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RESEARCH ARTICLE

A Study on the Positive and Negative Factors Affecting the Intention to Continuously Use SNS Based on the Value-Based Acceptance Model

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ABSTRACT

In recent years, social networking services (SNS) have evolved into diverse forms and have become deeply embedded in everyday communication practices. At the same time, however, an increasing number of users have begun to withdraw from these platforms or migrate to alternatives due to concerns related to privacy breaches and the proliferation of competing services. A notable example is the 2018 Cambridge Analytica incident, which prompted widespread public criticism and led many users to abandon certain platforms out of fear of personal data misuse. The rapid growth of services such as Instagram, Snapchat, and TikTok has further diversified the SNS landscape, offering users new functional and social benefits.

Despite these developments, the negative personal and societal consequences associated with SNS use continue to grow, with users remaining vulnerable to financial, psychological, and physical risks. Rather than focusing on exceptional or highly publicized cases, the present study examines the everyday use of widely adopted SNS platforms. Specifically, it seeks to identify both the positive and negative factors that shape users' perceptions and to analyze how these factors influence their intention to continue using SNS. The Value-Based Acceptance Model (VAM) is employed as the theoretical framework, as it uniquely enables the simultaneous assessment of benefits and sacrifices in technology use. Ultimately, the aim of this study is to provide evidence-based insights into how SNS platforms can be improved to mitigate personal and social harms while enhancing users' overall experience.

Keywords: Value-Based Acceptance Model; SNS; Social Losses; Continuous Use; Perceived Value

1. Introduction

Recent shifts in user behavior have brought renewed attention to the factors that shape preferences for social networking services (SNS). In particular, the notable decline in Facebook usage alongside the overwhelming market dominance of Instagram raises questions about why users gravitate toward specific platforms and move away from others. Understanding these dynamics is increasingly important, as SNS platforms now function as key environments for personal networking, extending offline social relations into digital spaces [1]. By enabling self-expression and fostering communities around shared interests, SNS has created new forms of value grounded in horizontal communication and decentralized networks [2].

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Consequently, SNS has become a widely used medium across age groups, with more than 70% of the population using the internet for this purpose in 2022. Despite this broad adoption, engagement levels across individual platforms continue to fluctuate.

According to a 2022 report by the Korea Information Society Development Institute (KISDI), SNS usage has steadily increased—from 47.7% in 2019 to 55.1% in 2021. Yet platform preference shows substantial concentration: as of 2023, Instagram accounts for 76.2% of total usage, while Facebook and Twitter stand at 9.4% and 5.9%, respectively [3]. This disparity suggests that users evaluate SNS services differently and choose platforms based on a combination of functional, social, and psychological factors. At the same time, challenges such as Facebook user attrition, online romance scams, and fraudulent activities raise concerns about whether users will continue engaging with these services in the long term.

Most prior research has focused primarily on the positive drivers of SNS adoption, often emphasizing the networking benefits and social connectivity provided by these platforms. Studies have shown that users' continued engagement—or their decision to migrate to another service—is shaped by network effects within their peer groups and by the emotional experiences associated with SNS use [4]. For example, Cho (2021) examined how perceived characteristics of mobile SNS applications influence continued usage intentions but focused largely on technical functionalities, leaving psychological and contextual factors underexplored [5]. Although privacy concerns are frequently mentioned as barriers to continued usage, some studies report that users prioritize social interaction over privacy risks, particularly when network benefits are strong [6]. Other scholars have highlighted that psychological motivations often outweigh purely technical attributes when users decide whether to adopt or remain with an SNS platform [7].

Research on user migration has generally centered on SNS fatigue and migration theory. One study found that relational burdens—such as interaction overload—play a critical role in driving users away from certain platforms [8]. While this line of work introduces negative antecedents into the discussion, most studies still examine either positive or negative factors in isolation. This fragmented approach limits the ability to assess how benefits and drawbacks jointly shape users perceived value and their intention to continue using an SNS.

To address this gap, the present study employs the Value-based Adoption Model (VAM) to assess both positive and negative antecedents simultaneously. By examining how these antecedents influence perceived value and continuous usage intentions, the study aims to provide a more balanced and comprehensive explanation of user preferences. Although prior research confirms that social convenience often outweighs technical superiority in shaping SNS preferences, there has been little systematic investigation into the large-scale migration patterns observed across specific services. This study contributes to filling this gap.

As SNS platforms continue to diversify—incorporating text, images, video, offline profiles, and even audio-based interactions, understanding what drives user preference becomes essential for ensuring platform sustainability. This study assumes that users' adoption and retention decisions are closely linked to the underlying factors that motivate shifts in platform choice. By identifying these factors, the study seeks to provide insights that can help SNS providers maintain differentiation while improving user retention and ensuring long-term engagement.

2. Theoretical background

Recent Western scholarship has provided extensive bibliometric and science-mapping analyses that clarify how digital addiction and social media research have evolved over time. One study indicates that global research trends have increasingly shifted toward smartphone and social media addiction, accompanied

by growing attention to the psychological and social implications of these behaviors [9]. Another line of research highlights the emergence of themes connecting digital addiction with academic and behavioral outcomes among students, suggesting that digital engagement extends beyond mere technology use [10]. Collectively, these findings emphasize the need to interpret social media usage—its benefits, risks, and patterns of continued engagement—within a broader international context. Against this backdrop, the present study employs the Value-based Adoption Model (VAM) to identify the determinants influencing users continued use of SNS services. VAM refines the concept of perceived value originally proposed by Davis et al. (1989) [11] and Zeithaml (1988) [12], offering a consumer-oriented perspective on technology acceptance. The model enables simultaneous examination of both benefits and sacrifices that users evaluate during their decision-making process. According to VAM, perceived value functions as a central determinant in technology adoption, particularly when users seek to maximize the value they obtain from the service [13]. Although early applications of the model focused primarily on perceived benefits, later critiques argued that cost-related factors also influence acceptance [14]. In response, subsequent extensions of VAM incorporated sacrifice elements to provide a more balanced and comprehensive framework.

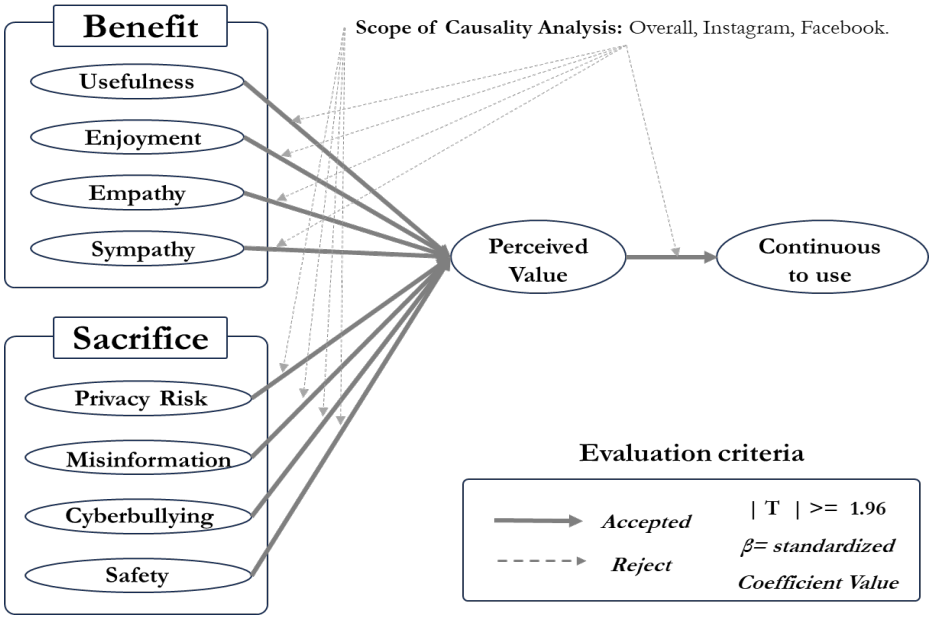

Figure 1. Research Model

Recent consumer-centered studies on technology acceptance increasingly adopt the Value-based Adoption Model (VAM) to examine users' intentions to embrace new technologies [15]. Prior research consistently demonstrates that higher perceived benefits and lower perceived costs lead to greater acceptance of technology. However, relatively little attention has been given to the specific factors that influence users' decisions to adopt and continuously use SNS services. For this reason, the present study applies the VAM framework to predict users' intentions to continue engaging with SNS platforms. In doing so, the study aims not only to assess how perceived value shapes continuous usage but also to identify the underlying factors that encourage sustained participation. To accomplish this, the antecedents that constitute perceived value are refined and categorized as detailed in the following sections.

