



Examining the Psychological and Behavioral Impacts of Social Media Breakups

¹Nagendra, ²Tamilarasan D, ³B Mounika, ⁴A D Kumaravelu, ⁵A Sreedhar

^{1,3,4,5}Department of MCA, Sri Venkateswara College of Engineering and Technology (Autonomous), R V S Nagar, Chittoor, Andhra Pradesh, India, 517127

²Assistant Professor, Department of MCA, Sri Venkateswara College of Engineering and Technology (Autonomous), R V S Nagar, Chittoor, Andhra Pradesh, India, 517127

Abstract: It is becoming increasingly important to comprehend why people stop using social media platforms in the constantly shifting global landscape. Understanding the context of these choices and the variables influencing their outcomes, as previously stated, may assist users in making these choices and provide assistance. suppliers to lessen them. The theoretical explanation of the phenomena of social media cessation has to be improved. Other writers employed convenience sampling and performed a quantitative analysis to survey Facebook users while concentrating on other social media sites. combined the "Stimulus-Organism-Response" (S-O-R) framework with the Smart-PLS software and technology. The findings corroborate this approach and point to aggravation, privacy concerns, social media helpfulness, information overload, communication overload, and social media self-efficacy as stimuli. The findings show that tiredness sensations are correlated with social media users' perceived relevance (i.e., organism), which in turn raises their intents to stop using social media and their aversion to ads (i.e., reaction). Regarding how individuals utilize social media and deal with breakups, our research provides insightful information to marketers, business owners, and organizations across all industries.

Index Terms - Social Network, Break Up, Fatigue, Avoidance, Stimuli

I. INTRODUCTION

A cursory glance at today's environment reveals excessive mass media intake, even to the untrained eye. In a common consumption pattern, consumers are addicted to their mobile devices, giving them rapid access to news, social networks, pop culture, location-based information, and much more. The COVID-19 epidemic has contributed to the rise in social media usage. Adolescents who use social media (S.M.) extensively are experiencing mental health problems. An increasing amount of engagement occurs inside these new social networking environments as individuals spend more and more time on them. This suggests that brand-related experiences and brand program exposure are occurring quickly in the context of social networking, with regard to advertising communication. As a result, users became active opinion leaders and promoters rather than passive partners in promotions thanks to the new communication system. Numerous definitions exist for social media. A large number of these definitions originate from self-described subject-matter experts, such as bloggers and commentators. Numerous social networking site (SNS) providers, including Instagram, WeChat, Facebook, and Twitter, give users simple ways to connect with one another. This tendency has been further aided by the tremendous improvements in mobile internet in recent years. There is a constant emergence of SNS programs (Apps) that are specifically made for mobile devices.

Social media users will surely have to make more stringent decisions about how to use their cognitive and attentional resources as a result of the deluge of information these sites provide. Studies indicate that when faced with distractions, people pay less attention to communications and retain less knowledge overall. Additional research has demonstrated that an abundance of information might hinder the ability to recall information. The current landscape of marketing communication has novel difficulties and possibilities for businesses, given the growing impact of social media interactions on purchasing choices. Individuals are depending more on their social networks to help them make such choices. Additionally, Husnain and Toor's findings suggest that Pakistani marketers need to take into account the strategic role that customer involvement plays in advancing consumer intentions. Additionally, they need to consciously increase their social media presence so that customers can enjoy benefits.

