

The Effects of Instagram Users' Gratification on Psychological Response, and Continued Usage Intention from the Perspective of Uses and Gratification and Stimulus-Organism-Response Theory

Dian Jin, Wan Anita Wan Abas, Syafila Kamarudin

Faculty of Modern Languages and Communication, Universiti Putra Malaysia, Serdang,
Malaysia

Email: jin.dian@student.upm.edu.my, anita@upm.edu.my, syafila@upm.edu.my

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Abstract

Scholars have started to research the effect of satisfaction on users' willingness to continue using social media, such as Facebook, Instagram, Weibo. However, few studies have focused on the effects of these gratification on users' psychological responses, such as satisfaction and emotional attachment. To bridge this knowledge gap, this study, based on uses and gratification and Stimulus-Organism-Response theory, integrated a new model to study the influence of gratification on psychological response, and the influence of psychological response on Instagram continuance use intention. A sample of students (N = 209) from Universiti Putra Malaysia was selected for this study. PLS-SEM was mainly used for hypothesis testing during data analysis. The results indicate that entertaining value, social value, social participation, and utilitarian value positively affect users' satisfaction. Emotional attachment is significantly influenced by social participation, information consumption. Moreover, psychological response positively affects continued usage intention. In addition, this study can help social media practitioners better understand users' intention to continue using from the perspective of their gratifications and psychological response.

Keywords: Continued Usage Intention, Gratification, Users' Satisfaction, Emotional Attachment, Instagram

Introduction

In recent years, Instagram and other social media have become increasingly popular, profoundly changing people's lives (Tait, 2020). Instagram, a mobile-based photo-sharing social media platform that debuted in October 2010, has rapidly become a top social networking site (SNS) (Ting et al., 2015). By immediately snapping, editing, and posting

images, Instagram users share everyday experiences in real time (Hwang & Cho, 2018). According to the statistical report of Datareportal (2022), advertisers might reach 1.44 billion Instagram users in July 2022, making it the fourth most 'active' social media network in the world. Placing it 4th in the list of the world's most 'active' social media networks. From July 2020 to July 2022, the number of users climbed from 1.08 billion to 1.44 billion, a growth rate of 33.3%. Today, around 18.1% of the global population uses Instagram. This number indicates that 23.1% of the world's population aged 13 and over now uses Instagram. Of Instagram's worldwide users, 47.2% are female and 52.8% are male.

Instagram's rapid popularity is significant given the competition among SNS, including Facebook, Tik Tok, and Pinterest. Users are increasingly likely to study and migrate to other platforms when the number of SNS launched and developed for certain services rises (Choi et al., 2013). According to (Yao et al., 2015), some users would discontinue their usage of technological services as a result of bad experiences such as SNS stress or weariness. In this perspective, Instagram's fast rise in the social media industry poses crucial considerations about the factors of continuing use intent. Meanwhile, finding the reasons that cause users' continue use intention is the key to the success of social media, which is also an important motivation for this study.

Various theories have been utilized in the past to investigate the sustainability of social media, such as technology acceptance model (Hwang & Cho, 2018), diffusion of innovation theory (Idemudia et al., 2018), expectation confirmation theory (Shiau et al., 2011), theory of planned behavior (Liu et al., 2019), unified theory of acceptance and use of technology (UTAUT) (Zhou, 2011), and flow theory (Lu et al., 2009). Prior study has identified a variety of variables that influence the desire to continue using social media, including pleasure, enjoyment, perceived user base, habit, and emotion (e.g., (Basak & Calisir, 2015; Chaouali, 2016; Gan & Li, 2015; Idemudia et al., 2018). Extensive study has demonstrated that gratifications have major effects on the controversial usage of social media by users.

In various study scenarios, different gratifications contributed differently on predicting the continuous usage of a social media site varies (Gan & Li, 2018). However, few academics have studied the psychological consequences of these gratifications on individual users (Gogan et al., 2018). Moreover, these research emphasized the technology component of the consumer experience, hence restricting the applicability of their results (Cao et al., 2015). The continuance intention towards certain social media platform was influenced by not only users' satisfaction, but also the users' psychological responses (Gogan et al., 2018). These dependencies are essential predictors of continuing use intent and the platform's viability. Besides, some researchers have noticed the influence of emotional attachment on continued usage intention and have carried out studies on some social media platforms, such as Wechat (Zhang et al., 2017; Gan, 2018; Teo et al, 2018). But less research has focused on Instagram, one of the most active social media platforms (Terttunen, 2017).

