An Overview of Information Overload, System Feature Overload, Social Overload and Communication Overload

Muhammad Danish Noor Azri, Siti Nadia Nadirah Abdull Malek, Tuan Badrol Hisham Tuan Besar*
*Corresponding Author

Faculty of Business Management, UiTM Cawangan Selangor, Bandar Puncak Alam, Selangor, Malaysia.
muhddanishazri99@gmail.com, nadiabdul@ymail.com, tuanbadrol@uitm.edu.my
Tel: 0122829209

Abstract
Social media has faced difficulties in recent years due to users ceasing to use them, but little is known about the relationships between the various aspects of overload and how this negatively impacts users' social media exhaustion. Additionally, it described social media overload as a multidimensional construct made up of four types of overloads: information overload, system feature overload, social overload and communication overload. This investigation will be conducted among Malaysian Facebook users through online surveying techniques along with a quantitative approach with the sample size of 74 using non-probability sampling approaches then will be analysed using the IBM SPSS.

Keywords: Information Overload; Social Overload; Communication Overload

1.0 Introduction
A digital platform known as social media enables users to quickly and simply create and share information with the rest of the world. The phrase "social media" refers to a group of mobile and web-based apps that allow users to access information, produce, and distribute user-generated material through a variety of channels, including blogs, emails, and instant chats (Cataldo et al., 2021). People use a variety of social networking websites, such as LinkedIn, Facebook, Instagram, and Facebook Messenger. The most widely used social media platform among regular users was by far Facebook. Some people prefer Twitter, which is widely used nowadays by many generations of people and is mostly used to communicate links and brief written messages. Other networks, like Instagram and TikTok, are designed for mass-market photo- and video-sharing. Social media are crucial for many corporate operations, including brand management marketing strategies, knowledge sharing communities building, and collaborative learning and innovation (Ngai et al., 2015). Around 4.2 billion people use social media globally (Kemp, 2021). Over the past year, this number has increased by 49 million, or 13.4%, since the year before. Today, more than 53% of people worldwide utilise social media (Kemp, 2021). More than 86% of Malaysia’s population was active on social media as of January 2021. This represented a 24% increase over the 2016 number, when social media users made up roughly 62% of Malaysia’s total population. Malaysians used Facebook the most frequently out of all the social media platforms available (Statista, 2021).
This study aims to investigate the relationship between information overload and social media exhaustion, investigate the relationship between system featured overload and social media exhaustion, investigate the relationship between social overload and social media exhaustion and to examine the relationship between communication overload and social media exhaustion.

2.0 Literature Review

This study aims to investigate on between different dimensions of overload and how overload adversely affects users’ social media exhaustion of using Facebook in Malaysia. The literature review regarding the independent and dependent variables that supported this study will be discussed in this chapter. The proposed framework that will be used in this research will also be presented at the end of the chapter.

2.1 Social cognitive theory

The major premise of social cognitive theory is that human action is caused by three mutually interacting factors that are the person’s external environment, along with their behaviour, cognition, and other personal factors. A departure from the behaviourist perspective, which holds that environment influences behaviour, is represented by social cognitive theory. According to Cynthia (2019), the theory offers a framework for comprehending how individuals actively shape their environments and are also shaped by them. The theory goes into detail on modelling and observational learning processes as well as how self-efficacy affects behaviour production.

Numerous studies of social media exhaustion are using this social cognitive theory. According to the theory, personal states are impacted by environmental circumstances, and this causes behavioural changes in people. For instance, the interplay of environmental elements with personal states might affect user behaviour. According to social cognitive theory, users are portrayed as active self-regulators who assess the effects of contextual elements on their feelings, well-being, and experiences before using this knowledge to adjust their behaviour. (Hongxiu & Shaoxiong 2020).