II. LITERATURE SURVEY

Bright et al. in today's world, social media use is commonplace; users spend up to 20% of their media time on social media platforms, connecting with friends, family, and brands (Adler 2016), and the excessive use of them is causing weariness. The influence of advertising elements like attitude and intrusiveness on social media weariness is investigated in this study, along with two consumer behavior factors: privacy and FOMO [1]. Design, procedure, and strategy A survey consisting of 190 items was created and distributed to a group of willing participants gathered for internet-based studies (also known as an online panel). For the poll, 750 US social media users were selected as a representative sample; 518 of these respondents were deemed legitimate and useful. The findings show that, contrary to expectations about advertising effects, FOMO has the most effect on social media

weariness. Additionally, advertisers should keep an eye on customers' privacy issues, which are still a problem. Hamilton et al. proposed that teens who use social media are more likely to have trouble sleeping, especially during the day, which has an impact on their mental health. Few research has looked at the relationships between particular social media characteristics [2], such how frequently one checks and posts, how important one believes social media is for social belonging, and how sleepy one feels during the day. Future treatments pertaining to social media, sleep, and mental health may benefit from knowing which teenagers are more susceptible to or shielded from the negative effects of social media on drowsiness. This study is to investigate the link between daytime drowsiness and social media usage frequency and importance. Additionally, it will investigate whether social media's perceived value for social contacts and parental regulations about technology use before bedtime modify these correlations.

Hutter et al. In line with the hierarchy of effects theory, the author's findings demonstrate the positive impact of fan-page engagement on consumers' brand awareness, word-of-mouth (WOM) activities, and purchase intention [3]. They also suggest that frustration with the fan-page due to information overload has a negative impact on fan-page commitment and decreases WOM activities. This article aims to analyze how social media activities, specifically the Facebook page of an automobile manufacturer, and user interactions with these brand-related activities affect consumers' perception of brands and ultimately influence consumers purchase decision. The findings of this study add to our theoretical knowledge of the value-enhancing benefits of social media marketing. Design, procedure, and strategy in collaboration with the automobile manufacturer MINI, a study was conducted to address the research issues and evaluate the authors' assumptions. The authors used AMOS 18 structural equation modeling to evaluate their ideas. Bright et al. proposed that the amount of content generated by social media is constantly increasing. According to some study, social media weariness may be a real thing as more individuals post information on social media platforms like Facebook. The term "social media fatigue" refers to a user's propensity to reduce their use of social media after becoming overloaded with information. The function of information overload in social media fatigue is understood through the use of Lang's (2000) limited capacity model. This study looks at the idea of social media weariness and its suggested causes, which include worries about privacy, helpfulness, efficacy, and confidence on social media. This study [4] found that confidence and privacy issues had the highest predictive value for social media tiredness using confirmatory regression. Theoretically, this work affects not just LCM but also other models of technology adoption, including TAM, UTAUT, and UTAUT2. It also affects those attempting to interact with online audiences and how those audiences respond to such attempts at interaction. A number of proposals for further investigation are also investigated.

Zong et al. aims to investigate, from a broader angle, how social network weariness influences the intention of users to continue using social networking services (SNSs). Design, procedure, and strategy Utilizing the uses and gratification theory (UGT), social network fatigue, and continuation intention, a study model was put out. In addition to the direct and moderating effects of social network fatigue, the interactions between the three dimensions of UGT and continuation intention were also investigated. A survey conducted online was used to gather data, and 227 valid replies were subjected to structural equation modeling analysis. Results The empirical results show that the intention of SNS users [5] to stick around is positively correlated with utilitarian gratification (seeking information), social pleasure (interacting with others), and hedonic satisfaction (felt delight). In the meanwhile, ambition to continue might be adversely and directly impacted by social network tiredness. Moreover, social network weariness also adversely moderates the correlations between the two components of UGT (information seeking, perceived enjoyment) and continuation intention. Uniqueness and worth This study add to our knowledge of the connection between social network weariness and continuation intention. The authors suggest that social network fatigue will have a detrimental effect on the creation of the continuation intention in addition to directly weakening the intention of SNS users to continue using the service. There are also some other theoretical and practical ramifications mentioned.