According to the evidence, it is essential to comprehend how psychological reactions, such as satisfaction and emotional connection, influence the continuation intent of users. To address this deficiency, two research questions are proposed

RQ1: what is the effect of gratifications on an Instagram user's psychological response?

RQ2: what is the effect of psychological response on an Instagram user's continued usage intention?

Based on U&G and stimulus-organism-response (S-O-R) theory, this study attempted to propose a new model for the effects of gratification on users' psychological reactions and intention to continue usage. According to the S-O-R theory, gratification factors were seen as stimuli, the psychological reaction of the users as the organism, and the continuation intent as the response. The connection between them will then be determined.

This study demonstrated its scientific value in several ways. First, it offered scientific proof of how various gratifications alter the psychological reaction of Instagram users. Second, an examination into the influence of users' psychological reaction, such as satisfaction as well as emotional attachment, on continuing use intention would help people get a better understanding of its crucial role in Instagram users' continuous use behavior. Thirdly, the findings may provide a practical addition to the literature on social media and give academics and practitioners with essential insights and knowledge on social media usage. In addition, theoretically, this study developed the Uses and Gratifications Theory (U&G) and Stimulus-Organism Response (S-O-R) Theory, and provided a feasible context for their combination. Practically, practitioners of social media platforms can get reference from this study to better understand the impact of users' psychological factors and satisfaction factors on their intention to continue using, so as to better optimize their management strategies for platforms.

Literature Review

Uses and Gratifications Theory (U&G) and Stimulus-Organism-Response (S-O-R) Theory

U&G theory was widely applied to the study of mass communication (Katz et al., 1973; Ruggiero, 2000). It focuses on why consumers pick one medium over another to satisfy a range of demands (Leung & Wei, 2000). According to the U&G theory, people actively choose media to satisfy their needs (Whiting & Williams, 2013). The U&G theory offers a nomological research paradigm with no specified set of constructs (Li et al., 2015).

U&G theory is commonly used in both conventional media research and Internet research, including newspaper Ganahl (1995), mobile phone Kousari et al (2007), television Cha, (2016), e-mail Jamalzadeh et al (2012), instant messaging (Quan-Haase & Young, 2010). An increasing number of IS studies have incorporated U&G theory to investigate user behavior in social media contexts, including microblogging (Liu et al., 2020), Twitter (Liu et al., 2010), Facebook Sheldon (2008), Pinterest Mull & Lee (2014), Twitch Dux & Kim (2018), etc.

According to the the explanation of Woodworth (1918) on S-O-R theory, individual organic experiences (O) mediate the relationship between the stimulus (S) and the individual reaction (R). In other words, external stimuli (S) cause an individual's internal organism (O) to respond with a certain behaviour (R) (Mehrabian & Russell, 1974). In the S-O-R framework, it is thought that the stimulus influences the psychological reaction of a person. This internal processing includes an individual's cognitive and emotive responses, such as sentiments toward stimuli (Jacoby, 2002). This framework is used across the social sciences, including marketing Peng & Kim (2014), psychology Pandita et al (2021), education (Zhai et al., 2020). Recently, Gu et al (2016) employed the S-O-R theory to examine users' behavioral intention in context of social media. Thus, this study will use the framework of S-O-R theory and further integrate it in the context of Instagram.

As previously stated, contemporary research has used the U&G theory to explore the influence of different gratifications on the use of different media. Nevertheless, in the formulation of user behavior response (users' desire to continue using), some emotional variables cannot be ignored (Chiou, 2004; Gu et al., 2016). Satisfied users will have a strong

desire to continue using the product or service. Prior studies based on U&G theory ignored the effect of these gratifications on user emotions, including satisfaction and emotional attachment. To bridge this gap, this study used U&G and S-O-R theory to provide a theoretical basis for analyzing this influence.

Gratification

Research using U&G theory has discovered how individual users use media in different contexts. This study employs the U&G theory as its theoretical underpinning to assess Instagram users' willingness to continue using the site. First, U&G theory assists individuals in comprehending their own media use (Gan & Li, 2018). Second, the U&G theory is appropriate to the study of the reasons for social media usage (Li et al., 2015). Thus, the U&G theory is ideal for determining whether the gratifications received from people's earlier usage of Instagram influence their desire to continue using Instagram and the roles of the unique gratifications in forecasting people's continuing use of Instagram. This research indicated that hedonic gratification (entertainment value), social gratification (social value, social participation), and utilitarian gratification (utilitarian value, information consumption) are the key factors that motivate Instagram users to continue using the network.