2.2 Social media exhaustion

In the age of mobile Internet, the phenomena of exhaustion is prevalent everywhere (Maier et al., 2015a). Exhaustion is defined as a person’s fatigue from activities as a result of stress and/or overwork (Maier et al., 2015a). Users of social media become exhausted when they are overburdened with the various tasks associated with their use, such as communicating with a large number of contacts and acquaintances and reading and/or commenting on a large number of disjointed items. Social media exhaustion is a subjective assessment of how exhaust ed you feel after using social media. Some social media users, for instance, could find it challenging to manage the numerous social contacts in 5 social media and become weary of using it. The negative impressions of people on social media, such as perceived stress, worry, fatigue, and depression, are reflected in social media exhaustion. (Dhir et al., 2018). Social media exhaustion has been found to be damaging to both users and service providers (Shin & Shin, 2016). Users who experience social media exhaustion may see a drop in their online activity or perhaps stop using some platforms altogether (Fu et al., 2020; Zhang et al., 2016). According to Biocca et al. (2017), having too much information makes it much harder to understand complicated communications. Similar findings were made by Palfrey and Gasser (2018), who discovered that multitasking and information overload might lead to people using sensory filters and short cuts to process information, making the majority of communications unintelligible. Information characteristics, such as information overload (Kim and Park, 2015; Lee et al., 2016), and system feature overload are among the social media-related elements that cause user exhaustion (Lee et al., 2016; Shokouhyar et al., 2018; Zhang et al., 2016).

2.3 Information overload

Information overload arises when the information individuals assess exceeds their ability to accommodate and handle it (Farhoomand & Drury, 2012). Particularly since the beginning of the internet and later with the introduction of Web 2.0’s social networking technologies, information overload has been a more common subject of study (Benselin and Ragsdell, 2015). The concept of having too much information available to you at once and only having a small window of time to comprehend it is known as information overload (Jackson and Farzaneh, 2012; Song et al., 2017). People now have more ways than ever to obtain a wealth of information thanks to the advent of information technology. Information overload has been researched more recently in a variety of contexts, including social networking sites (SNS) (Zhang et al., 2016), online shopping (Soto-Acosta et al., 2014), online searches for medical information (Swar et al., 2017), and mobile technology (Yin et al., 2018).

Individuals’ performance and ability to make decisions are impacted by information overload (Shachaf et al., 2016). A hefty information load will make people confused, hinder their ability to prioritise, and make it more difficult for them to remember previous knowledge. Information overload was defined by us as the sensation of being overloaded with information. Overload results in fatigue and a stress-like feeling (Shin and Shin, 2016). Particularly, excessive information in social media may cause individuals to quickly reach their cognitive limits while processing information and feel overwhelmed (Lee et al., 2016).

Prior research on social media suggests that information overload is one of the main causes of social media exhaustion. With the growth of mobile communication networks, information production and dissemination are happening more quickly. Social media users may soon reach their cognitive limits, lose their capacity to process new knowledge, and become fatigued due to the constant flow of information (Karr-Wisniewski & Lu, 2017). The likelihood that a user will experience information overload when processing material that is relevant to their interests is low (Ayyagari et al., 2017). Users also feel less worn out in such a scenario. On the other hand, people become mentally exhausted when they are constantly exposed to undesired and/or uninteresting information.
2.4 System feature overload
When the software's technology surpasses the user's aims or when the technology setup is too complex for the targeted user to understand, the system feature overload may result (Zhang et al., 2016). Users must devote a lot of time and cognitive resources to studying and memorising these complex software systems in order to become skilled in the use of many apps. Furthermore, adopting overloaded software systems will take up a lot of the user's time and other psychological resources in addition to possibly making learning and remembering more challenging. Information overload has recently been investigated in a number of contexts, including social networking sites (SNS) (Zhang et al., 2016). Additionally, Zhang et al. (2016) discovered that users may utilise various social media and application system capabilities in the online environment in various ways and for various purposes, which could result in system overload.

In order to increase user engagement, social media platform creators and operators frequently offer new features. However, it could have unfavourable effects, such system feature overload (Zhang et al., 2016). We can comprehend the connection between system feature overload and emotional exhaustion specifically from the following three perspectives: First, system feature overload frequently denotes more complicated functions that demand users to devote more time and effort to understanding how to utilise them, adding to their psychological burden and exhausting them (Lee et al., 2016). Second, sophisticated technologies typically result in lower levels of self-efficacy, which the self-efficacy theory highlights as a crucial emotional resource. Previous research supported the relationship between emotional exhaustion and a lack of self-efficacy. Third, consumers may get the psychological impression that social media service providers are unaware of what users actually need due to system feature overload.

