0.01$ ) and university type ( $r = -0.090, p < 0.01$ ). It was well evident that the post reachability was dependent on the number of likes, comments, shares, format and university type.

**Table 5.** Correlation characteristics of Facebook posts

|                          | 1 | 2      | 3      | 4      | 5       | 6       | 7       | 8       | 9     | 10    |
|--------------------------|---|--------|--------|--------|---------|---------|---------|---------|-------|-------|
| Likes                    | 1 | .479** | .437** | .963** | -.119** | -.158** | .226**  | .029    | -.065 | -.061 |
| Share                    |   | 1      | .795** | .687** | -.021   | -.044   | .047    | -.055   | .033  | -.054 |
| Comments                 |   |        | 1      | .641** | -.090*  | -.025   | .003    | -.038   | .023  | -.043 |
| Total Engagement         |   |        |        | 1      | -.097** | -.138** | .183**  | .005    | -.043 | -.067 |
| University type          |   |        |        |        | 1       | .090*   | .064    | -.248** | -.024 | .061  |
| Post format              |   |        |        |        |         | 1       | -.255** | -.226** | .083  | .065  |
| Post category            |   |        |        |        |         |         | 1       | .259**  | -.023 | .031  |
| Sentiment based comments |   |        |        |        |         |         |         | 1       | .024  | -.066 |
| User's category          |   |        |        |        |         |         |         |         | 1     | -.005 |
| Gender                   |   |        |        |        |         |         |         |         |       | 1     |

\* $p < .01$ , \*\* $p < .05$

One-way ANOVA was conducted to examine the difference between multiple groups. From the result it was found that there were statistically significant differences found between the post format group for likes [ $F(8,741) = 11.833, p = 0.000$ ] and total engagement [ $F(8,712) = 8.161, p = 0.000$ ] and post category for likes [ $F(12,743) = 7.456, p = 0.000$ ] and total engagement [ $F(12,714) = 5.330, p = 0.000$ ] (Table 6) whereas other combination of posts was non-significant for likes, share, comments and total engagements.

**Table 6.** ANOVA results of various posts categories on dependent variables

| Dependent Variables | Number of Post             | Mean | S.D.  | LL    | UL     | F      | p-value |
|---------------------|----------------------------|------|-------|-------|--------|--------|---------|
| Likes               | <b>Post format</b>         |      |       |       |        |        | 11.833  |
|                     | Only Images                | 80   | 293.8 | 262.6 | 235.31 | 352.19 |         |
|                     | Only Text                  | 38   | 175.7 | 119.1 | 136.52 | 214.80 |         |
|                     | Only Video                 | 23   | 152.7 | 83.9  | 116.36 | 188.94 |         |
|                     | Only Link                  | 39   | 91.2  | 148.6 | 43.01  | 139.35 |         |
|                     | Text and link              | 186  | 79.3  | 128.3 | 60.77  | 97.90  |         |
|                     | Image and Text             | 275  | 189.7 | 246.1 | 160.47 | 218.91 |         |
|                     | Image and link             | 54   | 56.0  | 69.3  | 37.11  | 74.96  |         |
|                     | Image, Text and link       | 50   | 151.9 | 193.1 | 97.00  | 206.76 |         |
|                     | Text and Video             | 5    | 80.6  | 54.4  | 13.11  | 148.09 |         |
|                     | <b>Post Category</b>       |      |       |       |        |        | 7.456   |
|                     | Research                   | 63   | 168.9 | 135.0 | 134.88 | 202.90 |         |
|                     | Event                      | 305  | 109.1 | 174.6 | 89.41  | 128.76 |         |
|                     | Admission                  | 38   | 119.8 | 134.1 | 75.71  | 163.87 |         |
|                     | Award and appreciation     | 91   | 221.4 | 237.9 | 171.82 | 270.93 |         |
|                     | Alumni related info        | 64   | 127.8 | 250.9 | 65.14  | 190.49 |         |
|                     | Announcement               | 99   | 119.9 | 175.0 | 85.02  | 154.82 |         |
|                     | Condolence                 | 4    | 322.8 | 151.2 | 82.10  | 563.40 |         |
|                     | COVID-19 related info      | 22   | 190.2 | 229.6 | 88.39  | 291.97 |         |
|                     | Wishes                     | 15   | 247.9 | 309.1 | 76.70  | 419.03 |         |
|                     | Infrastructure Development | 17   | 362.1 | 362.3 | 175.85 | 548.38 |         |
|                     | Placements                 | 7    | 183.1 | 111.8 | 79.78  | 286.51 |         |
|                     | Promotional                | 5    | 157.8 | 78.0  | 60.90  | 254.70 |         |
|                     | Funny post                 | 26   | 371.9 | 218.5 | 283.63 | 460.14 |         |