Hedonic Gratification (entertainment value)

According to Gogan et al (2018), entertainment value is a crucial component of hedonic gratification since it represents the concept of diverting oneself from everyday duties. A work's entertainment value represents the qualities gained through numerous senses, such as imaginative and emotional elements. In addition to providing utilitarian and social value for the user, social networking sites may also be entertaining (Lin & Wang, 2006). Many users use social media to alleviate stress (McGuire, 1974). Consequently, people choose a social media platform with a high hedonic value (Rubin, 2009; Sundar & Limperos, 2013; Venkatesh et al., 2012). A platform that offers some entertainment will attract users. The user's emotions may be boosted by the SNS's entertainment function, resulting in contentment. Moreover, users may join or use the SNS for recreational purposes (Wu, 2009). Consequently, the hypothesis below was proposed:

H1: Entertainment value positively affects Instagram users' satisfaction.

Social Gratification (Social Value, Social Participation)

Social value, social participation is the component of social fulfillment (Sheldon, 2008). People utilize social media to interact with others. Online social media platforms, such as Instagram, are meant to provide a platform for users to interact with other community members. U&G scientists have shown that social interaction motivation is a crucial element in social media users' selection of certain social media platforms. Consequently, if a social media platform lacks this value for users, it may have a negative effect on user happiness (Hennig-Thurau & Klee, 1997; Sheldon, 2008). People are motivated to use social media platforms to satisfy their social connection demands. In other words, users may join social media platforms since it allows them to communicate with their peers (Joo & Sang, 2013; Wu, 2009). In addition, social media platforms may be utilized as a communication channel to develop or sustain connections (Hennig-Thurau & Klee, 1997). Users seek functional advantages to satisfy their social requirements (Wang & Fesenmaier, 2004). In general, Instagram users' social happiness

may motivate and influence their psychological responses, such as contentment. Consequently, the hypothesis below was proposed:

H2a. Social value positively affects Instagram users' satisfaction

Participation happens when individuals establish new acquaintances or reconnect with existing ones and share ideas (Heinonen, 2011). Previous research using the U&G theory indicate that satisfying social needs is the primary factor in promoting the usage of social media (Sheldon, 2008). As social media grows more intertwined into people's everyday lives, it becomes more challenging to separate users' emotions from these media (Boyd & Ellison, 2010). Instagram offers a forum for the exchange of ideas amongst users. In the research, it was hypothesized that users' engagement in the virtual community was connected to their mood. For instance, when individuals have friends in the virtual community, social networking sites serve as a link between them. As a result, users may get emotionally involved in social media as a means of maintaining connections. Therefore, people see social media as an integral part of their life and develop an attachment to it. Thus, the following hypotheses were proposed:

H2b. Social participation positively affects users' satisfaction

H2c. Social participation positively affects users' emotional attachment

Utilitarian Gratification

utilitarian gratification consists of utilitarian value and information consumption. Utilitarian value is the value acquired by consumers via reasonable task-related consuming habits (Babin et al., 1994). According to a poll conducted in Taiwan, the top five reasons for customers to purchase online are convenience, broad product offerings, rich product information and monetary savings. These advantages are also deemed to have utilitarian value to satisfy customers (Chiu et al., 2014). In the context of SNS, one of the reasons a user chooses a certain SNS (Hennig-Thurau & Klee, 1997; Sundar & Limperos, 2013). The U&G hypothesis implies that users prefer to pick certain SNS to suit their cognitive demands (Katz et al., 1974b). In studies of online purchasing, aesthetic cues from the Internet are hypothesized to produce cognitive, affective, and intentional effects, such as satisfaction, pleasure, and desire to return (Wang et al., 2011). This research identifies utilitarian values as utilitarian satisfaction, which shows the degree to which individuals think that SNS may be utilized for certain objectives (Gu et al., 2016). If SNS can effectively address these demands, it will have a beneficial effect on users' enjoyment and satisfaction. Consequently, the following hypothesis was proposed:

H3a. Utilitarian value positively affects users' satisfaction

Information consumption is the act of reading material uploaded by other SNS users to satisfy one's information demands, and the vast majority of social media platforms provide this option to its users (Gao & Feng, 2016). Our everyday choices are dependent on the information we get from a variety of information sources (Spink et al., 2001). U&G theory assumes that users' media consumption is purposeful and that they actively seek to satisfy their needs from a variety of uses (Katz et al., 1974a). However, U&G theorists have proved that information demand satisfaction is a key determinant of sustained intent (Chung et al.,