2.1. Benefit

Prior Western research supports this perspective. A previous researcher highlighted that recent digital addiction studies increasingly emphasize the emotional and experiential dimensions of social media use,

such as enjoyment and social bonding [9]. Similarly, the other previous researcher shows that students' digital addiction behaviors are closely linked to emotional connectedness and social engagement processes [10]. These findings align with the idea that empathy, emotional bonds, and the sense of interpersonal connection constitute important benefits of SNS use. In this study, benefit refers to the advantages that arise from using a service and is defined as users' perceptions and evaluations of the utility of a product or service. Accordingly, the benefits that users derive from SNS services are categorized into social utility, communication enjoyment, and emotional bonds—both positive and negative—with others.

2.1.1. Usefulness

(1) **Conceptual definition in the survey**: Usefulness refers to the degree of efficiency and benefit that technology provides when it is practically applied to the user's daily life or work [16].

(2) **Previous research on SNS usefulness**: Users who find a particular SNS service useful perceive that it meets more of their needs compared to other SNS services.

(3) **Relationship between survey definition and previous research**: Prior studies on SNS usefulness have mainly focused on the convenience of obtaining information and making purchasing decisions from a marketing perspective.

(4) **Definition of usefulness in this study**: Usefulness is defined as the degree to which users believe an SNS service helps them meet their specific needs, which in turn positively influences their decision to use the service.

2.1.2. Enjoyment

Enjoyment refers to the degree of pleasure users experience when interacting with a particular technology [17]. When users perceive a higher level of enjoyment from an SNS platform, they tend to engage with it more frequently, which in turn increases their likelihood of continued use. Thus, enjoyment is expected to exert a positive influence on users' intentions to remain active on the platform. Prior studies on SNS-related enjoyment have primarily explored how enjoyable experiences relate to trust in products or services and how this relationship shapes consumer behavior, particularly within marketing contexts.

2.1.3. Empathy

Empathy refers to the extent to which users understand and emotionally connect with others through their use of technology. SNS platforms often expose users to others' experiences and daily lives, which can foster meaningful emotional responses and a heightened sense of belonging. Consequently, higher levels of empathy are expected to contribute positively to users' continued engagement with an SNS service. Previous research on empathy within SNS environments has largely examined how emotional engagement enhances social connectivity. For example, studies have categorized empathy-related expression on SNS into self-seeking, interactional ritual, and self-management forms, and have explored how these forms of empathetic engagement promote prosocial behavior. Other work has investigated how self-disclosure and empathetic communication shape interpersonal relationships. One study focusing on university students found that both self-disclosure and empathy in SNS interactions significantly strengthened feelings of intimacy [18]. Higher levels of empathetic communication were associated with deeper emotional bonds and closer relationships. These findings suggest that fostering empathy within SNS environments can enhance the quality of online interactions. Such insights hold potential implications for educational contexts, mental health support, and the design of SNS platforms seeking to promote meaningful and emotionally supportive digital communication.

2.1.4. Sympathy

Sympathy refers to the extent to which users feel inclined to support or respond to the emotions and circumstances of others through their use of technology. Unlike empathy, which involves sharing or internalizing another person's emotional state, sympathy may emerge simply from recognizing or understanding another's situation. SNS platforms expose users to a wide range of personal experiences and social issues, often generating feelings of support or solidarity that can strengthen a sense of belonging. Accordingly, higher levels of sympathy are expected to contribute positively to users' continued engagement with an SNS service.

Research that explicitly examines sympathy within SNS contexts is relatively limited. Existing studies have tended to focus on audience immersion in narrative content or storytelling provided through social media. Notably, sympathy often carries negative implications; for example, frequent exposure to idealized or glamorous portrayals of others' lives on SNS has been linked to increased feelings of depression. This suggests that sympathetic responses may at times undermine well-being rather than enhance it. For this reason, it is important for users to recognize that the content encountered on SNS does not necessarily reflect the full reality of others' lives [19].

2.1.5. Empathy vs. sympathy

On SNS, empathy contributes to the development of deeper relationships by facilitating emotional resonance and mutual understanding, whereas sympathy involves recognizing others' difficulties while maintaining a certain emotional distance. Accordingly, emotional expressions on SNS tend to be more meaningful and impactful when they emphasize empathetic engagement rather than mere sympathetic acknowledgment [20].

Table 1. Comparison Between Empathy and Sympathy

Category	Empathy	Sympathy
Definition	Understanding and feeling the emotions of others	Understanding but maintaining emotional distance while feeling pity
Emotional Engagement	Experiencing the emotions together (putting oneself in another's shoes)	Observing the emotions from the outside (feeling compassion)
Expression on SNS	I can imagine how tough this must be for you. I have had a similar experience	That's unfortunate… You must be having a hard time.
Role on SNS	Deep engaging through comments, direct messages, and sharing to offer emotional support	Expressing concern with reactions such as 'like' or short comments
Positive Effects	Strengthening bonds and emotional support	Encouraging kind behavior
Negative Effects	Risk of emotional burnout due to deep involvement	May perceive the other person as a passive victim
Related Studies	Research on emotional support and community building on SNS	Research on online sympathy and emotional fatigue

2.2. Sacrifice

Bibliometric analyses also show that privacy risks, misinformation, and cyberbullying constitute major thematic clusters within global digital addiction research [9] [10]. These findings underscore the importance of incorporating sacrifice-related variables when examining SNS usage. In this study, sacrifice is defined as the monetary or non-monetary costs users must bear when using a service, representing potential threats or weaknesses perceived during SNS usage. Because SNS services typically impose non-monetary rather than

financial costs, this study focuses on privacy risks, misinformation, cyberbullying, and crimes such as fraud that may compromise user safety.

2.2.1. Privacy risk

Privacy risk refers to the degree of concern users experience regarding potential exposure or misuse of their personal information while using technology. Such risks may arise from both the personal details users provide to a platform and the information generated or revealed during their interactions. Because privacy threats are closely tied to users' sense of safety and control, higher perceived privacy risk is expected to reduce their willingness to continue using an SNS service. Prior research on privacy risks in SNS environments has primarily examined how privacy concerns influence users' self-disclosure decisions. One study found that increased privacy concerns and perceived privacy risks significantly decreased users' intentions to share personal information on SNS platforms [21]. Another study expanded this line of inquiry by analyzing the combined effects of privacy concerns, perceived privacy risks, and perceived privacy benefits. Its findings indicated that while privacy concerns and perceived risks negatively affected information-sharing intentions, perceived benefits encouraged disclosure [22]. Additional research has further shown that heightened privacy risks can elevate privacy concerns, which may, in turn, contribute to user resistance or avoidance behaviors [23].

2.2.2. Misinformation

Misinformation refers to the degree of concern users feel regarding distorted or inaccurate information they may encounter while using technology, which can ultimately lead to errors in judgment and decision-making. Such misinformation may appear in various forms, including news articles, advertisements, or personal content shared by other users. Elevated levels of misinformation are closely associated with user fatigue and are therefore expected to negatively influence continued use of SNS platforms.

Previous research on misinformation within SNS contexts has largely examined its effects on public perception and behavioral responses, particularly from socio-political perspectives [24–26]. More recent studies have extended this discussion by identifying and categorizing common sources of error in research that relies on digital traces collected from social media platforms. These studies propose conceptual frameworks to better understand and document such errors, thereby contributing to improved methodological rigor in future research involving online data [27].

2.2.3. Cyberbullying

Cyberbullying refers to users' concerns about personal harassment or threats—both online and offline—that may arise in the course of using technology. Such risks include malicious comments, aggressive interactions, and even offline crimes linked to online activity, all of which directly relate to user safety [28]. Recent research has examined the relationship between adolescents' SNS addiction and cyberbullying perpetration, highlighting the moderating effects of peer attachment, including peer communication, peer trust, and peer alienation. The findings suggest that adolescents with higher levels of SNS addiction are more prone to engage in cyberbullying, whereas strong peer communication and trust can mitigate these behaviors [29].

Other studies have identified a set of risk factors that contribute to cyberbullying, such as frequent SNS exposure, low caution, the pursuit of entertainment, poor self-control, and limited ethical awareness. These factors, initially identified through qualitative analysis and literature review, have been further supported through empirical validation [30]. Additional research focusing on university students has explored how differential association, daily stress, and low self-control influence cyberbullying across different smartphone

use environments—texting, SNS platforms, and internet browsing—and revealed notable variation across these contexts [31].

Given these findings, elevated levels of cyberbullying are likely to reduce users' willingness to continue using an SNS service. Prior work in this area has often concentrated on the forms and consequences of cyberbullying, particularly as they affect minority or vulnerable groups, emphasizing the ethical implications of such behavior.

2.2.4. Safety

Safety refers to users' concerns about crimes such as fraud, impersonation, and other forms of malicious activity that may occur when using technology. SNS platforms facilitate open communication with a broad audience, which makes it challenging to verify the authenticity of information or the identity of other users. This vulnerability is closely tied to users' sense of safety and can diminish trust in the service.