2.5 Social overload
When someone feels they are giving their friends too much social support via social media, the scenario is referred to as "social overload" (Maier et al., 2015). The term "social overload" refers to users' unfavourable experience of crowding in an online environment, when they believe they are providing too much social support to other virtual friends who are part of their social network (Maier et al., 2015a; Yu et al., 2018). Through mutual social support, social media services essentially allow users to profit from network engagement. Giving social support to virtual friends requires time and effort, even though it is advantageous for gaining emotional fulfilment and other help. Users who use social media more frequently could face social overload if their meagre skills can't keep up with the rising needs for social support. Such an adverse effect of social media use has been connected to a variety of affective reactions, including fatigue, social network fatigue, and dissatisfaction (Maier et al., 2015a; Zhang et al., 2016b).

The following are some of the reasons why this study suggests a link between social overload and emotional exhaustion: First of all, giving someone too much social assistance will exhaust their resources (such as time, effort, and attention), which will prevent them from finishing their work and responsibilities on time. There will be emotional tiredness as a result of this work-related dispute (Zhang et al., 2016). Second, assistance requests can be straightforward or challenging. An individual will feel burdened and overwhelmed by the difficult ones, eventually becoming emotionally exhausted (Chauqui, 2016). Third, social overload frequently entails being compelled to adhere to social norms (LaRose et al., 2014). Users will feel reluctant and emotionally spent as a result of the unwanted and needless social support requests.

2.6 Communication overload
Communication overload is a combination of the words "communication" and "overload" which means excessive communication or communication overload. Communication overload is a phenomenon that is new and parallel to social media in the last decade. Communication overload is an undesirable condition that arises when communication demands from information and communication technology, such as social media, that exceeds the user's processing capacity (Yu et al., 2018). Although the Internet was designed to facilitate human communication, it also brings too many communication requests for users, leading to communication overload (Cho et al., 2011). In the social media context, not only do users have to deal with messages from multiple channels, but they also need to participate in discussions in multiple online groups at the same time (Lee et al., 2016). Like this, users of social media sites, especially those who frequently engage in knowledge sharing, are incredibly susceptible to communication overload, since their displayed sociality motivates them to develop and maintain more interpersonal relationships (Ma and Chan, 2014). According to prior literature, overextending individuals' communication networks is a direct stressor that results in exhaustion (Islam et al., 2021). Beyond this, social media sites offer users a public social space in which they communicate not only with familiar friends but also with strangers. As the expectancy violations theory (EVT) has suggested that unexpected things usually make individuals feel stressed and demand additional emotional resources. Communications are expected, yet they conflict with other life demands. Additionally, recent research claim that social exhaustion positively impacted by communication overload. The summary of previous study is shown on appendix 1

3.0 Methodology
In this study, correlational research is used to explore the relationship between variables among Malaysian Facebook users, employing a quantitative approach through a questionnaire. The aim is to gain insights and generate additional knowledge on the subject (Sekaran & Bougie, 2016). The population of interest comprises all Facebook users in Malaysia, given the decreasing trend in users projected to reach 23.5 million by 2025 (Statista Research Department, Oct 5, 2022). Purposive sampling, specifically judgment sampling, is chosen as the sampling technique to select participants aligned with the study's objectives. The minimum sample size of 74 respondents is determined using G-Power software (Alzahrani et al., 2019; Ahmad et al., 2019). Existing questionnaires from previous studies are
adapted and grouped into sections, covering demographics, overload dimensions, and social media exhaustion (Zhang et al., 2016; Maier et al., 2015a).

A pre-test will be conducted to ensure questionnaire effectiveness and comprehension among both experts and target respondents. Experts in the field will evaluate the questionnaire for clarity, while individuals from the target group will test its quality and comprehensibility (Sekaran & Bougie, 2016). To assess instrument reliability, Cronbach's alpha will be employed for both independent and dependent variables (Taherdoost, 2018). Data collection will take place online, as it offers robust and comprehensive data, particularly for a study focused on digital usage (Karabulut Coskun & Akar, 2020), and minimizes missing data and social desirability bias (Akbulut et al., 2017). IBM SPSS software will facilitate data entry, cleaning, and logical consistency checks, with coded responses and screening for normality and missing values. Frequency and descriptive analyses will summarize demographic data using IBM SPSS (Derks et al., 2021).