III. METHODOLOGY

The present study used a quantitative research approach to investigate the factors that contribute to the cessation of social media use, with a focus on Facebook. To fully comprehend user behavior, the technique is based on flow theory and the Stimulus-Organism-Response (SOR) theory. To create a comprehensive understanding of the psychological and behavioral processes involved, the study framework incorporates concepts from rational choice theory, stress-coping theory, and cognitive dissonance theory. An online survey will be used to gather data from a representative sample of Facebook users. A number of psychometric instruments will be used to test the relevant dimensions, and demographic questions will also be included to guarantee a representative sample. These measures will include topics such as stress, coping strategies, flow experiences, cognitive dissonance, and reasoned decision-making. Validated scales from earlier studies will serve as the foundation for the survey instrument's development. Things will be modified to make them appropriate for usage on social media. For example, questions that evaluate absorption, pleasure, and the challenge-skill balance will be used to quantify flow experience. Items that measure users' discomfort when their online conduct misaligns with their values or beliefs will be used to assess cognitive dissonance. Scales that evaluate users' perceived stress and coping methods will be used to measure stress and coping processes. Items that examine the cost-benefit analysis people perform when deciding to stop using Facebook will be included in rational choice frameworks.

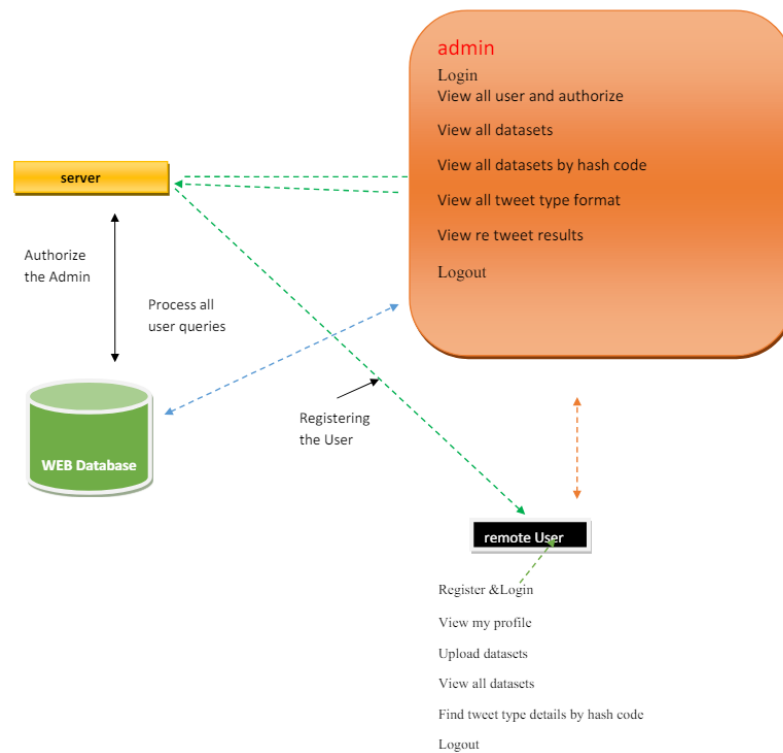


Fig.1 Architecture of System

In order to guarantee representation across several demographic categories, including age, gender, and socioeconomic position, a stratified random sampling approach will be employed. Power analysis will be used to estimate the desired sample size in order to guarantee that there is enough statistical power to detect significant effects. Many statistical methods will be used in data analysis. The characteristics of the sample and the survey responses will be compiled using descriptive statistics. Inferential statistics, including a number of regression analyses and structural equation modeling (SEM), will be applied to investigate the hypothesized correlations between components. SEM is particularly ideal for this study as it enables for the evaluation of complicated interactions between observable and latent variables. In order to verify the validity and reliability of the survey tool, a limited sample of Facebook users will participate in research. Using Cronbach's alpha, the pilot research will verify the scales' dependability and assist in improving the survey questions. To make sure the items measure the target components correctly, confirmatory factor analysis (CFA) will be used to evaluate construct validity. The research will comply with ethical standards for studies involving human participants. Every participant will be asked for their informed permission, guaranteeing that they understand the goal of the study and that they have the option to withdraw at any moment. Anonymity and data confidentiality will be upheld during the whole study procedure.