Prior research on safety has largely examined technology-related risks from welfare and educational perspectives. One 2015 study, for example, investigated how factors such as daily stress, attitudes toward law violations, low self-control, and the amount of time spent on SNS contribute to criminal behaviors on these platforms. It also analyzed how anonymity interacts with these factors to influence the likelihood of misconduct [32]. Another study conducted by the same researcher applied principles of social learning theory—differential association, definitions, differential reinforcement, and imitation—to explain criminal behavior on SNS. The findings further indicated that these factors exert greater influence when combined with low self-control, subcultural environments, and situational opportunities [33].

More recent work has focused on technical aspects of safety. A 2021 study examined various methods for detecting identity deception on social media, analyzing multiple types of attacks including fake profiles, identity theft, and identity cloning [34]. These findings collectively underscore the importance of understanding how safety concerns shape user trust and influence continued usage of SNS platforms.

2.3. Perceived value

Perceived value refers to users' overall assessment of the utility they gain from using a service. In making decisions about whether to continue using a particular technology, users weigh the benefits received against the costs incurred. A substantial body of research has demonstrated that perceived value is a decisive factor influencing continuous usage intentions for various technological services, and this relationship is expected to hold for SNS platforms as well.

Previous studies have examined the role of perceived value in the context of mobile SNS usage. One study found that perceived usefulness, social influence, privacy concerns, and perceived ease of use significantly shaped perceived value, which subsequently influenced users' intentions to continue using mobile social networking services [35]. Another line of research explored how functional and social value, along with stress factors such as complexity and anxiety, affect continuous SNS usage. The findings indicate that functional and social value enhance satisfaction, whereas complexity diminishes it, and satisfaction ultimately drives continued usage intention [36].

Perceived value has also been discussed in relation to social commerce. A 2011 study investigated multiple dimensions of perceived value, including economic, psychological, and temporal value—and demonstrated that these dimensions positively shape consumer attitudes and increase usage intentions within social commerce environments [37]. More recent work has extended the VAM framework to audio-based social media. A 2021 study analyzed how restrictive attributes—such as access, communication, and content limitations—affect perceived benefits. The study concluded that these restrictive attributes significantly

influence perceived usefulness and enjoyment, both of which serve as key determinants of acceptance intentions [38].

Collectively, these findings underscore the centrality of perceived value in understanding how users evaluate digital services and make decisions regarding continued engagement with SNS platforms.

2.4. Continuous use

Continuous use refers to the psychological process through which users decide whether to maintain their engagement with a particular service or system. Unlike a single, isolated acceptance decision, users' engagement with SNS platforms is repeatedly evaluated and influenced by ongoing experiences, social interactions, and changes in personal needs or preferences. As such, the decision to continue using an SNS is dynamic and often shaped by factors shared and reinforced within users' social networks.

Recent studies highlight the complex mechanisms underlying continuous usage intention. For instance, a 2020 study found that users' perceived value of information privacy significantly influences their intention to continue using SNS platforms. Users who place higher value on information privacy tend to be more cautious about sharing personal data, which may affect their sustained use of the service [39].

Another study from the same year examined the mediating role of risk perception and the moderating role of privacy concern in the context of location-based services—features commonly integrated into SNS platforms. The findings indicate that lower perceived control increases risk perception, thereby diminishing usage intention, and that this effect becomes stronger when privacy concerns are elevated [40].

Additional research conducted in 2016 explored how various SNS characteristics contribute to user satisfaction and trust, and how these factors subsequently influence continuous usage intention. This line of work underscores the importance of both the functional and relational aspects of SNS platforms in sustaining user engagement over time.

2.5. Operational variables definition

Based on the existing components of the Value-based Adoption Model (VAM), this study aims to define and analyze the conceptual components of SNS as follows.

Table 2. Operational definition variables

Category	Measurement Factors	Operational Definition
Benefit	Usefulness	Usefulness refers to the degree of efficiency and benefit that arises when SNS technology is effectively utilized in a user's daily life or work [9][10][11][14].
	Enjoyment	It refers to the extent to which users perceive enjoyment while using SNS [17].
	Empathy	It refers to the level of understanding and emotional connection that users can gain regarding others' emotions or situations while using SNS [18, 19].
	Sympathy	Sympathy refers to the extent to which users wish to support others' emotions or situations using SNS. Emotional connection or bonding is not necessary, as it can be achieved through simple understanding or agreement, distinguishing it from empathy [20].
Sacrifice	Privacy Risk	It refers to the degree of concern about the invasion of personal information when using SNS [21-24].
	Misinformation	Misinformation refers to the degree of concern about errors in decision-making that may arise from encountering distorted information while using SNS [25-27].
	Cyberbullying	It refers to the degree of concern about personal harassment or threats that may be anticipated while using SNS [28-31].
	Safety	It refers to the degree of concern about the occurrence of crimes such as fraud or impersonation that may be anticipated while using SNS [32][33].

Category	Measurement Factors	Operational Definition
Endogenous	Perceived Value	The value perceived refers to the user's overall assessment of the utility gained during the process of using a service [34-38].
	Continuous to Use	Continuous use intention refers to the degree of psychological process that drives users to decide whether to continue using a specific service or system [38][39].

Table 2. (*Continued*)

The findings indicate that information quality, system quality, and service quality each contribute positively to user satisfaction and trust, which in turn enhances continuous usage intention [41]. A 2014 study further examined the determinants of continuous usage of mobile SNS with a particular focus on the mediating role of perceived value. The results showed that perceived usefulness, social influence, perceived privacy concerns, and perceived ease of use significantly shaped perceived value, which subsequently influenced continuous usage intention.

Research conducted in 2012 provides additional insights into the mechanisms driving sustained SNS usage. One study proposed a continuous usage model that integrates the uses and gratifications theory with the technology acceptance model. It demonstrated that SNS functionalities—such as expert search, communication and connection, content sharing, and identity expression—affect perceived usefulness and perceived ease of use, which then influence user satisfaction and continuous usage intention [42]. Another study from the same year examined the structural relationships among self-efficacy, perceived enjoyment, perceived usefulness, perceived ease of use, and reuse intention. The results indicated that self-efficacy plays a central role by positively influencing perceived ease of use, usefulness, and enjoyment, all of which significantly predict users' intention to reuse SNS services [43, 44].

Although recent Western studies have mapped the intellectual evolution of digital addiction research (Karakose et al., 2022; Tülübaş et al., 2023), relatively few studies have examined how perceived benefits and sacrifices jointly influence users' continuous SNS usage. This gap further supports the application of the VAM model in the present study.

3. Research methodology

This study examines the factors contributing to the decline in long-standing social networking services (SNS) by analyzing how users perceived value—derived from benefits and sacrifices—affects their intention to continue using major SNS platforms. To address methodological transparency, detailed information regarding the sampling procedure, inclusion/exclusion criteria, and analytical steps is provided below.

3.1. Sample and recruitment procedure

Data was collected through an online survey administered between (insert month/year). Participants were recruited using a voluntary response sampling method through social media communities, university networks, and online bulletin boards. Before participating, all respondents were informed about the purpose of the study and provided consent. A total of 354 individuals initially accessed the survey. After applying the inclusion/exclusion criteria, 307 valid responses remained for analysis.

3.2. Inclusion and exclusion criteria

Participants were included if they were 18 years or older, had used at least one SNS platform (LinkedIn, Instagram, Twitter, TikTok, or Facebook) within the past six months, and completed all required survey questions. Responses were excluded if they met one or more of the following conditions:

1. completion time below a predetermined threshold (≤ one-third of the median time),

2. patterned or straight-line responses across multiple scales,
3. contradictory responses to attention-check items, or
4. missing or inconsistent demographic data.

These criteria were used to eliminate "insincere" or invalid responses to ensure reliability and data quality.

3.3. Measurement development and validity assessment

Constructs related to benefits (usefulness, enjoyment, empathy, sympathy) and sacrifices (privacy risk, misinformation, cyberbullying, safety) were operationalized based on prior research. Items were adapted from validated instruments and measured using a five-point Likert scale. To verify construct validity, exploratory factor analysis (EFA) was conducted using principal component extraction with varimax rotation. Items with factor loadings below 0.50 were removed. Additionally, Kaiser's criterion was applied, retaining only factors with eigenvalues ≥ 1.0.

3.4. Reliability analysis

Cronbach's alpha was calculated for each construct. A threshold of ≥ 0.70 was used to determine internal consistency reliability. All constructs that met this criterion were included in subsequent analyses.

3.5. Multicollinearity diagnosis

To assess discriminant validity and ensure multicollinearity was not present among derived factors, Pearson correlation coefficients were examined. Correlations below 0.70 were considered adequate, indicating that the constructs were sufficiently distinct and not linearly dependent.

3.6. Analytical strategy

Given the cross-sectional nature of the data, analyses were designed to explore associations rather than infer causality. Multiple regression analysis was used to examine whether benefit and sacrifice dimensions significantly predicted perceived value and continuous usage intention. The analysis was first conducted across all SNS platforms, followed by a subgroup comparison between Facebook and Instagram. This comparison was motivated by reports suggesting user migration from Facebook to Instagram, allowing the study to explore differences in perceived value and contributing factors between the two platforms. All statistical analyses were performed using (insert software: SPSS, R, etc.), and significance was evaluated at the 95% confidence level.