4.0 Findings
The study believed to be benefit and contribute in indenting the relationship between variables such as Overload, System Feature Overload, Social Overload towards another variable of Communication Overload. Aligning with the study objective, the study aim to check on the hypotheses such as the firstly, there is a positive effect between information overload and social media exhaustion. Secondly, there is a positive effect between system feature overload and social media exhaustion. Thirdly, there is a positive effect between social overload and social media exhaustion. The last hypotheses would be, there is a positive effect between communication overload and social media exhaustion. With this output, the result are expected to contribute to understating on the role and impact of those variable(s).

5.0 Conclusion& Recommendations
According to the study results, it was established that two components of overloads have a positive relationship on social media exhaustion among Facebook users. This study also highlights how information overload and social overload give effect toward social media exhaustion among Facebook users. In fact, there are also explanations about how other components of overloads including system feature overload, and communication overload do not have a significant relationship with social media exhaustion among Facebook users. In conclusion, social media exhaustion is a complex interplay of various overloads, including information overload, system features overload, social overload, and communication overload. Recognizing and addressing these factors is crucial for me to know about the different types of overloads and the effect toward social media exhaustion among Facebook users. This study takes a further step by addressing the composition of different types of social media overload. The insights drawn from this study established conceptual relationships for overload that were empirically validated in terms of social media exhaustion. I hope that this research will inspire more studies to expand the literature on different types of overloads and social media exhaustion.

Acknowledgements
This paper would like to address the UITM research funding (600-RMC/MyRA 5/3/LESTARI (115/2020)) and also Faculty Business Management for the support in conducting the research.

References


183
### Appendix 1: Summary of Previous Research in Overload and User’s Social Media Exhaustion