|  | Total<br>Engagement | Post format                |     |       |       |        |        |       |
|--|---------------------|----------------------------|-----|-------|-------|--------|--------|-------|
|  |                     |                            |     |       |       |        |        |       |
|  |                     | Only Images                | 80  | 323.2 | 286.7 | 259.36 | 386.99 |       |
|  |                     | Only Text                  | 38  | 202.1 | 141.9 | 155.47 | 248.74 |       |
|  |                     | Only Video                 | 23  | 187.7 | 112.3 | 139.14 | 236.25 |       |
|  |                     | Only Link                  | 39  | 105.8 | 183.7 | 46.23  | 165.36 |       |
|  |                     | Text and link              | 162 | 106.8 | 224.3 | 72.01  | 141.62 | 8.161 |
|  |                     | Image and Text             | 272 | 222.6 | 302.5 | 186.46 | 258.67 | 0.000 |
|  |                     | Image and link             | 54  | 58.9  | 74.8  | 38.53  | 79.35  |       |
|  |                     | Image, Text and link       | 48  | 170.8 | 222.2 | 106.31 | 235.32 |       |
|  |                     | Text and Video             | 5   | 91.2  | 61.3  | 15.07  | 167.33 |       |
|  | Total<br>Engagement | Post Category              |     |       |       |        |        |       |
|  |                     |                            |     |       |       |        |        |       |
|  |                     | Research                   | 63  | 200.1 | 161.3 | 159.51 | 240.78 |       |
|  |                     | Event                      | 278 | 137.0 | 260.9 | 106.24 | 167.84 |       |
|  |                     | Admission                  | 38  | 142.0 | 153.1 | 91.66  | 192.29 |       |
|  |                     | Award and appreciation     | 91  | 260.4 | 281.6 | 201.76 | 319.03 |       |
|  |                     | Alumni related info        | 64  | 137.9 | 258.4 | 73.36  | 202.43 |       |
|  |                     | Announcement               | 97  | 137.1 | 205.4 | 95.72  | 178.53 |       |
|  |                     | Condolence                 | 4   | 347.0 | 162.7 | 88.18  | 605.82 | 5.330 |
|  |                     | COVID-19 related info      | 22  | 218.7 | 283.2 | 93.14  | 344.23 | 0.000 |
|  |                     | Wishes                     | 15  | 269.3 | 341.8 | 80.05  | 458.61 |       |
|  |                     | Infrastructure Development | 17  | 412.1 | 424.7 | 193.76 | 630.48 |       |
|  |                     | Placements                 | 7   | 218.6 | 130.2 | 98.15  | 339.00 |       |
|  |                     | Promotional                | 5   | 192.0 | 115.7 | 48.35  | 335.65 |       |
|  |                     | Funny post                 | 26  | 406.4 | 239.2 | 309.76 | 503.01 |       |

Eventually, a T-test was conducted to assess the difference between public and private universities. There was a significant difference between universities type (public and private) for likes (public M = 177.2, SD = 229.7; private M = 127.8, SD = 178.2), comments (public M = 10.9, SD = 46.2; private M = 4.7, SD = 12.4) and total engagement (public M = 205.4, SD = 293.4; private M = 155.2, SD = 209.9). In all, public universities comprised more user interaction (comments) [ $t(763) = 4.49, p < 0.05$ ] and reachability (likes [ $t(754) = 3.29, p < 0.01$ ]; and total engagement [ $t(725) = 2.62, p < 0.01$ ]) as compared to private universities (Table 7).

**Table 7.** Results of t-Test evaluating University type on posts likes, comments, shares and total engagement

|         | Outcome variable | Number of Post | Mean  | S.D.  | df  | t-test | p-value |
|---------|------------------|----------------|-------|-------|-----|--------|---------|
| Public  | Likes            | 388            | 177.2 | 229.7 | 754 | 3.29   | 0.01    |
| Private |                  | 368            | 127.8 | 178.2 |     |        |         |
| Public  | Comments         | 392            | 10.9  | 46.2  | 763 | 4.49   | 0.13    |
| Private |                  | 373            | 4.7   | 12.4  |     |        |         |
| Public  | Total Engagement | 386            | 205.4 | 293.4 | 725 | 2.62   | 0.009   |
| Private |                  | 341            | 155.2 | 209.9 |     |        |         |

## Discussion

Today, the benefit of social media is not only for social communication instead it can be used for building brand, bringing career opportunities and generating revenues (Tang et.al. 2012). Social media also serves tools to facilitate the inter-intra organisational activities for example peers, customers, business partners, organisation (Mangold & Faulds, 2009; Porter & Donthu, 2008), facilitating knowledge sharing communities (Fernando, 2010; Kasavana et al., 2010;

Yates & Paquette, 2011), marketing strategies for brand management (Jin, 2012; Laroche et.al., 2013).

From the current study it was evident that various stakeholders were using social media sites specifically Facebook pages for gathering the university related information during Covid-19. Even, universities have used social media enormously to communicate the university specific information to the various users. The purpose of this current study was to evaluate the practices of higher education institutions on Facebook for outreach and communication purpose.

