

**MODELLING THE ENGAGEMENT AND DISENGAGEMENT
BEHAVIOR OF MOBILE SOCIAL MEDIA APPLICATION
USERS**

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Modelling the Engagement and Disengagement Behavior of Mobile Social Media Application Users

by

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To my mother, Vivek Lata.
To my better half, Vikas Gandhi.
To my dear son, Vihaan Gandhi.

CERTIFICATE

This is to certify that the thesis titled “**Modeling the Engagement and Disengagement Behavior of Mobile Social Media Application Users,**” submitted by **Mohina Gandhi**, to the Indian Institute of Technology, Delhi, for the award of the degree of **Doctor of Philosophy (Ph.D.)**, is a bonified record of the research work done by his under my supervision. The content of this thesis, in full or in parts, has not been submitted to any other institute or university for the award of any degree or diploma. Material, wherever borrowed, has been duly acknowledged.

Prof. Arpan Kumar Kar,
Amar S Gupta Chair Professor,
Bharti School of Telecommunications Technology and Management,
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ABSTRACT

The exponential growth in the usage of social media platforms has brought most of us to a virtual space that is nowadays being shared by firms. These platforms can be utilized to improve purchase intentions, consumer satisfaction, brand loyalty, positive word of mouth, and much more. The user engagement over firm generated content can be the panacea for these desired outcomes. The interactivity over firm generated content between firms and users is called user engagement. The measures of user engagement can be the number of likes, comments, retweets, emojis, shares, and more, based on respective platforms. The active investigations of practitioners and researchers in understanding the phenomenon of user engagement were interesting. We appreciate the current knowledge present in the relevant works of literature and put forward a multi-study thesis as an attempt to add knowledge about the engagement and disengagement behavior of mobile social media application users.

In the first study of our thesis, we attempt to identify the presence of different features available at different layers of information in social media posts and their influence on user engagement. Studies have discussed the importance of communication of innovation practices over mass media for the profitability of the firms and their stakeholders. However, the limited exploration of the effective ways how the different types of innovations should be communicated motivated us to analyze the SM posts of B2B firms. We have designed this empirical study to extend the knowledge of the practical usage of social media platforms for sharing their innovation practices. It has been observed that the continued usage of social media platforms by B2B firms is still nascent; however, its importance is quite clear to the top B2B firms as they have dedicated resource persons and budgets allocated to SM activities.

Through the lens of signaling theory, we identified the presence of organizational, product, process, marketing, and social innovation operations in their SM posts. These posts were further analyzed using multimodal analytical techniques to identify their embedded textual and visual features. The results indicate that using social media platforms for announcing industrial innovation practices is essential. It also shows the prevalence of users' interest in the information relevant to organizational innovation practices of B2B firms.

The second study explores social media posts' textual and visual features that can improve technology-mediated communication between firms and users. In this technology-mediated world, the increased engagement of individuals over social media platforms makes it necessary to connect with everyone digitally. The literature indicates that many studies have analyzed textual social media content. However, recent trends indicate that users prefer multimedia content over static content. The limited investigation of visual and textual features for effective communication between firms and users has motivated us to conduct this study. With the theoretical underpinning of social presence theory, we have deduced a model that maps multimodal features of firm generated content across three different levels of user engagement. The model has been empirically tested with Facebook image posts of business-to-user companies from the list of Fortune 100 companies of the year 2018. This longitudinal study has also been designed to identify the changes in social media communication due to the pandemic. Our contribution lies in modelling those textual and visual features of firm generated content that reflect the three dimensions of social presence.

The third study has been conducted in the context of the discontinuation of mobile social media applications at the early adoption stage. Among the other types of IS discontinuation, this phenomenon got little attention earlier due to the sparse

availability of IS solutions. There are abundant IS solutions in this digital age, but keeping a user committed to it for a longer duration is a challenge. This study has been developed to enhance the knowledge about the regressive discontinuance phenomenon by employing the exploratory sequential design of mixed methods research designs. With the help of information processing and experiential perspectives of consumption, we developed a conceptual model in phase one using qualitative research. The lens of complexity theory was further utilized to identify those composite conditions that result in regressive discontinuance. To deduce the core and peripheral conditions that affect a person's early discontinuation decision, contrarian and sufficient condition analyses have been performed. This study has been conducted for mobile social media applications and has implications for multiple stakeholders.

In conclusion, to utilize the opportunity of two-way communication that is provided by mobile social media platforms, firms need to create an understanding of multiple facets of information and mobile social media applications. Our studies are designed to explore the potential of multiple facets of information, such as content-level, context-level information, multimodal features, and cognitive and experiential evaluation of the platforms. These studies have significant implications for academicians and marketers, as they offer strategies for designing social media posts for effective communication. The insights can also be utilized to prevent the early discontinuation of mobile social media users. In this manner, based on the current social media practices of firms and users, our studies create an understanding of their relationship and share insights about the engagement and disengagement behavior of mobile social media users.