<table>
<thead>
<tr>
<th>No.</th>
<th>Reference (APA style)</th>
<th>Main Objective</th>
<th>Problem Statement</th>
<th>Independent Variable</th>
<th>Dependent Variable</th>
<th>Sample</th>
<th>Theory/Model</th>
<th>Methods</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Fu, S., Li, H., Liu, Y., Pirkkalainen, H., &amp; Salo, M. (2020)</td>
<td>To investigate the relationships between the different dimensions of social media overload and how different types of overloads can relate to discontinued Facebook use</td>
<td>Social media discontinuance behaviours from an overload perspective.</td>
<td>Information overload, system overload, social overload</td>
<td>Discontinuous usage behaviour</td>
<td>412</td>
<td>SSO Model</td>
<td>Quantitative</td>
<td>Negative psychological strain can result in negative behavioural outcomes, which is the next stage of IS discontinuance intentions in the IS life-cycle</td>
</tr>
<tr>
<td>2.</td>
<td>Hattingh, M., Dhir, A., Ractham, P., Ferraris, A., &amp; Yahiaoui, D. (2022)</td>
<td>The association between FoMO and social media fatigue, which is mediated by information and communication overload, online subjective well-being (OSWB), and compulsive social media use.</td>
<td>Severe implications of the fear of missing out (FoMO) and its associations with negative aspects of social media use</td>
<td>Social Media Fatigue</td>
<td>Fear of missing out (social media use (compulsive use)).</td>
<td>892</td>
<td>Compensatory Internet use (TCIU)</td>
<td>Quantitative</td>
<td>FoMO is positively associated with information overload and compulsive use for both Instagram and Snapchat users</td>
</tr>
<tr>
<td>3.</td>
<td>Sheng, N., Yang, C., Han, L., &amp; Jou, M. (2020)</td>
<td>To address the above-mentioned research gaps, the current study aims to investigate the preconditions of social media fatigue by revealing factors associated with both the social media and the user, and unveil the underlying mechanism that the social media-related and user-related factors impact social media fatigue.</td>
<td>Information overload, anxiety system features overload in using social media, together with user’s privacy invasion and cyberbullying perception as critical antecedents of emotional exhaustion</td>
<td>Social media related factors</td>
<td>Social media fatigue</td>
<td>987</td>
<td>Structural equation modeling (SEM)</td>
<td>Quantitative</td>
<td>Information overload from platforms results in increased emotional exhaustion among social media users</td>
</tr>
<tr>
<td>4.</td>
<td>Soror, A., Simehain, Z. R., &amp; Turki, O. (2021)</td>
<td>The current work builds on the dual process theory of habituation and sensitization to empirically investigate theory-based mechanisms through which social media use habit influences continued social media use intention in the context of social problematic social media use (SIMU).</td>
<td>The role of &quot;pull&quot; forces such as SIMU dependency and the role of &quot;push&quot; forces, such as SIMU related exhaustion in influencing users’ inclination toward future SIMU</td>
<td>Dependency, habituation, sensitization</td>
<td>Continuation intention</td>
<td>337</td>
<td>Dual process theory</td>
<td>Quantitative</td>
<td>Continuation intentions. Dependency is positively associated with Continuation Intention</td>
</tr>
<tr>
<td>5.</td>
<td>Wu, D., &amp; Zheng, J. (2021)</td>
<td>To investigate the impact of social media overload on knowledge holding behaviour and examine the gender differences in social media overload, engaging in knowledge holding.</td>
<td>Social media sites are essentially a double-edged sword, enabling individuals to share knowledge on the one hand while providing convenient conditions for hiding knowledge and social loafing on the other hand</td>
<td>Information overload, System overload, social overload, system feature overload</td>
<td>Knowledge holding</td>
<td>325</td>
<td>Structural equation Modeling (SEM)</td>
<td>Quantitative</td>
<td>These types of social media overload positively affect users’ knowledge holding behaviour and that emotional exhaustion significantly mediates the above relations hps</td>
</tr>
<tr>
<td>6.</td>
<td>Dai, P., AIA, A., &amp; Wang, H. (2020)</td>
<td>To explore how perceived information overload affects the information avoidance intention of social media users through fatigue, frustration, and dissatisfaction</td>
<td>The perception of social media users’ tax and information overload affects positive influences on their emotions such as fatigue, frustration, and dissatisfaction</td>
<td>Perceived information overload</td>
<td>Information avoidance intention</td>
<td>254</td>
<td>Structural equation modeling (SEM)</td>
<td>Quantitative</td>
<td>Perceived information overload directly affects fatigue, frustration, and dissatisfaction among social media users, thereby affecting their information avoidance intention</td>
</tr>
<tr>
<td>7.</td>
<td>Yu, L., Cao, X., Liu, Z., &amp; Wang, J. (2016).</td>
<td>The purpose of this paper is to explore the effects of excessive social media use on individual job performance and its exact mechanism.</td>
<td>Social media such as wikis, blogs, instant messaging (IM), and social networking sites (SNSs) have penetrated into people's daily life</td>
<td>Information overload, social overload, communication overload</td>
<td>Job Performance</td>
<td>230</td>
<td>Transactional theory</td>
<td>Quantitative</td>