2012). Zhang and Choi (2022) believed that consumers' information needs on social media will be met by content generated by others. Meanwhile, Gogan et al (2018) found in a study on Weibo that information consumption can significantly and positively affect user satisfaction. The current research implies, based on prior results, that reading other users' messages may also alter users' psychological states, which may bring satisfaction or emotional attachment. For instance, if a user's desire for information can be met, he or she will experience satisfaction, while frequent information consumption will result in the development of loyalty and emotional connection to SNS (Gogan et al., 2018). Therefore, we make the following assumptions:

H3b. Information consumption positively affects users' satisfaction

H3c. Information consumption positively affects users' emotional attachment.

Psychological Response

Users' Satisfaction

Customer satisfaction is a frequently utilized marketing metric that indicates how effectively a company's products and services match or surpass consumer expectations (Farris et al., 2010). In the context of social networking sites, this research focused on Instagram user happiness. Consistently high customer satisfaction over time results in long-term customer connections (Gu et al., 2016). Several e-services research have indicated that customer satisfaction has a considerable and beneficial effect on customer loyalty (Chiou, 2004; Gu et al., 2016). This satisfaction can generate an emotional attachment to SNS among customers. In addition, research indicates that the choice to continue or quit a certain service or product is based on consumer satisfaction or discontent (Lemon et al., 2002). Overall, the evidence suggests that user satisfaction affects the emotional attachment of social media platforms, as well as users' own willingness to continue using them. Therefore, this study assumed:

H4. users' satisfaction positively affects emotional attachment

H5. users' satisfaction positively affects continued intention

Emotional attachment Emotional attachment, also known as Emotional commitment, is a sense of self-identification or participation in a group (Meyer & Allen, 1991). Emotional attachment refers to the sentiments of intimacy and love that contribute to the long-term maintenance of meaningful relationships (Cassidy, 1994). Emotional attachment is a significant predictor of sustained participation in an organisation (Meyer & Allen, 1991; Meyer et al., 2002). Koh and Kim (2003) showed that emotional attachment occurs between members of virtual communities. Prior research on engagement in virtual communities (Dholakia et al., 2004; Wood et al., 2007) has shown that emotional attachment is a significant predictor of user behavior in virtual communities. Users with an emotional investment in the virtual community will see themselves as stakeholders in the group's ideals and objectives (Ashforth & Mael, 1989; Dutton et al., 1994). Because of their social contacts and interactions, members of virtual communities may grow (Koh & Kim, 2003). SNS is a platform for virtual communities, and the emotional attachment of users is crucial for the establishment of continuance intention, since users with strong emotional attachment are more likely to remain a part of the virtual community. Therefore, this study made the following assumption:

H6. emotional attachment positively affects continued intention

Continued Intention

The intention to continue using the system is of increasing concern and is one of the most important factors after the adoption of an information system (Gan & Li, 2018). This research defined the intention to continue using Instagram as the chance that the user will continue to use Instagram for an extended length of time. Previous research has shown that intentions can adequately predict behavior, unless there are limits beyond the individual's control that completely overshadow intentions (Fishbein et al., 1975; Venkatesh & Brown, 2001). In addition, sensation is related to behavioral intention (Chang & Zhu, 2012). Gogan et al (2018) argued that emotional responses can lead to behavioral intentions. Therefore, this study extends this relationship to the context of social network platforms and proposes that users' positive emotional responses (user satisfaction and emotional attachment) may lead to continuation intention.

Based on the above discussion and assumptions, an integrated model was presented in Fig. 1.