3.7. Ethnical considerations

Regarding the ethical considerations, we would like to clarify that, according to the guidelines of the ICT Polytech Institute of Korea, this study does not fall under the category requiring IRB review. The explanation is provided as follows. This study involved a minimal-risk, anonymous online survey of adult participants. According to the ethical guidelines of ICT Polytech Institute of Korea, such studies are exempt from formal IRB review. Prior to participation, all respondents were informed of the purpose of the study, voluntary participation, anonymity, and data protection procedures. No personally identifiable information was collected. All data were handled confidentially and used solely for academic research purposes, in accordance with the Declaration of Helsinki's general principles for research involving human participants.

4. Results

4.1. Demographic analysis

A total of 350 participants completed the online survey administered via Google Forms. Among these, 10 responses were excluded due to incomplete answers, and 7 additional cases were removed because

respondents selected the same option across all items, indicating non-differentiated response patterns. Thirteen respondents were excluded for missing answers to key variables, and another 13 were removed because they reported using SNS less than once per month, engaging only when specific issues arose. After applying these criteria, the final sample for analysis consisted of 307 participants.

Regarding demographic characteristics, the largest age group was individuals aged 30–39, representing 33.876% of the sample, followed by those aged 20–29, who accounted for 101 respondents (32.899%). In terms of occupation, general office workers comprised the largest segment (97 respondents, 31.596%), followed by students (49 respondents, 15.961%). Service industry employees (22 respondents, 7.166%) and education professionals (21 respondents, 6.840%) constituted the next largest groups.

Educational attainment also reflected a well-educated sample: 195 respondents (63.518%) were college graduates, and the majority held at least a high school diploma. With respect to platform usage, Instagram was the most frequently used SNS, reported by 234 respondents (76.221%), whereas Facebook was used by only 29 respondents (9.446%), indicating a substantial gap between the two platforms. The "etc." category included proprietary or company-developed internal SNS systems.

To examine historical patterns of SNS usage, respondents were also asked about the platforms they used previously. In contrast to current usage, Facebook had previously dominated, with 196 respondents (63.844%) identifying it as their earlier primary platform, compared to only 63 respondents (20.521%) who previously used Instagram. This substantial reversal indicates a clear migration trend from Facebook to Instagram.

Regarding usage frequency, 237 participants (77.199%) reported using SNS at least once per day, while 43 respondents (14.007%) used it at least once per week, confirming the predominance of daily engagement. In terms of duration, 111 respondents (36.156%) spent less than 30 minutes per session, 32.248% used SNS for 30 minutes to one hour, and 60 respondents (19.544%) used it for one to two hours.

Overall, the demographic analysis shows that most respondents were adults aged 30–39, with general office workers and university students forming the largest occupational groups.

Table 3. Demographic Analysis

	Category	Frequency	Percent	Cumulative percent
Age	Under 19	5	1.629	1.629
	20 - 29 years old	101	32.899	34.528
	30 - 39 years old	104	33.876	68.404
	40 - 49 years old	68	22.150	90.554
	Over 50 years old	29	9.446	100.000
	Total	307	100	
Occupation	IT Development/Internet	14	4.560	4.560
	Construction/Architecture	8	2.606	7.166
	Management	13	4.235	11.401
	Customer Consultation	2	0.651	12.052
	Advertising/Promotion	3	0.977	13.029
	Education	21	6.840	19.870
	Technology	10	3.257	23.127

	Category	Frequency	Percent	Cumulative percent
	Marketing	8	2.606	25.733
	Trade/Distribution	7	2.280	28.013
	Media/Culture	7	2.280	30.293
	General Office Work	97	31.596	61.889
	Service	22	7.166	69.055
	Engineer	2	0.651	69.707
	Research Development and Design	11	3.583	73.290
	Sales	7	2.280	75.570
	Medical Treatment	11	3.583	79.153
	Financial accounting	1	0.326	79.479
	Professional/Special/Research Positions	14	4.560	84.039
	Student	49	15.961	100.000
	Total	307	100	
Education	High School Graduate	60	19.544	19.544
	College Graduate	195	63.518	83.062
	Graduate School Master's Degree or Higher	47	15.309	98.371
	Middle School or Younger	5	1.629	100.000
	Total	307	100	
SNS in use	Facebook	29	9.446	5.212
	LinkedIn	6	1.954	7.166
	Instagram	234	76.221	83.388
	Twitter	18	5.863	89.251
	TikTok	4	1.303	90.554
	Etc..	16	5.212	100.000
	Total	307	100	
SNS used Previously	Facebook	196	63.844	9.121
	LinkedIn	3	0.977	10.098
	Instagram	63	20.521	30.619
	Twitter	15	4.886	35.505
	TikTok	2	0.651	36.156
	Etc..	28	9.121	100.000
	Total	307	100	
Frequency of Use	More than Once a Month	11	3.583	3.583
	More than Once Daily	237	77.199	80.782
	More than Once a Week	43	14.007	94.788
	More than 4times per Quarter	6	1.954	96.743
	Less than 10times per Year	10	3.257	100.000
	Total	307	100	

	Category	Frequency	Percent	Cumulative percent
Usage Time	1-2 hours	60	19.544	19.544
	3-4 hours	29	9.446	28.990
	30 - 1 hour	99	32.248	61.238
	Less than 30 minutes	111	36.156	97.394
	5 - 6 hours	2	0.651	98.046
	6 hours or more	6	1.954	100.000
	Total	307	100	

Table 3. (*Continued*)

Most respondents had at least a college degree, and the minimum education level reported was high school graduation. One of the notable findings from the demographic analysis is the substantial migration of users between SNS platforms. A large proportion of former Facebook users have shifted to Instagram, and the disparity in user numbers between the two platforms remains pronounced. Given this trend, it is essential to analyze how benefit and sacrifice constructs influence perceived value for both Instagram and Facebook. Understanding these relationships can help identify areas in which specific platforms may need improvement to mitigate the negative consequences associated with user migration. Unlike previous studies that primarily compare users' intentions to continue using SNS services, this research makes a distinctive contribution by providing empirical evidence that quantitatively illustrates the severity of user transition—an issue frequently highlighted in media discourse. By presenting potential improvement strategies, the study aims to offer practical insights that address the challenges posed by user migration and support efforts to prevent further declines in SNS engagement.

4.2. Factor and response reliability analysis

4.2.1. Factor analysis of exogenous variables

The exogenous variables consisted of four benefit-related constructs: usefulness, enjoyment, empathy, and sympathy. Table 4 presents the factors extracted with loading values of 0.50 or higher. The analysis identified Factor 1 as Empathy, Factor 2 as Enjoyment, Factor 3 as Usefulness, and Factor 4 as Sympathy. To determine the validity of these constructs, Eigenvalues were examined. Empathy yielded an Eigenvalue of 3.598, exceeding the minimum criterion of 1.0. Enjoyment, Usefulness, and Sympathy also demonstrated acceptable Eigenvalues of 3.443, 2.826, and 2.480, respectively. The factor analysis was statistically significant (Sig = .000), and the Kaiser–Meyer–Olkin (KMO) measure of 0.919 confirmed strong sampling adequacy.

Reliability was assessed using Cronbach's alpha. Usefulness demonstrated strong internal consistency ($\alpha = 0.805$), as did Enjoyment ($\alpha = 0.869$), Empathy ($\alpha = 0.877$), and Sympathy ($\alpha = 0.816$), all exceeding the recommended threshold of 0.70.

Table 4. Benefit Factor Analysis of Exogenous Variables

Rotated Component Matrix (a)						
Constructs	**Variables**	**Factor loading**				**Cronbach's alpha**
		1	**2**	**3**	**4**	
Usefulness	D1	0.078	0.339	0.733	0.217	0.805
	D2	- 0.036	0.283	0.679	0.252	
	D3	0.296	0.032	0.702	0.112	
	D4	0.395	0.229	0.611	0.098	
	D5	0.047	0.039	0.755	0.000	
Enjoyment	E1	0.370	0.660	0.272	0.035	0.869
	E2	0.430	0.675	0.222	0.027	
	E3	0.277	0.708	0.158	0.093	
	E4	0.404	0.697	0.105	0.156	
	E5	0.042	0.668	0.162	0.354	
	E6	0.415	0.597	0.118	0.168	
Empathy	F1	0.636	0.326	0.253	0.135	0.877
	F2	0.754	0.248	0.186	0.211	
	F3	0.689	0.274	0.064	0.157	
	F4	0.641	0.294	0.119	0.410	
	F5	0.733	0.350	0.089	0.297	
Sympathy	G3	0.188	0.144	0.179	0.814	0.816
	G4	0.164	0.105	0.165	0.782	
	G5	0.389	0.167	0.086	0.736	
Eigen Value		3.598	3.443	2.826	2.480	
% Variances		18.935	18.123	14.872	13.054	
% Cumulative		18.935	37.058	51.930	64.984	

Reliability: Cronbach's alpha, >0.70(Response Reliability Test) KMO and Barlett's Test = 0.919(Bartlett's Test of Sphericity (Approx. Chi-squared=3093.540, degree of freedom= 171, Sig=.0000,
Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser: Normalization. a. Rotation Coverage in 7 iterations.