IV. . MODULES

The admin module and the User module are the two primary components of the suggested system. Each module has unique features that are intended to meet the demands of the social media platform's administrators and users, in that order. The modules are designed to facilitate smooth communication between administrators and users, with an emphasis on recognizing and controlling negative behaviors including stress, anxiety, and depression. The administration and supervision of the social media network revolve around the admin module. Administrators may safely log in, guaranteeing that only individuals with the proper authorization can access the administrative features. Admins may examine and approve all users after logging in. To keep the platform's integrity intact, this entails confirming the validity and authenticity of new users. Admins can also handle buddy requests, answering them suitably to promote real social interactions. Adding filters is an essential feature of the admin module. In order to moderate material and maintain the platform's welcoming and secure environment for all users, these filters are crucial. Administrators may also see every dataset that users have contributed, giving them a thorough picture of all the data that is being shared on the site. This feature is essential for keeping an eye on user behavior trends and patterns.

Administrators can also observe user behaviors that point to stress, anxiety, and depression using the admin module. This is accomplished by using sophisticated analytical tools that keep an eye out for indications of these behaviors in user interactions and content. Charts displaying the findings of these analysis provide a visual depiction of the data. Administrators can easily spot and manage any worrying tendencies with the aid of this graphic. Lastly, a logout feature in the admin module makes sure that admin sessions may be safely canceled to stop unwanted access. The purpose of the User module is to give users of the social media platform a thorough and intuitive experience. In order to establish their profile, users must first register for an account and provide the required information. After registering, users may safely log in to the platforms. The profile management system is one of the User module's main features. Users have the ability to build and modify their profiles, which include their interests, personal data, and other pertinent information. The user's identity on the site is represented by this customized profile. In addition, users can track and locate friend requests by utilizing the search feature to look for friends. This feature helps users connect with one another, which improves the social aspect of the platform.

Users may get a list of all their friends and keep up with their activities after connecting with pals. The User module's upload capability is yet another crucial feature. Users have the ability to exchange information, such as experiences, accomplishments, and other pertinent material. Their peers may see this shared material, which promotes engagement and a sense of community. In order to keep in touch and up to know on the most recent happenings in their social circle, users may also see posts shared by their peers. Strong social relationships are maintained in part by this ongoing engagement. When a user is finished with the platform, they may safely log out of their accounts thanks to the logout feature in the User module. The suggested solution makes use of a cutting-edge and reliable technological stack to provide scalability, security, and a flawless user interface. React.js is a popular JavaScript user interface framework that is used to develop application front ends. Using React.js, web pages can be made that are responsive and dynamic, giving users an interactive and interesting experience. React component-based design makes it easier to create reusable user interface components, which improves the application's scalability and maintainability. The system makes use of Node.js, a potent JavaScript runtime environment that facilitates server-side scripting, on the back end. Node.js is well-known for its ability to manage several connections at once, which makes it perfect for real-time applications such as social media networks. The server-side logic is developed more quickly by using Express.js, a Node.js web application framework. It offers a wide range of functionalities for both online and mobile apps, such as template engines, middleware support, and routing.