सारांश

सोशल मीडिया प्लेटफॉर्म के उपयोग में घातीय वृद्धि ने हममें से अधिकांश को एक आभासी स्थान पर ला दिया है जो आजकल फर्मों द्वारा साझा किया जा रहा है। इन प्लेटफॉर्मों का उपयोग खरीदारी के इरादे, उपभोक्ता संतुष्टि, ब्रांड वफादारी, मुंह के सकारात्मक शब्द और बहुत कुछ में सुधार के लिए किया जा सकता है। इन वांछित परिणामों के लिए फर्म द्वारा निर्मित सामग्री पर उपयोगकर्ता का जुड़ाव रामबाण हो सकता है। फर्मों और उपयोगकर्ताओं के बीच फर्म द्वारा उत्पन्न सामग्री पर अन्तरक्रियाशीलता को उपयोगकर्ता जुड़ाव कहा जाता है। संबंधित प्लेटफॉर्म के आधार पर उपयोगकर्ता जुड़ाव के उपाय लाइक, कमेंट, रीट्वीट, इमोजी, शेयर और अधिक की संख्या हो सकते हैं। उपयोगकर्ता जुड़ाव की घटना को समझने में चिकित्सकों और शोधकर्ताओं की सक्रिय जांच दिलचस्प थी। हम प्रासंगिक साहित्य में मौजूद वर्तमान ज्ञान की सराहना करते हैं और मोबाइल सोशल मीडिया एप्लिकेशन उपयोगकर्ताओं के जुड़ाव व्यवहार के बारे में ज्ञान जोड़ने के प्रयास के रूप में एक बहु-अध्ययन थीसिस प्रस्तुत करते हैं।

हमारे थीसिस के पहले अध्ययन में, हम सोशल मीडिया पोस्ट में जानकारी की विभिन्न परतों पर उपलब्ध विभिन्न विशेषताओं की उपस्थिति और उपयोगकर्ता जुड़ाव पर उनके प्रभाव की पहचान करने का प्रयास करते हैं। अध्ययनों ने फर्मों और उनके हितधारकों की लाभप्रदता के लिए मास मीडिया पर नवाचार प्रथाओं के संचार के महत्व पर चर्चा की है। हालांकि, विभिन्न प्रकार के नवाचारों को कैसे संप्रेषित किया जाना चाहिए, इसके प्रभावी तरीकों की सीमित खोज ने हमें बी2बी फर्मों के एसएम पदों का विश्लेषण करने के लिए प्रेरित किया। हमने इस अनुभवजन्य अध्ययन को डिजाइन किया है ताकि उनकी नवाचार प्रथाओं को साझा करने के लिए सोशल मीडिया प्लेटफॉर्मों के व्यावहारिक उपयोग के ज्ञान का विस्तार किया जा सके। यह देखा गया है कि बी2बी फर्मों द्वारा सोशल मीडिया प्लेटफॉर्म का निरंतर उपयोग अभी भी

प्रारंभिक अवस्था में है; हालांकि, शीर्ष बी2बी फर्मों के लिए इसका महत्व काफी स्पष्ट है क्योंकि उनके पास समर्पित संसाधन व्यक्ति और एसएम गतिविधियों के लिए आवंटित बजट हैं। सिग्नलिंग सिद्धांत के लेंस के माध्यम से, हमने उनके एसएम पदों में संगठनात्मक, उत्पाद, प्रक्रिया, विपणन और सामाजिक नवाचार संचालन की उपस्थिति की पहचान की। इन पोस्टों का उनके एम्बेडेड पाठ्य और दृश्य सुविधाओं की पहचान करने के लिए मल्टीमॉडल विश्लेषणात्मक तकनीकों का उपयोग करके विश्लेषण किया गया था। परिणाम बताते हैं कि औद्योगिक नवाचार प्रथाओं की घोषणा के लिए एसएमपी का उपयोग करना आवश्यक है। यह B2B फर्मों के संगठनात्मक नवाचार प्रथाओं से संबंधित जानकारी में उपयोगकर्ताओं की रुचि के प्रसार को भी दर्शाता है।

दूसरा अध्ययन सोशल मीडिया पोस्ट के पाठ्य और दृश्य सुविधाओं की पड़ताल करता है जो फर्मों और उपयोगकर्ताओं के बीच प्रौद्योगिकी-मध्यस्थ संचार में सुधार कर सकते हैं। इस प्रौद्योगिकी-मध्यस्थ दुनिया में, सोशल मीडिया प्लेटफॉर्म पर व्यक्तियों की बढ़ती व्यस्तता ने सभी के साथ डिजिटल रूप से जुड़ना आवश्यक बना दिया है। साहित्य इंगित करता है कि कई अध्ययनों ने टेक्स्ट सोशल मीडिया सामग्री का विश्लेषण किया है। हालांकि, हाल के रुझानों से संकेत मिलता है कि उपयोगकर्ता मल्टीमीडिया सामग्री को स्थिर सामग्री से अधिक पसंद करते हैं। फर्मों और उपयोगकर्ताओं के बीच प्रभावी संचार के लिए दृश्य और पाठ्य सुविधाओं की सीमित जांच ने हमें इस अध्ययन को करने के लिए प्रेरित किया है। सामाजिक उपस्थिति सिद्धांत के सैद्धांतिक आधार के साथ, हमने एक मॉडल निकाला है जो उपयोगकर्ता के जुड़ाव के तीन अलग-अलग स्तरों पर फर्म द्वारा उत्पन्न सामग्री की बहुविध विशेषताओं को मैप करता है। वर्ष 2018 की फॉर्च्यून 100 कंपनियों की सूची से बिजनेस-टू-यूजर कंपनियों की फेसबुक इमेज पोस्ट के साथ इस मॉडल का अनुभवजन्य परीक्षण किया गया है। इस अनुदैर्ध्य अध्ययन को महामारी के कारण सोशल मीडिया संचार में बदलाव की पहचान करने के लिए भी डिजाइन किया गया है। हमारा योगदान फ़र्म जनित सामग्री के उन पाठ्य और दृश्य विशेषताओं को