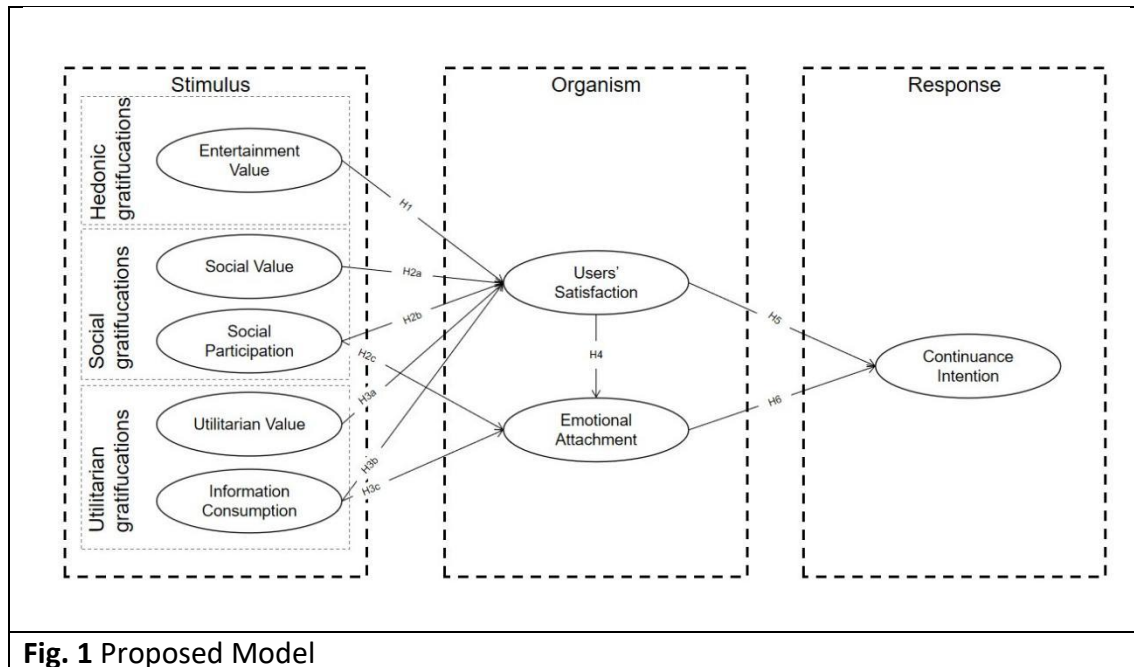


Fig. 1 Proposed Model

Methodology

Measurement

This study model includes nine dimensions, including entertainment value, social value, social engagement, utilitarian value, information consumption, user happiness, emotional attachment, and intention to continue using. All the measuring items were derived from earlier research and tweaked to meet the Instagram study situation. These questions were evaluated using a seven-point Likert scale ranging from "1 (strongly disagree)" to "7 (strongly agree)". The questionnaire for the survey was produced in English. The survey questionnaire is divided into four sections.

In the first section, information on gratifications the respondents obtain from the use of Instagram was collected. These gratifications were categorized into three: hedonic gratifications, social gratifications, and utilitarian gratifications. Hedonic gratification was measured through a construct named entertaining value with three items adapted from (Zhang et al., 2017; Venkatesh et al., 2012). Information about the social gratification was

collected through two constructs namely social values measured with three items adapted from (Sweeney & Soutar, 2001) and social participation measured with three items adapted from (Xu and Li, 2015). Utilitarian gratification was measured through two constructs, including utilitarian value and information consumption. Utilitarian value was measured with three items proposed by (Kim et al., 2007). Information consumption was measured with three items adapted from (Zhang et al., 2017).

The second section focused on capturing information on users' psychological responses to the gratifications initially measured. Two constructs were considered at this stage namely, users' satisfaction, user-emotional attachment. User-satisfaction was measured with items adapted from (Wu, 2009). Items used in measuring emotional attachment were adapted from (Zhang et al., 2017).

The third section of the instrument focus on gathering information on user's behavior intention and the influence of user social environment. continued usage intention was measured in this section to investigate the effect of the psychological response factors on user behavioural intention outcome. Continuance use intention was measured with items adapted from (Zhang et al., 2017; Lien et al., 2017).

The fourth section aimed at collecting respondent demographic information. These include gender, age, education level, and Instagram usage experience. Age was measured at five years interval to capture as close as possible the age range of the participants. Four educational levels were proposed: below undergraduate level, undergraduate, master's degree and doctorate or higher. Instagram usage experience was measured at a five-year interval to capture information on how experience were the respondents.

Pilot Study

Prior to formal data collection, a pilot study was conducted. 30 students from Universiti Putra Malaysia (UPM), Selangor, Malaysia with extensive Instagram usage experience were invited to confirm the content validity of the questionnaires. On the basis of students' comments and input, phrases were rephrased, and questions were modified to enhance clarity and readability.

Data Collection

At the stage of questionnaire distribution, this study followed the principle of convenience sampling. The data collection was conducted from Jan to Feb 2023. The survey URLs were provided to participants who were chosen at random and recruited using social media groups, university email lists, and personal connections among UPM students. Students were instructed to click the survey link to access the survey website. This online approach was adopted for three reasons: convenience, flexibility, and nature of the respondents (young and heavy users of social media). Students were selected as prospective participants in our study because they have better access to Internet technology and may therefore be considered the first adopters of online social networks. In addition, prior research indicates that students reflect the average Internet user population (Hackbarth et al., 2003; McKnight et al., 2002). Therefore, students are suitable participants for this study. Table 1 displays the descriptive data of the respondents.