The system's database layer is powered by MongoDB, a NoSQL database that is well-known for its scalability and flexibility. Because of its schema-less design, MongoDB promotes rapid development and iteration, allowing the system to quickly adapt to changing requirements. MongoDB also allows for the storage of large volumes of unorganized information, making it suitable for handling the diverse types of information generated by social media interactions. The system uses bcrypt, a password-hashing library, to securely store user passwords and uses JSON Web Tokens (JWT) for user authentication and authorization. JWTs offer a safe and scalable way to confirm user identities and authorize access to protected resources, ensuring that only authorized users and admins can access sensitive functionalities of the platform. Python is used in the development of the system's analytics and behavior monitoring components, which take advantage of its many libraries for machine learning and data analysis. User data is processed and analyzed using libraries like pandas, NumPy, and scikit-learn to find patterns that may indicate stress, anxiety, or depression. The analytic findings are presented in an easily interpreted way through the use of charts and graphs created with visualization tools such as Matplotlib and Seaborn. All things considered, the technological stack is strong and adaptable thanks to the mix of Python for data analysis, Node.js and Express.js for the backend, MongoDB for the database, and React.js for the front end. This stack guarantees that the suggested system can scale and adjust to new requirements and problems in addition to supporting its essential features.

V. RESULTS

Examining the behavioral and psychological effects of social media breakups is expected to provide a variety of benefits, including advances in technology and enhanced user welfare on social media platforms. Through a comprehensive analysis of connections between social media spam activities, including recurrent patterns in user behavior, content, and network architecture, the system is anticipated to generate more complex algorithms for real-time spam detection. These improved algorithms will improve the overall effectiveness and responsiveness of the system by not just identifying spammy accounts, postings, or messages based on their similarity to established spam patterns, but also by adapting to new and developing forms of spam. The capacity to manage enormous volumes of data and activity across several social media networks is one important anticipated result. Scalability is important because the system must be able to handle large amounts of data quickly and accurately in order to fulfill the demands of continuous monitoring. Through the use of big data analytics and sophisticated machine learning techniques, the system will be able to quickly sort through enormous datasets and accurately identify and classify spam activity. Because of its scalability, the system can continue to function even when the number of social media interactions increases dramatically. Another important result is the ability to react instantly to spam activity. It is anticipated that the system would automatically identify and eliminate spam content, stopping the spread of false or harmful information. It will also be able to suspend accounts that are found to be spammers, which will lessen the possibility that the same person would engage in spam again. Notifying consumers of possible spam threats can also help them avoid falling for scams or false information, which improves user experience overall and builds platform confidence.

The integrity of information on social media platforms must be preserved by limiting the dissemination of spam and false information. The system's efficient spam filtering will make the internet a more dependable place. Users will gain from a more orderly, reliable environment where real conversations aren't dominated by spam or misleading information. Users will feel safer and more secure in the material they consume and share as a result of this increased integrity, which can strengthen community ties and increase user engagement. The improvement of consumers' psychological well-being is another anticipated result. By lessening the detrimental effects of spam and false information, the system helps users' mental health inadvertently. Distress, worry, and mistrust of social media sites can result from being exposed to spam and misleading material. The method contributes to the development of a more encouraging and helpful online community by proactively resolving these problems. Users' general mental health and contentment with their social media experiences may thus benefit from this. Apart from enhancing technological capabilities and promoting user welfare, the system's results can offer significant understanding of the wider social dynamics present on social media platforms. Better social media regulations and procedures may be developed by taking into account the patterns and behaviors linked to spam activity. Platforms may utilize these information, for example, to create community norms, user education initiatives, and moderating tools that are more successful in fostering positive online interactions.