The current study examined the characteristics of universities Facebook page during COVID-19 pandemic situation. We examined both characteristics and engagement on posts for top 15 university Facebook pages as 5 university official pages were not available on Facebook. This study contributes in understanding the characteristics of Facebook posts to disseminate the university related information rapidly in a pandemic situation as the COVID-19 outbreak. The result revealed that the number of post likes were dependent on number of shares, comments, university type, post format and post category and not at all dependent on sentiment-based comments, users' category and gender. It was really interesting to note that likes, comments, shares and total engagement were not impacted with sentiment-based comments and users' category whether it is positive or negative comments or posted by employee, alumni, others etc. For example, 80.48% positive comments posted during the period June 2020 to November 2020 and 61.87% users were not related to university still there is no significant association found between these variables.

The current study found that the universities (public and private) used above stated period to disseminate more information through events i.e., webinars, online activities etc. Findings clearly distinguished between public and private universities about the strategies of branding, engagement and communication to their audiences. Public universities posted more research achievements and event related posts as compared to private universities, while private universities posted more awards & appreciations and alumni related information. Public universities were not emphasising on admissions, placements and promotions through their posts but private universities had been little anxious about the admissions. Positive comments were prominent in the comment section of private universities as compared negative comments. This may happen due to control of private university on user's comments. As negative comments can be deleted or hidden from the comment section. It comes under the right of admin as a page owner. It was surprising to know that male users were more outspoken and commented freely on the page as compared to females. This may be due to influence of culture which is a point of concern and worth to explore in future studies.

In the nutshell, the result suggests that the type of university is a factor in both reachability and engagement. Public universities received more page likes, followers, post likes, comments and shares than private universities. In terms of post format, only text formatted posts were more frequently posted by public universities, while private universities relied on image and text formatted posts.

The current study makes the several contributions to academia and industry. Very few studies related to social media usage in higher education institutions were found. The current study contributes in theoretical domain with respect to the content creation and usage of social media by universities for outreach and engagement with their stakeholders. Furthermore, it



was found that various stakeholders' perception was different for various higher education institutions and their activities it is revealed through study that a specific content of post may change the perception. We specifically recommend the institutions to reach out their audience with specific objective and as our findings revealed that a specific content should be created for the same. However, the overall user engagement was more conducive for event and announcement category posts. Further, this study contributes to the body of knowledge a relation between user and post type, in other words how and why an individual (alumni, faculty member, student or other etc.) select a Facebook post as per the area of their own choice and furthermore this study also provides insight that how an institution can create their posts to encourage their target users to engage with the various posts in terms of extending the reachability of the post or increasing the probability to engage with the posts.

From the Industry perspective, the present study collaborates the view of reaching the target audience through organic posts of Facebook. It is important for digital marketers to implement the strategies which lead to increase the engagement of the posts to maximise the reachability. From branding point of view, it becomes crucial to engage the users with the posts. Hence, it is suggested to use the text & link and image & text format to post their content on Facebook as it is very helpful to increase the reachability and engagement of Facebook post.

### **Limitation and future research**

The current study collected data only from Facebook, where other platforms are also worthwhile to investigate in future research. The posts were collected based on English language. Other languages can also be taken into consideration for future research. The data was collected from June-2020 to November-2020; an increase in the period can help in establishing the generalizability of the findings. The total engagement was calculated on the basis of number of likes, shares and comments, but page likes and followers can also be taken into account in further studies. The other limitation is that we have collected data of organic posts only; promotional posts can also be studied to investigate the overall branding and perception of the users. The current studies examined the number of likes and shares, but it is also worth to explore the users who likes and shares the posts and increase the reachability. The present study examined the categories of the posts according to the content and their engagement level. In this regard, much more analysis can be conducted to identify the characteristics of the posts which increase the reachability and engagement i.e. day of week posted, time of day posted etc.

### **Conclusion**

It is clear that higher education institutions will continue to use social media marketing, especially even though this digital channel is where the university's viewers spend their content consumption time (Hesel & Williams, 2009). Students utilise the major social media networks like Facebook and Twitter during the college enrollment process (Hesel & Williams, 2009), as well as alumni who want to stay informed and active in their post-graduate community. (Farrow & Yuan, 2011). As a result, it's critical to understand how universities may use the finest strategies to manage their Facebook pages and social media campaigns to develop messaging at their best to engage their audiences. The purpose of this study was to determine the content kinds and forms of Facebook posts, as well as to assess the engagement on these

posts, in order to recommend practical ways for maximising the impact of organic Facebook posts. Overall, the findings backed up previous research in the field of social media marketing, both in the literature and in the industry.

The current study conducted with an objective to examine the top 20 Indian universities' Facebook page posts to identify the characteristics responsible to increase the reachability and engagement. The current study adopted the mixed research design method which includes qualitative and quantitative methodology. the findings were quite encouraging which demonstrated that various post format, post category, university type are the important factors which any digital marketer needs to keep into consideration for better branding of the higher education institutions. Overall this study provides strategies for universities to increase the reachability and engagement with respect to content creation for social media posts.

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