Table 1

Demographic profile

Demographic factor	Categories	Frequencies	Percentages
Gender	Male	110	52.6
	Female	99	47.4
Age	Under 20	33	15.8
	20 to 25	45	21.5
	26 to 30	54	25.8
	31 to 35	51	24.4
	Above 36	26	12.4
Education level	High school or lower	3	1.4
	Undergraduate	101	48.3
	Master	77	36.8
	Ph.D. or higher	28	13.4
Instagram Experience	Less than 1 year	33	15.8
	1 to 5 years	64	30.6
	6 to 10 years	70	33.5
	Over 10 years	42	20.1

Besides, ethical issues were considered in this study. The questionnaires are attached with an explanation letter which included the study objectives, the instructions in answering the questionnaire and an expression of gratitude for participating in the study, and respondents were only asked to complete the questionnaire if they consented to participate in the study. All participant details were confidential in this study and there are no predictable risks for participants in this survey.

Data Analysis

After data collection, this study enters data analysis. In the data analysis process, SPSS and SmartPLS were used. For the sample data collected through the questionnaire, this study mainly uses partial least squares structural equation modeling (PLS-SEM) to carry out the dimension verification and validity test of each related scale and complete the test and correction of the theoretically deduced model framework to judge the correctness of the theoretical assumptions, explore the causal relationship between the research variables and the mechanism of the related process. PLS-SEM method is suitable for the data of small samples, non-normal models, or models containing formative indicators. Meanwhile, PLS-SEM method is suitable for more complex models, and suitable for focused and balanced models (Hair et al., 2011). Thus, compared with covariance based structural equation modeling (CB-SEM), PLS-SEM is more suitable to this research.

Construct Reliability and Validity

In two phases, the measurement model was assessed. First, it was important to assess the reliability and convergent validity of the data. The factor loading, composite reliability (CR), and extracted average variance (AVE) should be less than 0.5, 0.7, and 0.5, respectively (Hair & Alamer, 2022; Hair et al., 2019). Table 2 demonstrates that all data match the specified criteria. Therefore, both reliability and convergent validity were satisfactory. The discriminant validity was then evaluated. According to this Fornell-Larcker criteria, the model is

discriminately valid if the square root of the AVE of each latent variable is greater than the correlation coefficients between those variable and other latent variables in the measurement model (Henseler et al., 2015). The diagonal elements represent the extracted average variance for each of the six constructs. Elements off the diagonal are the squared correlations between constructs. For discriminant validity, diagonal elements must be bigger than their non-diagonal counterparts (Hamid & MR). Table 3 shows that all data meets the requirements. Thus, discriminant validity was satisfied.

Table 2

An overview of reliability and validity check

Variable	Items	Factor loading	Cronbach's Alpha	CR	AVE
Entertaining value (EV)	EV1	0.854	0.870	0.921	0.795
	EV2	0.913			
	EV3	0.907			
Social value (SV)	SV1	0.879	0.886	0.929	0.815
	SV2	0.910			
	SV3	0.918			
Social participation (SP)	SP1	0.910	0.907	0.941	0.843
	SP2	0.923			
	SP3	0.920			
Utilitarian value (UV)	UV1	0.889	0.899	0.937	0.831
	UV2	0.927			
	UV3	0.920			
Information consumption (IC)	IC1	0.885	0.880	0.926	0.807
	IC2	0.929			
	IC3	0.880			
Users' satisfaction (US)	US1	0.888	0.874	0.923	0.800
	US2	0.920			
	US3	0.873			
Emotional attachment (EA)	EA1	0.901	0.890	0.932	0.820
	EA2	0.908			
	EA3	0.908			
Continued intention (CI)	CI1	0.908	0.896	0.935	0.827
	CI2	0.918			
	CI3	0.903			

Note: CR: composite reliability; AVE: average variance extracted

Table 3

Discriminative validity (Fornell-Larcker criterion)

Constructs	EV	SV	SP	UV	IC	US	EA	CI
EV	0.892							
SV	0.819	0.902						
SP	0.864	0.826	0.918					
UV	0.861	0.844	0.854	0.912				
IC	0.857	0.867	0.866	0.830	0.898			
US	0.820	0.820	0.810	0.855	0.782	0.894		

EA	0.860	0.856	0.862	0.852	0.896	0.771	0.905
CI	0.865	0.885	0.902	0.873	0.881	0.861	0.910

Note: EV: Entertaining value; SV: Social value; SP: Social participation; UV: Utilitarian value; IC: Information consumption; US: Users' satisfaction; EA: Emotional attachment; CI: Continued intention

Hypothesis Testing

The PLS algorithm with 5,000 bootstrap iterations was used to test proposed hypothesis. According to the hypothesis previously proposed, the relationship between variables is verified, and the verification results are shown in Table 4.