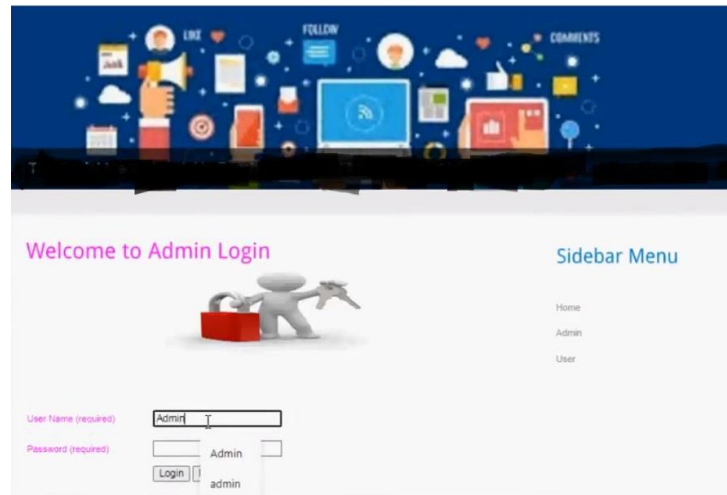


Fig.2 Home Page of User Interface

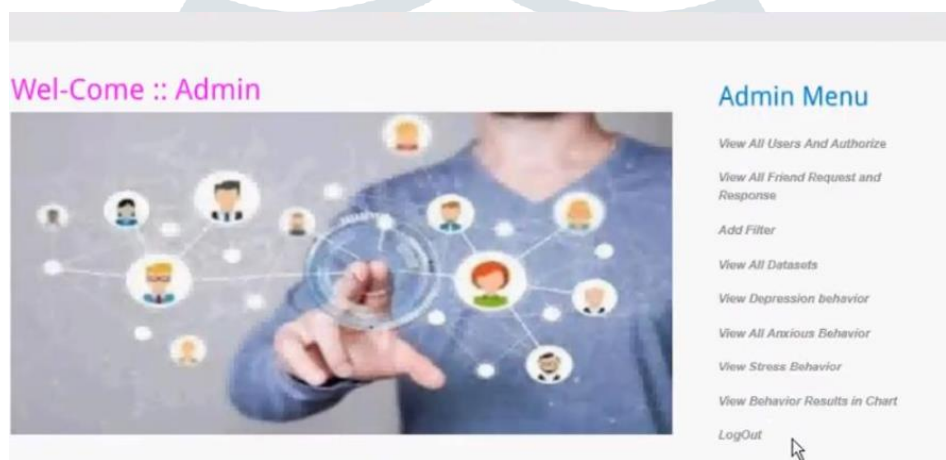


Fig.3 Admin Page

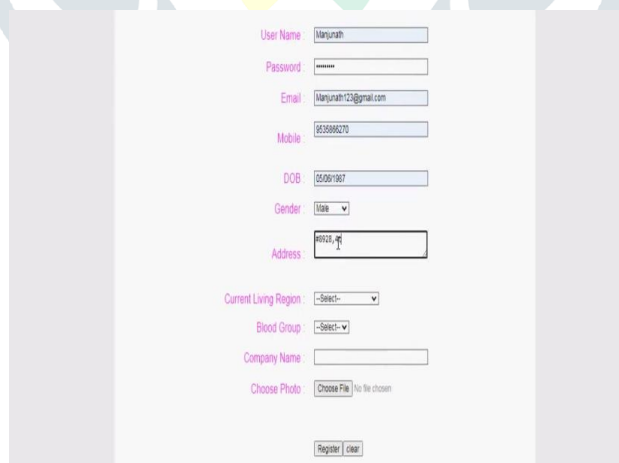


Fig.4 Fields to Register

Important theoretical advances will also come from the study of social media breakups. Deepening our understanding of the psychological and behavioral processes involved in users' decisions to quit social media platforms, the study will utilize and build upon current theories, including stress-coping theory, rational choice theory, and cognitive dissonance theory. These discoveries have the potential to guide future investigations and advance the creation of more thorough models of user behavior in digital environments. The system's practical results will have a big impact on social media marketing tactics. The research findings may be utilized by marketers and entrepreneurs to create client engagement tactics that are more captivating and enduring. Businesses may

modify their strategies to keep customers and develop enduring loyalty by knowing what causes user disengagement. This has the potential to improve social media's efficacy as a tool for customer interaction and marketing.