4.2.2. Factor analysis of endogenous variables

Table 5 presents the factor analysis results for the sacrifice-related constructs, which included privacy risk, misinformation, cyberbullying, and safety. Four factors with loading values above 0.50 were extracted, and items falling below this threshold were removed. The analysis classified Factor 1 as Safety, Factor 2 as Cyberbullying, Factor 3 as Misinformation, and Factor 4 as Privacy Risk. Their respective Eigenvalues—3.470, 3.427, 2.304, and 1.927—confirmed that each construct met the criterion for factor validity. The analysis was statistically significant (Sig = .000), and the Kaiser–Meyer–Olkin (KMO) value of 0.914 indicated strong sampling adequacy. Reliability testing further supported the internal consistency of the sacrifice constructs. Privacy Risk recorded a Cronbach's alpha of 0.781, Misinformation had 0.774, Cyberbullying achieved 0.892, and Safety showed 0.875. All coefficients exceeded the 0.70 threshold, demonstrating robust reliability.

Table 6 summarizes the factor analysis for the endogenous variables, consisting of the dependent variable *Perceived Value* and the outcome variable *Continuous to Use*. Two factors with loading values of 0.50 or higher were extracted: Factor 1 corresponded to Continuous to Use and Factor 2 to Perceived Value. The Eigenvalues for these factors were 4.613 and 2.983, respectively, confirming their adequacy as valid constructs.

The overall model fit was supported by the results of the KMO and Bartlett's tests (KMO = 0.894), indicating statistical significance and suitable sampling adequacy. The reliability assessment also confirmed strong internal consistency: Continuous to Use demonstrated a Cronbach's alpha of 0.895, and Perceived Value recorded a Cronbach's alpha of 0.766, both meeting the acceptable reliability standard.

Table 5. Sacrifice Factor Analysis of Exogenous Variables

Rotated Component Matrix (a)						
Constructs	**Variables**	**Factor loading**				**Cronbach's alpha**
		1	**2**	**3**	**4**	
Privacy Risk	H3	0.113	0.301	0.244	0.602	0.781
	H4	0.086	0.155	0.026	0.856	
	H5	0.216	-0.050	0.306	0.655	
Misinformation	I3	0.088	0.162	0.567	0.379	0.774
	I4	0.301	0.185	0.809	0.219	
	I5	0.304	0.380	0.711	0.158	
Cyberbullying	J1	0.330	0.741	0.217	0.134	0.892
	J2	0.390	0.680	0.406	0.040	
	J3	0.256	0.789	0.194	0.080	
	J4	0.127	0.787	0.030	0.197	
	J7	0.422	0.662	0.358	0.141	
Safety	K1	0.652	0.304	0.399	0.009	0.875
	K2	0.687	0.391	0.216	0.148	
	K3	0.748	0.314	0.197	0.071	
	K4	0.776	0.245	0.208	0.148	
	K5	0.796	0.110	0.049	0.228	
Eigen Value		3.470	3.427	2.304	1.927	
% Variances		21.693	21.424	14.400	12.048	
% Cumulative		21.693	43.118	57.518	69.567	

Reliability: Cronbach's alpha, >0.70(Response Reliability Test) KMO and Barlett's Test = 0.914(Bartlett's Test of Sphericity (Approx. Chi-squared=2868.209, degree of freedom= 120, Sig=.0000,
Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser: Normalization. a Rotation Coverage in 6 iterations.

Table 6. Factor Analysis of Endogenous Variables

Rotated Component Matrix(a)				
Constructs	**Variables**	**Factor loading**		**Cronbach's alpha**
		1	**2**	
Perceived Value	L1	0.119	0.811	0.766
	L2	-0.072	0.828	
	L3	0.305	0.711	
	L5	0.260	0.560	

Rotated Component Matrix(a)				
Constructs	**Variables**	**Factor loading**		**Cronbach's alpha**
		1	**2**	
Continuous to Use	M1	0.714	0.149	0.895
	M3	0.680	0.363	
	M4	0.685	0.359	
	M5	0.749	0.072	
	M6	0.778	0.279	
	N1	0.569	0.442	
	N3	0.644	0.464	
	N5	0.692	-0.124	
	N6	0.780	0.163	
Eigen Value		4.613	2.983	
% Variances		35.481	22.945	
% Cumulative		35.481	58.426	

Reliability: Cronbach's alpha, >0.70(Response Reliability Test) KMO and Barlett's Test = 0.894(Bartlett's Test of Sphericity (Approx. Chi-squared=1925.015, degree of freedom= 78, Sig=.000,
Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser: Normalization. a Rotation Coverage in 3 iterations.

Table 6. (*Continued*)

4.3. Correlation analysis

Table 7 presents the correlation analysis conducted using the factor scores extracted from the factor analysis to verify the validity of the measurement variables for each construct. Only constructs that demonstrated acceptable reliability were included in this analysis. Because the study identified ten constructs in total, it was necessary to reassess whether these constructs-maintained discriminant validity. To evaluate this, Pearson correlation coefficients were calculated using composite scores derived from the average values of the extracted measurement items for each construct. This analysis served to identify potential multicollinearity.

Table 7. Pearson Correlation Coefficient Analysis

Construct	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Usefulness	1									
Enjoyment	0.533**	1								
Empathy	0.479**	0.643**	1							
Sympathy	0.413**	0.469**	0.576**	1						
Privacy Risk	-0.050	0.108	0.119*	0.105	1					
Misinformation	-0.078	0.079	0.067	0.045	0.546**	1				
Cyberbullying	-0.069	0.101	0.106	0.145*	0.411**	0.621**	1			
Safety	-0.112*	0.036	0.064	0.088	0.411**	0.607**	0.684**	1		
Perceived Value	0.587**	0.657**	0.578**	0.523**	0.060	-0.048	-0.010	-0.029	1	
Continuous To Use	0.352**	0.603**	0.587**	0.538**	0.223**	0.288**	0.296**	0.271**	0.478**	1

**P<0.05, **P<0.01, ***P<0.001*

A correlation coefficient greater than 0.70 would indicate a lack of discriminant validity and the possibility of multicollinearity. In this study, none of the correlation coefficients exceeded the 0.70 threshold, confirming that the ten constructs are conceptually distinct and that multicollinearity is not a concern.

4.4. Causality analysis

4.4.1. Causality analysis for overall SNS services

In this study, a survey was conducted with users of LinkedIn, Instagram, Twitter, TikTok, and Facebook. An initial causality analysis was performed across all platforms to examine the overall relationships among the variables. As noted earlier, a substantial number of Facebook users have migrated to Instagram. To explore this transition in greater depth, an additional causality analysis was conducted specifically comparing these two platforms to identify key areas for improvement and potential factors contributing to user migration.

The results of the analysis indicate that Hypothesis 1 (H1) is supported, demonstrating that SNS usefulness has a positive effect on perceived value. For Hypothesis 2 (H2), enjoyment and sympathy were found to positively influence perceived value, whereas empathy did not show a significant effect.

The hypotheses tested in this study are presented below:

H1: Usefulness will have a positive (+) effect on perceived value.

H2: Enjoyment will have a positive (+) effect on perceived value.

H3: Empathy will have a positive (+) effect on perceived value.

H4: Sympathy will have a positive (+) effect on perceived value.

H5: Privacy Risk will have a negative (−) effect on perceived value.

H6: Misinformation will have a negative (−) effect on perceived value.

H7: Cyberbullying will have a negative (−) effect on perceived value.

H8: Safety will have a negative (−) effect on perceived value.

H9: Perceived value will have a positive (+) effect on continuous usage intention.

First, based on the operational definitions of empathy and sympathy, their key distinctions can be summarized as follows. Empathy involves understanding and emotionally resonating with another person's feelings or experiences, whereas sympathy refers to offering support or concern for others' circumstances without necessarily forming an emotional bond. Thus, empathy requires a deeper level of emotional involvement, while sympathy may be expressed through simple acknowledgment or agreement. Sympathy is generally directed toward providing external support, whereas empathy entails internal emotional resonance. Consequently, empathy tends to be more personal and immersive, while sympathy is comparatively detached yet supportive. Within the context of SNS, empathetic engagement may foster deeper relational connections, whereas sympathetic expressions may lead to more frequent but less emotionally intensive interactions.

These distinctions help explain why sympathy exhibited a positive effect on perceived value, while empathy did not. If users derive greater perceived value from sympathy than from empathy, several interpretations may be considered:

- Sympathy is more action-oriented, prompting users to engage through quick supportive behaviors such as reactions, shares, and brief comments, thereby enhancing the perceived utility of SNS.