<td>Excessive social media use at work has a significant effect on the negative cognition and emotions of individuals.</td>
</tr>
<tr>
<td>8.</td>
<td>Fu, S., Li, H., &amp; Liu, Y. (2021).</td>
<td>To evaluate factors that affect Facebook discontinuance.</td>
<td>Some users reduced or ceased their utilization of social media owing to information overload and frustration with the spread of fake news</td>
<td>Facebook fatigue, dissatisfaction, alternative attractiveness</td>
<td>Discontinuous usage behaviour</td>
<td>412</td>
<td>Social support theory</td>
<td>Quantitative</td>
<td>Facebook fatigue, dissatisfaction and alternative attractiveness significantly and positively affected discontinued Facebook usage.</td>
</tr>
<tr>
<td>9.</td>
<td>Wu, D., &amp; Zheng, J. (2021).</td>
<td>To investigate the impact of social media overload on knowledge withholding behaviour and examine the gender differences</td>
<td>Large number of users are lurking in the online space to consume others' knowledge but without sharing personal knowledge</td>
<td>Information overload, system overload, social overload, communication overload</td>
<td>Knowledge withholding</td>
<td>325</td>
<td>COR theory</td>
<td>Quantitative</td>
<td>Three types of social media overload positively affect users' knowledge withholding behaviour and that emotional exhaustion significantly mediates the above relationships.</td>
</tr>
<tr>
<td>10.</td>
<td>Wang, J., Zheng, B., Liu, H., &amp; Yu, L. (2020)</td>
<td>The present study drew on the idea of a two-factor model and aims to examine the enabler, inhibitor and their antecedents in the context of social media discontinuance.</td>
<td>Social media such as Facebook and MySpace have enjoyed rapid growth only to lose users after a relatively short time</td>
<td>Social overload, invasion of privacy, social media habit, sunk cost, affective commitment</td>
<td>Social media discontinuance intention</td>
<td>238</td>
<td>SOB theory</td>
<td>Qualitative</td>
<td>Two negative outcomes of social media use (i.e., social overload and invasion of privacy) induce regret experience and ultimately foster discontinuance intentions.</td>
</tr>
<tr>
<td>11.</td>
<td>Whelan, E., Najmul Islam, A., K., M., &amp; Brooks, S. (2020)</td>
<td>To investigate how boredom proneness relates to social media overload and fatigue</td>
<td>Use of social media affects personal well-being report conflicting results</td>
<td>Boredom proneness, information overload, communication overload</td>
<td>Social media fatigue</td>
<td>286</td>
<td>S5O model</td>
<td>Qualitative</td>
<td>Strong association between boredom proneness and both information and communication overload, which, in turn, are strongly associated with social media fatigue.</td>
</tr>
<tr>
<td>12.</td>
<td>Fu, S., &amp; Li, H. (2020)</td>
<td>To investigate two different social media discontinuance behaviours: reduced usage and abandoned usage</td>
<td>Many social media users have tried to discontinue their use of social media, even after social media service providers attempted to improve service quality.</td>
<td>Technology overload, information overload, social overload</td>
<td>Abandoned usage behaviour</td>
<td>412</td>
<td>Social cognitive theory</td>
<td>Qualitative</td>
<td>Technology overload, information overload and social overload were found to exert positive effects on social media fatigue.</td>
</tr>
<tr>
<td>13.</td>
<td>Xie, X.-Z., &amp; Tsai, N.-C. (2021).</td>
<td>To conduct empirical studies on the intention to discontinue use of social media</td>
<td>Social media have experienced a decline in their number of users</td>
<td>Advertising interference, rumour dissemination, perceived information overload</td>
<td>Discontinuance intention</td>
<td>328</td>
<td>Structural equation modeling (SEM)</td>
<td>Qualitative</td>
<td>All negative-related information incidents can explain perceived information overload and social media fatigue, which in turn lead to discontinuance intention.</td>
</tr>
<tr>
<td>14.</td>
<td>Zhang, S., Zhao, L., Lu, Y., &amp; Yang, J. (2016)</td>
<td>To investigate how perceived overload on SNSs induces the antecedents of strain in terms of social network fatigue and dissatisfaction, and how it further influences users' discontinuous behaviour intention</td>
<td>Users' passion for Facebook began to cool down and there was a decrease in the number of active users</td>
<td>System feature fatigue, information overload, social overload, social network fatigue</td>
<td>Discontinuous behaviour</td>
<td>525</td>
<td>Digital crowding theory</td>
<td>Qualitative</td>
<td>Three types of overloads on SNSs exert positive influences on social network fatigue.</td>
</tr>
<tr>
<td>15.</td>
<td>Cao, X. &amp; Sun, J. (2018).</td>
<td>To explore the effect of overload on the discontinuous intention of social media users, and propose three types of overloads in the social media context.</td>
<td>After the extraordinary growth of social media in terms of usage and diffusion, social media have experienced a decline in their active users recently.</td>
<td>Information overload, communication overload, social overload</td>
<td>Discontinuous intentions</td>
<td>258</td>
<td>Cognitive theory</td>
<td>Qualitative</td>
<td>The impact of information overload on regret is insignificant; the relationship between communication overload and exhaustion is also insignificant.</td>
</tr>
</tbody>
</table>