Eventually, a multitude of data that may be utilized for the system's ongoing improvement is anticipated to be produced by the research. Through an examination of the system's functionality and user input, scientists and engineers can pinpoint opportunities for additional development and improvement. By continuously adjusting to new possibilities and challenges in the ever-changing social media ecosystem, the system will maintain its position at the forefront of spam identification and user behavior analysis thanks to this iterative review and upgrade process. In conclusion, there are a lot of significant and anticipated results from this research. They consist of new developments in spam detection algorithms, better user experience, more information integrity on social media platforms, insightful theoretical analysis, useful applications for social media marketing, and a basis for ongoing system enhancement. When combined, these results will help create a more reliable, interesting, and encouraging online space for users, tackling the intricate issues surrounding social media use and disengagement in a thorough and significant manner.

CONCLUSION

In order to solve the urgent problem of user disengagement from social media sites like Facebook, a sophisticated algorithmic and theoretical framework for analyzing the psychological and behavioral effects of social media breakups is being presented. The study aims to identify the factors that lead users to stop using social media by utilizing the Stimulus-Organism-Response (SOR) theory, flow theory, cognitive dissonance theory, stress-coping theory, and rational choice theory. The system's two modules Admin and User ensure scalability and real-time monitoring to efficiently identify and reduce spam activities. They also provide robust management and user engagement, respectively. Improved spam identification, increased information integrity, better user psychological health, insightful knowledge of social media activity, and useful marketing strategy implications are among the anticipated results. These thorough discoveries and technical developments hold the potential to build a more reliable and interesting virtual world, greatly advancing theoretical understanding and real-world applications in social media administration.

REFERENCES

- [1] L. F. Bright and K. Logan, "Is my fear of missing out (FOMO) causing fatigue? Advertising, social media fatigue, and the implications for consumers and brands," *Internet Res.*, vol. 28, no. 5, pp. 1213–1227, Oct. 2018.
- [2] S. Liu, A. Lithopoulos, C.-Q. Zhang, M. A. Garcia-Barrera, and R. E. Rhodes, "Personality and perceived stress during COVID-19 pandemic: Testing the mediating role of perceived threat and efficacy," *Personality Individual Differences*, vol. 168, Jan. 2021, Art. no. 110351, doi: 10.1016/j.paid.2020.110351.
- [3] J. L. Hamilton and W. Lee, "Associations between social media, bedtime technology use rules, and daytime sleepiness among adolescents: Crosssectional findings from a nationally representative sample," *JMIR Mental Health*, vol. 8, no. 9, Sep. 2021, Art. no. e26273, doi: 10.2196/26273.
- [4] K. Hutter, J. Hautz, S. Dennhardt, and J. Füller, "The impact of user interactions in social media on brand awareness and purchase intention: The case of MINI on Facebook," *J. Product Brand Manage.*, vol. 22, no. 5/6, pp. 342–351, Aug. 2013, doi: 10.1108/JPBM-05-2013-0299.
- [5] L. F. Bright, S. B. Kleiser, and S. L. Grau, "Too much Facebook? An exploratory examination of social media fatigue," *Comput. Hum. Behav.*, vol. 44, pp. 148–155, Mar. 2015, doi: 10.1016/j.chb.2014.11.048.
- [6] W. Zong, J. Yang, and Z. Bao, "Social network fatigue affecting continuance intention of social networking services: The case of WeChat users in China's universities," *Data Technol. Appl.*, vol. 53, no. 1, pp. 123–139, Apr. 2019, doi: 10.1108/DTA-06-2018-0054.
- [7] K. Logan, L. F. Bright, and S. L. Grau, "'Unfriend me, please!': Social media fatigue and the theory of rational choice," *J. Marketing Theory Pract.*, vol. 26, no. 4, pp. 357–367, Oct. 2018, doi: 10.1080/10696679.2018.1488219.
- [8] M. Husnain and A. Toor, "The impact of social network marketing on consumer purchase intention in Pakistan: Consumer engagement as a mediator," *Asian J. Bus. Accounting*, vol. 10, no. 1, pp. 167–199, 2017.