मॉडलिंग करने में निहित है जो सामाजिक उपस्थिति के तीन अलग-अलग आयामों को दर्शाते हैं।

तीसरा अध्ययन प्रारंभिक गोद लेने के चरण में मोबाइल सोशल मीडिया अनुप्रयोगों को बंद करने के संदर्भ में आयोजित किया गया है। अन्य प्रकार के आईएस विच्छेदन के बीच, आईएस समाधानों की विरल उपलब्धता के कारण इस घटना पर पहले थोड़ा ध्यान दिया गया। इस डिजिटल युग में प्रचुर मात्रा में आईएस समाधान हैं, लेकिन एक उपयोगकर्ता को लंबे समय तक इसके लिए प्रतिबद्ध रखना एक चुनौती है। इस अध्ययन को मिश्रित विधियों अनुसंधान डिजाइनों के अन्वेषणात्मक अनुक्रमिक डिजाइन को नियोजित करके प्रतिगामी विच्छेदन घटना के बारे में ज्ञान बढ़ाने के लिए विकसित किया गया है। सूचना प्रसंस्करण और खपत के अनुभवात्मक दृष्टिकोण की मदद से, हमने गुणात्मक शोध का उपयोग करते हुए पहले चरण में एक वैचारिक मॉडल विकसित किया। जटिलता और विन्यास सिद्धांतों के लेंसों का उपयोग उन समग्र स्थितियों की पहचान करने के लिए किया गया था, जिसके परिणामस्वरूप प्रतिगामी विच्छेदन होता है। मूल और परिधीय स्थितियों को निकालने के लिए जो किसी व्यक्ति के शुरुआती विराम निर्णय को प्रभावित करते हैं, एक विरोधाभासी और पर्याप्त स्थिति विश्लेषण किया गया है। यह अध्ययन मोबाइल सोशल मीडिया अनुप्रयोगों के लिए आयोजित किया गया है और इसमें कई हितधारकों के लिए निहितार्थ हैं।

निष्कर्ष में, मोबाइल सोशल मीडिया प्लेटफार्मों द्वारा प्रदान किए गए दो-तरफा संचार के अवसर का उपयोग करने के लिए, कंपनियों को सूचना और मोबाइल सोशल मीडिया अनुप्रयोगों के कई पहलुओं की समझ बनाने की आवश्यकता है। हमारे अध्ययन को सूचना के कई पहलुओं की क्षमता का पता लगाने के लिए डिज़ाइन किया गया है, जैसे सामग्री-स्तर, संदर्भ-स्तर की जानकारी, मल्टीमॉडल सुविधाएँ और प्लेटफार्मों के संज्ञानात्मक और अनुभवात्मक मूल्यांकन।

इन अध्ययनों का शिक्षाविदों और विपणक के लिए महत्वपूर्ण प्रभाव है, क्योंकि वे प्रभावी संचार के लिए सोशल मीडिया पोस्ट डिजाइन करने की रणनीति प्रदान करते हैं। इन जानकारियों का उपयोग मोबाइल सोशल मीडिया उपयोगकर्ताओं को जल्दी बंद होने से रोकने के लिए भी किया जा सकता है। इस प्रकार, फर्मों और उपयोगकर्ताओं की वर्तमान सोशल मीडिया प्रथाओं के आधार पर, हमारे अध्ययन उनके संबंधों की समझ पैदा करते हैं और मोबाइल सोशल मीडिया उपयोगकर्ताओं के जुड़ाव और अलगाव व्यवहार के बारे में अंतर्दृष्टि साझा करते हैं।

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ABBREVIATIONS

Short from	Full name
AA	Alternative Attractiveness
AVE	Average Variance Extraction
B2B	Business-to-Business
B2C	Business-to-Consumer
CA	Cronbach Alpha
CR	Composite Reliability
DIQ	Dissatisfaction with Information Quality
DUB	Discontinuation Usage Behavior
ED	Expectation Disconfirmation
FAT	Fatigue
FGC	Firm Generated Content
FO	Feature Overload
GUI	Guilt
IO	Information Overload
IP	Invasion of Privacy
IRR	Incidence Rate Ratio
NSM	Needs Supplies Misfit
SO	Social Overload
VIF	Variance Inflation Factor