Table 8. Causality Analysis Results for Overall SNS

	Model		Unstandardized Coefficient		A	t	Sig.	Result	Collinearity statistics	
			B	Std Error	Beta				B	VIF
	Constants		0.723	0.169		4.280	0.000			
H1	Usefulness	Perceived Value	0.281	0.047	0.279	5.923	0.000	Accepted	0.679	1.473
H2	Enjoyment	Perceived Value	0.330	0.053	0.379	6.247	0.000	Accepted	0.408	2.452
H3	Empathy	Perceived Value	0.037	0.050	0.046	0.729	0.466	Reject	0.380	2.630
H4	Sympathy	Perceived Value	0.165	0.039	0.204	4.219	0.000	Accepted	0.644	1.553
Model fit: ANOVA: F=90.814, Sig-0.000, R square=0.546, Adjustment R square=0.540, Durbin-Watson=1.975										
	Constants		3.691	0.120		30.676	0.000			
H5	Privacy Risk	Perceived Value	0.089	0.049	0.124	1.799	0.073	Reject	0.690	1.450
H6	Misinformation	Perceived Value	-0.084	0.059	-0.118	-1.423	0.156	Reject	0.476	2.099
H7	Cyberbullying	Perceived Value	0.025	0.061	0.034	0.405	0.686	Reject	0.463	2.160
H8	Safety	Perceived Value	-0.026	0.068	-0.032	-0.380	0.704	Reject	0.475	2.105
Model fit: ANOVA: F=1.052, Sig-0.380, R square=0.014, Adjustment R square=0.001, Durbin-Watson=2.096										
	Constants		0.736	0.251		2.937	0.004			
H9	Perceived Value	Continuous To Use	0.623	0.066	0.478	9.496	0.000	Accepted	1.000	1.000
Model fit: ANOVA: F=90.182, Sig-0.000, R square=0.228, Adjustment R square=0.225, Durbin-Watson=2.034 A: Standardized coefficient, B: Tolerance Limit										

- Empathy requires emotional investment, which may not necessarily translate into frequent or sustained SNS ngagement.
- SNS interactions often occur in short, surface-level exchanges; therefore, sympathy—requiring minimal motional depth—aligns more closely with typical usage patterns.
- Users may perceive value in collective support or shared acknowledgment rather than in deeper emotional onding, reflecting the normative communication style common to SNS platforms.

These findings suggest that SNS platforms may be more effective when they facilitate sympathetic engagements such as reaction features or streamlined supportive comments—rather than attempting to promote deeper emotional connections.

Regarding the sacrifice-related constructs, the hypotheses proposing that Privacy Risk, Misinformation, Cyberbullying, and Safety would negatively affect perceived value were not supported. This indicates that users, overall, derive greater perceived value from the positive features of SNS than they are deterred by the negative aspects. In other words, although adverse experiences can occur, such factors do not significantly

diminish users' overall evaluation of SNS, allowing them to maintain continued use. As a result, all negative hypotheses (H5, H6, H7, and H8) were found to lack significant negative effects on perceived value.

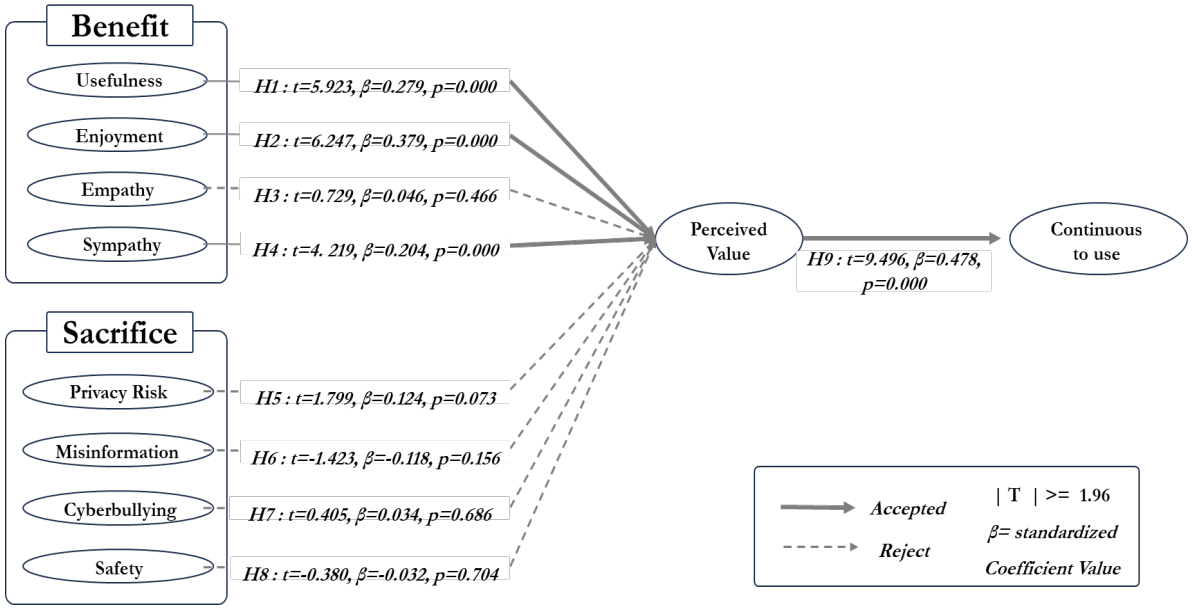

Figure 2. Causality Analysis Results for Overall SNS Service

Finally, Hypothesis 9 (H9), which posits that perceived value positively influences continuous usage intention, was statistically supported. Given these results, it is necessary to examine whether the same patterns hold for users of Instagram and Facebook, where substantial migration between the platforms has been observed.

4.4.2. Causality analysis for instagram

The results of the causality analysis for Instagram, presented in Table 9, reveal the following. Hypothesis 3 (H3) was not supported, whereas H1, H2, and H4 showed significant positive effects on perceived value, consistent with the findings of the overall causality analysis. Notably, among the sacrifice constructs, Privacy Risk and Misinformation demonstrated significant negative effects on perceived value.The operational definitions for these constructs are outlined below. In the context of SNS, *Privacy Risk* refers to the potential for users' personal information to be leaked, misused, or accessed without consent. Such risks include exposure to spam or phishing attacks when profile information is publicly visible, unauthorized collection or sale of user data by platforms, identity theft resulting from account hacking, and safety threats arising from the disclosure of location data. Users' uploaded photos or videos may also be reused without permission, and reputational harm can occur through doxxing or the spread of false information. Enhancing privacy settings and limiting the disclosure of sensitive information are essential strategies to mitigate these risks. *Misinformation* refers to the dissemination of inaccurate or distorted information that adversely affects users' judgments and behaviors. Exposure to fabricated news or manipulated content can lead individuals to accept false health information and potentially engage in harmful behaviors. Similarly, politically biased or misleading information may intensify social polarization and distort public opinion. False reviews or deceptive product claims can also mislead consumers, resulting in misguided purchasing decisions. Reducing the impact of misinformation requires the development of information-verification habits and reliance on credible, trustworthy sources.

Table 9. Causality Analysis Results for Instagram

Model			Unstandardized Coefficient		A	t	Sig.	Result	Collinearity statistics	
			B	Std Error	Beta				B	VIF
	Constants		.860	.192		4.489	.000			
H1	Usefulness	Perceived Value	.235	.055	.242	4.258	.000	Accepted	.638	1.567
H2	Enjoyment	Perceived Value	.317	.063	.359	5.007	.000	Accepted	.400	2.498
H3	Empathy	Perceived Value	.070	.058	.088	1.204	.230	Reject	.382	2.615
H4	Sympathy	Perceived Value	.158	.044	.199	3.561	.000	Accepted	.661	1.514
Model fit: ANOVA: F=64.082, Sig-0.000, R square=0.528, Adjustment R square=0.520, Durbin-Watson=2.089										
	Constants		3.659	.134		27.234	.000			
H5	Privacy Risk	Perceived Value	.156	.058	.215	2.700	.007	Accepted	.658	1.520
H6	Misinformation	Perceived Value	-.156	.065	-.228	-2.405	.017	Accepted	.466	2.144
H7	Cyberbullying	Perceived Value	.051	.076	.069	.676	.499	Reject	.399	2.509
H8	Safety	Perceived Value	-.046	.080	-.056	-.579	.563	Reject	.449	2.227
Model fit: ANOVA: F=2.459, Sig-0.046, R square=0.041, Adjustment R square=0.024, Durbin-Watson=2.031										
	Constants		.749	.295		2.539	.012			
H9	Perceived Value	Continuous To Use	.624	.077	.468	8.076	.000	Accepted	1.000	1.000
Model fit: ANOVA: F=65.214, Sig-0.000, R square=0.219, Adjustment R square=0.216, Durbin-Watson=2.010										