Table 4

Hypothesis testing

Hypothesis	Relationship	β	SD	t-value	Confidence interval	p-value	Result
H1	EV -> US	0.201	0.050	8.967	0.056 0.355	0.009**	Supported
H2a	SV -> US	0.267	0.077	2.623	0.097 0.445	0.003**	Supported
H2b	SP -> EA	0.301	0.068	8.493	0.153 0.469	0.000***	Supported
H2c	SP -> US	0.141	0.080	0.910	- 0.292	0.077	Rejected
H3a	UV -> US	0.396	0.082	3.685	0.240 0.566	0.000***	Supported
H3b	IC -> US	-	0.080	1.768	- 0.088	0.363	Rejected
H3c	IC -> EA	0.575	0.089	3.011	0.441 0.703	0.000***	Supported
H4	US -> EA	0.078	0.049	10.360	- 0.196	0.199	Rejected
H5	US -> CI	0.513	0.061	1.283	0.415 0.611	0.000***	Supported
H6	EA -> CI	0.452	0.050	8.967	0.347 0.550	0.000***	Supported

Note: *** $p < .001$, ** $p < .01$, * $p < .05$, Confidence interval: 95%; β : Path coefficient; SD: Standard deviation

EV: Entertaining value; SV: Social value; SP: Social participation; UV: Utilitarian value; IC: Information consumption; US: Users' satisfaction; EA: Emotional attachment; CI: continued intention

According to the analysis of the data collected, it showed that EV had a significant positive influence on US ($\beta = 0.201$, $t = 8.967$, $p < .01$), SV had a significant positive influence on US ($\beta = .267$, $t = 2.623$, $p < .01$), SP had a significant positive influence on EA ($\beta = .301$, $t = 8.493$, $p < .001$), UV had a significant positive influence on US ($\beta = .396$, $t = 3.685$, $p < .001$), IC had a significant positive influence on EA ($\beta = .575$, $t = 3.011$, $p < .001$), US had a significant positive influence on CI ($\beta = .513$, $t = 1.283$, $p < .001$), EA had a significant positive influence on CI ($\beta = .452$, $t = 8.967$, $p < .001$). Thus, H1, H2a, H2b, H3a, H3c, H5, H6 were supported. On the other hand, it showed that SP had no significant influence on US ($\beta = .141$, $t = 0.910$, $p = .077$), IC had no significant influence on US ($\beta = -.072$, $t = 1.768$, $p = .363$), US had no significant influence on EA ($\beta = .078$, $t = 10.360$, $p = .199$). Thus, H2c, H3b, H4 were rejected.

Discussion

This research examined the effects of various gratifications on users' satisfaction and emotional attachment, as well as the relationship between these two criteria and users' intention to continue using Instagram in Malaysia. Most of our assumptions in the suggested theoretical model were supported by the data.

First, the R-squared (R^2) values suggested that US, EA, and CI variances were well explained, demonstrating the applicability and importance of our study model (Figure 2). In the US and EA, satisfactions explained 77.4% and 83.2% of the variation, respectively. US and EA accounted for 82.2% of the variation in CI. The R^2 metric of this research urges future examination of these factors and, more importantly, investigation of the influence of other variables, such as gender, age, and culture (Lin, 2008).

Second, observing the routes' coefficients (Table 4) revealed that hedonic gratification (EV), social gratification (SV), and utilitarian gratification (UG) have substantial effects on user satisfaction (US). UV was determined to be the most significant element determining Instagram users' contentment, followed by SV and EV. Because the major objective of SNS is social contact, these results are not unexpected (Boyd & Ellison, 2010). People use SNS to satisfy a range of social requirements (Raacke & Bonds-Raacke, 2008). If SNS can assist individuals satisfy their online social demands, it will deliver satisfaction. Moreover, when the social media platform is enjoyable, users will like logging in and being on the platform for extended times. Users will adapt SNS if it meets their information demands (Schumann & Stock, 2014). According to the literature evaluation conducted for this investigation, few prior research has tried to analyze the influence of satisfaction on the US. The outcomes of this study thus pave the way for further research. In this context, social media platform practitioners should pay greater attention to meeting the social, informational, and entertaining demands of users. However, the finding indicates that SP had no discernible influence on US. The explanation may be because users have access to other social media platforms, or it might be due to other variables not examined in this research.