A: Standardized coefficient, B: Tolerance Limit

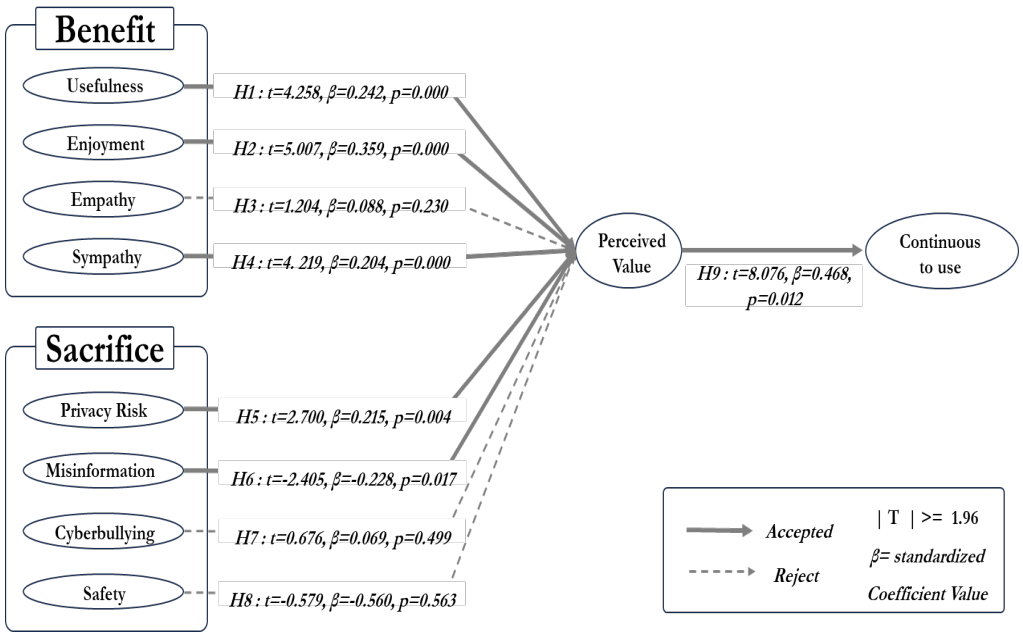

Figure 3. Causality Analysis Results for Instagram SNS Service

4.4.3 Causality Analysis for Facebook

Table 10 presents the results of the causality analysis conducted exclusively for Facebook users. The analysis shows that usefulness, empathy, and sympathy did not exert significant positive effects on perceived value. Only enjoyment demonstrated a positive contribution. Enjoyment in SNS environments can arise from several sources. Users may experience a sense of social connectedness through interactions with friends and family; they can easily access entertaining content such as videos and images; they may derive satisfaction from self-expression and sharing creative posts; and they can satisfy intellectual curiosity by consuming new information and staying updated on emerging trends. With regard to the sacrifice-related constructs, misinformation and cyberbullying were found to negatively influence perceived value. *Misinformation* refers to concerns about distorted or inaccurate information that may lead to erroneous decisions while using SNS. *Cyberbullying* refers to concerns about personal harassment or threats that users may face within the platform. Misinformation on Facebook can appear in multiple forms. The circulation of fake news has contributed to political misunderstandings and social conflict; the spread of false health information (e.g., vaccine conspiracy theories) has undermined public health; manipulated images or videos have damaged the reputations of public figures and organizations; misleading advertisements and fabricated reviews have led consumers to make ill-informed purchasing decisions; and algorithmic reinforcement of confirmation bias has repeatedly exposed users to inaccurate information.

Table 10. Causality Analysis Results for Facebook

	Model		Unstandardized Coefficient		A	t	Sig.	Result	Collinearity statistics	
			B	Std Error	Beta				B	VIF
	Constants		.760	.579		1.314	.201			
H1	Usefulness	Perceived Value	.139	.245	.113	.569	.574	Reject	.519	1.927
H2	Enjoyment	Perceived Value	.255	.155	.264	5.151	.000	Accepted	.621	1.312
H3	Empathy	Perceived Value	-.214	.298	-.222	-.718	.480	Reject	.216	4.630
H4	Sympathy	Perceived Value	.228	.214	.269	1.065	.298	Reject	.323	3.100
Model fit: ANOVA: F=6.152, Sig-0.001, R square=0.506, Adjustment R square=0.424, Durbin-Watson=2.120										
	Constants		2.595	.476		5.448	.000			
H5	Privacy Risk	Perceived Value	-.122	.162	-.143	-.754	.458	Reject	.756	1.322
H6	Misinformation	Perceived Value	.212	.132	.218	3.421	.000	Accepted	.611	1.210
H7	Cyberbullying	Perceived Value	.376	.123	.411	5.214	.000	Accepted	.387	1.621
H8	Safety	Perceived Value	.369	.259	.533	1.426	.167	Reject	.196	5.114
Model fit: ANOVA: F=3.152, Sig-0.032, R square=0.344, Adjustment R square=0.235, Durbin-Watson=2.422										
	Constants		1.330	.418		3.182	.004			
H9	Perceived Value	Continuous To Use	.624	.127	.686	4.895	.000	Accepted	1.000	1.000
Model fit: ANOVA: F=23.959, Sig-0.000, R square=0.470, Adjustment R square=0.451, Durbin-Watson=1.885										

A: Standardized coefficient, B: Tolerance Limit

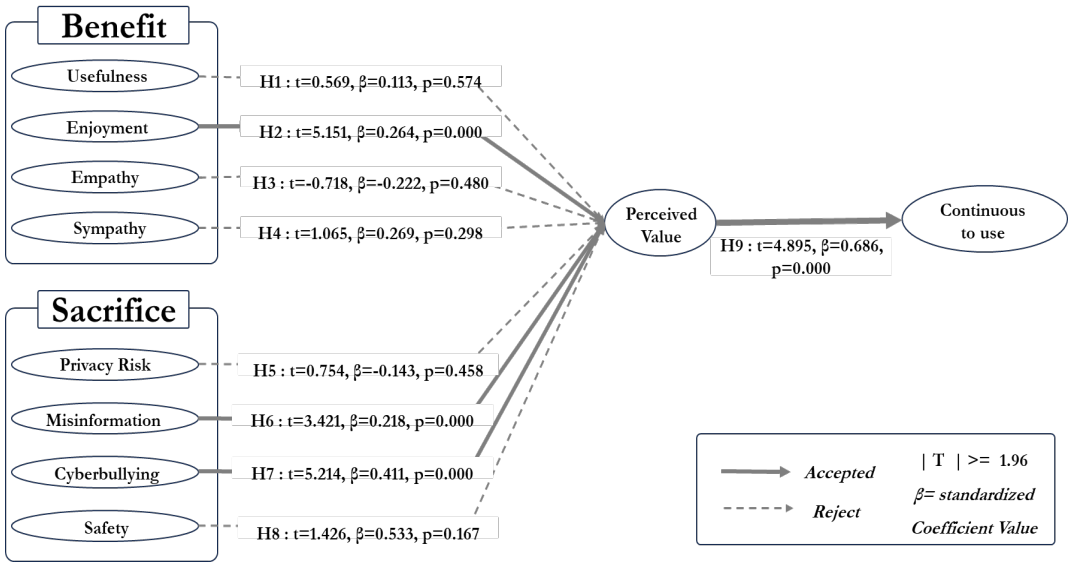

Figure 4. Causality Analysis Results for Facebook SNS Service

Cyberbullying on Facebook also manifests in diverse ways. Users may be subjected to harassment through malicious comments or private messages; among students, defamatory posts or rumors may be used to socially isolate targeted individuals; the unauthorized distribution of personal photos or videos has caused emotional distress; the spread of hate speech or discriminatory content directed at specific groups (e.g., race, gender, sexual orientation) has generated social controversy; and impersonation or threatening behavior through fake accounts has resulted in significant psychological strain for victims.

5. Discussion and future research

5.1. Discussion

Based on the findings of this study, several important issues emerge. First, regardless of users' initial motivations, social networking services (SNS) have become an integral part of everyday life, much like mobile phones. Through SNS, individuals can explore unfamiliar places, exchange personal thoughts, and participate in communities formed around shared interests. SNS platforms also function as channels for practical knowledge sharing and marketing activities across various industries. Despite these benefits, however, SNS continue to generate challenges—such as exaggerated claims, misinformation, and distorted portrayals of reality—that are frequently highlighted in media reports. Yet such reports typically identify problems without offering clear direction for platform-level improvements.

To address this gap, the present study applied the Value-Based Acceptance Model (VAM) to simultaneously evaluate the positive and negative attributes of SNS and identify the determinants of perceived value. In light of the substantial migration of users from Facebook to Instagram observed in 2025, it was also necessary to examine how perceived value influences continuous usage intention. The results show that usefulness, enjoyment, and sympathy significantly enhance perceived value and, in turn, promote continuous usage. Conversely, privacy risk, misinformation, cyberbullying, and safety did not significantly reduce perceived value, suggesting that some negative aspects commonly emphasized in media discourse may not fully reflect users' actual evaluations.

A comparative analysis of Instagram and Facebook—the two most widely used platforms across time—provides deeper insight into these dynamics. Although the purpose of this study was not to compare platform

competitiveness, identifying areas for improvement remains essential. For Instagram, usefulness, enjoyment, and sympathy positively influenced perceived value, while empathy did not. This indicates that although users frequently express sympathy through brief messages conveying sadness, concern, or encouragement, they rarely engage in deeper emotional exchanges characteristic of empathy. In SNS environments, empathy requires emotional resonance from the user's perspective, whereas sympathy reflects more surface-level expressions of concern—an interaction style more closely aligned with typical SNS communication patterns.

On Instagram, privacy risk and misinformation exerted negative effects on perceived value. Real-world examples include exposure of real-time location information through story tags, unrestricted access to personal content on public accounts, rapid dissemination of manipulated or false information, unregulated promotion of health-related products by influencers, and confusion caused by AI-generated deepfake videos.

For Facebook, enjoyment was the only positive construct that significantly influenced perceived value; usefulness, empathy, and sympathy did not. Enjoyment on Facebook may stem from interacting with friends through comments and posts, consuming humorous or emotional content, participating in hobby communities, engaging in live broadcasts, or revisiting memories through the "On This Day" feature. In contrast, misinformation and cyberbullying significantly reduced perceived value. These issues arise in various forms, including malicious comments, impersonation through fake accounts, repeated threatening messages, exclusionary content within private groups, and unauthorized dissemination of personal photos or videos.

Importantly, when compared with recent Western scholarship, several meaningful implications emerge. Karakose et al. (2022) demonstrated that global digital addiction research has increasingly emphasized psychological and experiential dimensions of social media use—an observation consistent with this study's finding that enjoyment and sympathy play central roles in shaping perceived value. Similarly, Tülübaş et al. (2023) highlighted that emotional engagement within digital environments often operates at a superficial level rather than through deeper emotional processing, which aligns with the present result that empathy did not significantly influence perceived value. Both studies also noted that negative digital experiences do not uniformly reduce engagement, echoing the present finding that sacrifice-related factors did not significantly diminish perceived value overall. These parallels suggest that SNS usage patterns may be driven more by experiential satisfaction and social reinforcement than by concerns about potential harm.

Overall, the findings of this study highlight the importance of understanding both the positive and negative factors that shape perceived value and continuous usage intention. By identifying specific mechanisms through which value is enhanced or diminished on each platform, SNS providers can more effectively respond to user needs and develop strategies to mitigate user migration. This contributes not only to theoretical advancement but also to practical guidance for improving user experience and sustaining long-term engagement.

5.2. Future research

Several avenues for future research emerged during the course of this study. First, a comparative analysis of perceived value across different SNS platforms is warranted. Although this study focused on Instagram and Facebook, future work should examine whether similar patterns appear on other major platforms such as TikTok, X (formerly Twitter), and LinkedIn. In particular, platform-specific features—such as TikTok's short-form videos or X's text-centered interactions—may differently shape perceived value and continuous usage intentions.

Second, a more nuanced investigation into the effects of misinformation on perceived value is needed. While this study identified misinformation as a negative influence, further research should determine which

categories—political, health-related, financial, or celebrity-related misinformation—have the strongest impact. Examining how misinformation affects user trust and platform churn would also be valuable.

Third, the differential roles of empathy and sympathy in SNS environments deserve deeper analysis. This study found that sympathy positively influenced perceived value whereas empathy did not. Qualitative methods such as comment analysis, user interviews, or AI-driven sentiment analysis could offer insights into how these emotional expressions shape user experience and engagement.

Fourth, generational differences in perceived value merit further exploration. With many users migrating from Facebook to Instagram, it is important to analyze how different age groups—such as Generation Z, Millennials, and Generation X—evaluate SNS features. For example, Generation Z may prioritize enjoyment, whereas Millennials may value usefulness. Combining quantitative surveys with qualitative interviews may help illuminate these distinctions.

Fifth, more research is needed on perceptions of privacy risk and cyberbullying. Although these factors did not significantly reduce perceived value in this study, future inquiries should investigate whether users lack awareness of these risks or intentionally overlook them. Understanding their implications for psychological well-being and trust would offer important insights.

Sixth, studies focusing on policy and design improvements for SNS platforms are recommended. Research should evaluate the effectiveness of AI-based content filtering, fact-checking systems, and user-friendly reporting tools in combating misinformation, enhancing privacy protection, and mitigating cyberbullying.

Finally, as new SNS platforms continue to emerge, it is essential to examine how determinants of continuous usage intention evolve over time. Identifying how perceived value changes as user preferences shift will provide important implications for the long-term sustainability of SNS platforms.

Collectively, these future research directions can deepen understanding of how SNS platforms may enhance user experience, trust, and engagement. By addressing platform-specific differences in perceived value, mitigating risks associated with misinformation and cyberbullying, and tailoring features to generational and psychological differences, SNS providers can develop more ethical, user-friendly, and sustainable digital environments.

6. Conclusions

This study examined the positive and negative antecedents influencing the perceived value of SNS platforms and investigated how these factors affect users' continuance intention. Overall, the findings suggest that users perceive more benefits than drawbacks when engaging with SNS. Nevertheless, despite the widespread use of Instagram and Facebook, several negative factors—particularly privacy risk, misinformation, and cyberbullying—were identified as areas requiring improvement. Among these, misinformation emerged as the most critical concern, as it not only diminishes users' quality of life but, in extreme cases, may lead to severe or even fatal consequences. Based on the results, several recommendations are proposed.

First, to address privacy risks, SNS platforms should provide transparent and user-friendly privacy settings that allow users to control access to their content, tags, and personal information. AI-driven security monitoring systems could be implemented to detect suspicious activity and notify users in real time. Strengthening end-to-end encryption would further protect communications and reduce the likelihood of data

breaches. Additionally, user education initiatives should be promoted to improve awareness and help users manage privacy settings more effectively.

Second, mitigating misinformation requires a comprehensive approach. Platforms should adopt AI-based fact-checking tools capable of identifying misleading content before it spreads widely. Collaboration with independent fact-checking organizations can reinforce verification processes, while content labeling and warning systems can alert users to questionable information. Algorithmic adjustments may also help limit exposure to sensational or inaccurate content, fostering a more trustworthy informational environment.

Third, to reduce cyberbullying, SNS platforms should employ advanced content-monitoring algorithms that detect offensive language, hate speech, and violent messages. Improving the usability of reporting and blocking tools can facilitate faster responses to harmful behaviors. Anonymous reporting mechanisms may encourage victims or witnesses to report incidents without fear of retaliation. Furthermore, platform-led digital well-being initiatives—such as anti-cyberbullying campaigns and mental health support programs—can help cultivate safer online communities.

Despite these potential improvements, several limitations must be acknowledged. A primary challenge concerns balancing enhanced privacy protection with user engagement. While stronger privacy features may reduce risks, they may also decrease user activity, potentially conflicting with SNS platforms' data-driven business models. Additionally, detecting and filtering misinformation remains technologically difficult. AI systems often struggle to distinguish between satire and harmful misinformation, and false content frequently spreads faster than fact-checking efforts can counteract it.

Similar challenges arise in content moderation. Excessive regulation risks accusations of censorship, whereas insufficient moderation enables the proliferation of false or harmful material, damaging user trust. Cyberbullying detection is also complicated by continuously evolving harassment techniques that can circumvent existing algorithms. Maintaining effective monitoring systems requires frequent updates and considerable technical resources.

Another limitation relates to user behavior. Even when robust security and reporting tools are available, many users fail to activate privacy settings or report cyberbullying incidents, significantly reducing the effectiveness of platform protections. This lack of user engagement contributes to the persistence of harmful behaviors.

Finally, large-scale operational constraints present ongoing difficulties. Fact-checking and content moderation require extensive financial and human resources, and reviewing the massive volume of global content in real time is practically impossible. These factors limit the feasibility of fully comprehensive monitoring systems.

Collectively, these limitations illustrate the complexity of improving SNS environments. While technological innovation can help mitigate privacy risks, misinformation, and cyberbullying, long-term solutions will require continuous research, policy-level interventions, and sustained efforts to enhance user awareness and digital literacy.

Author contributions

Seong Jeong, Yoon: Responsible for research model design, questionnaire design, factor analysis, correlation analysis, and causal relationship analysis. Chapters 1 and 2 were guided by the first author, Also, the first author, by investigating previous research on SNS and providing direction. Chapters 3 and 4 were analyzed and written, while Chapters 5 and 6 were written through discussion. Responsible for discussions

on the research background, reviewing previous studies, participating in questionnaire composition, and conducting the survey. Reconfirmed the analysis results. Chapters 3 and 4 were discussed and written based on the analysis results, deriving implications. Chapters 5 and 6 were written through discussion.

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Conflict of interest

The authors declare no conflict of interest

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