Regarding emotional attachment (EA), the results (Table 4) showed that EA was significantly influenced by social gratification (SP) and utilitarian gratification (IC). Obviously, both satisfactions are related to the user's psychological responses. This demonstrates that when social media gets more incorporated into our everyday lives, it becomes more difficult to disentangle our emotions from these medium (Boyd & Ellison, 2010). Users interact with friends on SNS, thereby creating an emotional investment in SNS to maintain relationships. As a result, users will develop an emotional attachment to it. The results also confirm that users' psychological responses can be influenced by the way they read other users' posts, which can lead to satisfaction and emotional attachment. If SNS can repeatedly meet users' needs for information, it will lead to users' emotional investment or emotional attachment to SNS. Contrary to the expectations, no significant effect of US on EA was found. The reason may be that the previous hypothesis was based on relevant studies on e-commerce platforms (e.g., (Chiou, 2004; Gu et al., 2016), while this study is about social media platforms. Possibly because of the context difference, the hypothesis is not supported. Or it might be related to other variables not accounted for in this research.

In addition, the suggested structure reveals that the US and EA have a substantial effect on CI. Consistent with earlier studies (Gan & Li, 2018; Gu et al., 2016; Jin et al., 2010; Lin et al., 2014; Yin et al., 2011), US has a considerable impact on EA (Venkatesh & Davis, 2000). The success of social media hinges on sustained usage rather than early acceptance. This research reveals that the US is a significant driver of the continuance use online social networks. In this regard, this study recommends social media practitioners to focus on the creation of user-friendly platforms. In addition, the substantial effect of consumers' EA also emphasizes the

significance and applicability of the present findings. People continue to use social networking sites not just because of the technology itself, but also because of the connections they have with other users. Social media users were unrestricted and may move to any other social media site without incurring any costs or incurring any responsibilities. Consequently, EA is significant in the SNS setting. It indicates the user's attachment and participation with the community, a determinant of their choice to remain on the site. This research recommends that social media practitioners and managers devote particular attention on obtaining users' EA.

Conclusion

Implications and Contributions

This study examined the impact of gratifications on US and EA using the U&G and S-O-R theories. Moreover, it conducted an empirical investigation on Instagram CI. The results of this study provide empirical facts and insight to the literature on social media by showing that satisfaction impacts US and EA and indicating the crucial role that these emotions play in determining CI.

Prior research on SNS continuous intention concentrated mostly on technical concerns, limiting researchers' comprehension of SNS continuous intention. In addition, earlier research examining the impacts of satisfaction on adoption or maintenance of intentions did not examine the effects of satisfaction on US and EA. In the specific situation of SNS, continuing intent is dependent not just on technological factors, but also on the psychological components of the user's contact with other platform users. Consequently, the implications of the present study's findings for social media sustainability research and practitioners are crucial and relevant.

In addition, the findings of this research give practitioners with fresh insights on how to design appealing and pleasurable platforms that may result in CI among users. The insights may also contribute to the creation of more effective social networks, both locally and for targeted audiences. EA is another predictor of CI. Developers should work on gaining the EA of users since, in the case of SNS, the CI of users rely on the platform's technology and the connection to the relationships it fosters.

Limitations and Future Research

Several limitations of this study reveal future research opportunities. The data utilized in this research were obtained in Malaysia; hence, the conclusions may be confined to this nation. Before extrapolating our findings to other nations, future study should investigate if culture has any moderating influence. Second, the bulk of this study's sample participants are college students. Even while this sample is representative of social media users, it cannot be used to generalize conclusions to all ages and genders. Future research should analyze age and gender as moderators when trying to predict the impact of user enjoyment and emotional connection on intent to continue using a product. Thirdly, only one platform, Instagram, was considered in this study. Subsequent studies can consider other social media platforms (e.g., Pinterest, TikTok, Twitter), or consider the comparative study of two or more platforms to study the differences in users' intention to continue using between different platforms, which will further improve this topic. Fourthly, in addition to US and EA mentioned in this study, more psychological factors can be considered, such as pleasure (Hall et al., 2017), compatibility (Chernev, 2004), social influence (Malik et al., 2016). Previous studies have shown that these

factors also have an important impact on users' willingness to continue using social media platforms.

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