DEVELOPING A VALUE ASSESSMENT FRAMEWORK OF HABITUAL SOCIAL MEDIA USE: A GROUNDED THEORY APPROACH

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ABSTRACT

Most information systems (IS) usage studies have investigated value assessment and behavior of social media use from a rational choice perspective. The changing paradigmatic landscape, however, suggests that the non-rational use of social media has ramifications beyond the current knowledge domain. Implementing a grounded theory approach, this study theorizes and juxtaposes the effect of both rational and non-rational factors on value assessment and behavior of habitual social media use. Identifying attributes, situations, and processes of habitual social media use, the study suggests that, when people develop usage habit with social media, they weigh the importance of social media attributes both rationally and non-rationally. The study develops a theoretical framework suggesting that habitual users exhibit both rational and non-rational tendencies in value assessment and behavioral choices of social media use. By taking both rational and non-rational cognition and their dynamics into account, this study extends the literature scope of IS use theory, and provides practical implications for social media organizations and managers to improve service effectiveness, long-term prosperity, and marketing extension.

Keywords: Social media; Grounded theory; Rational; Non-rational; Value assessment.

1. Introduction

Social media (e.g., Facebook, YouTube, Instagram, Twitter, and LinkedIn) is built upon the creation and exchange of user-generated content, and provides a wide variety of services and applications to meet people's social needs for fun, relationship developing, and information sharing [Hu et al. 2015]. Since its inception, social media has been viewed as the most exciting interactive platform on the Internet and has became a vital part of social life [Lai & To

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2015]. It has been estimated that in early 2021 more than half of the world's total population uses social media [Chaffey 2021]. Such wide use has also galvanized organizations to embrace social media and re-engineer their business models and processes [Clement 2019].

The unprecedented popularity of social media among individuals and organizations has led to a critical and long-asked question [Kapoor et al. 2018; Sundararajan et al. 2013]: How do people assess usage value of social media and make decisions about the use in the long term? Indeed, information systems (IS) researchers have examined IS value assessment and usage behavior for decades, and have established the most mature literature stream pertaining to the technology acceptance and use (e.g., the TAM-oriented research).

In the stream of IS research, IS use has been generally defined as a behavioral process in which individuals consistently use IS functions to perform goal-directed tasks [Burton-Jones & Gallivan 2007]. Specifically, the social media use has been conceptualized as usage behavior patterns in which individuals use social technology to meet personal social needs in various terms [Hu et al. 2015; Venkatesh et al. 2008]. Accordingly, a plethora of studies have identified quite an inventory of variables, constructs, and relationships, specifically speaking of value assessment and behavioral choices of IS use in general [e.g., Kettinger et al. 2009; Kim et al. 2007; and the TAM-oriented studies such as Agarwal & Karahanna 2000, Van der Heijden 2004, and Venkatesh et al. 2003] and social media use in particular [e.g., Hu et al. 2011, 2015; Jin 2013; Oh et al. 2013; Zhang et al. 2015; Zhou et al. 2012].

Generally, human beings assess utility value and make cognitive and behavioral decisions based on a rational evaluation of and/or non-rational response to the situational factors [Scott 2000]. Rational assessment and decisions are achieved substantively on a clear understanding of action and consequences, conscious reasoning of logic, and deliberate analysis of and trade-off between benefits and costs [Heracleous 1994], whereas non-rational or intuitive ones are primarily on human beings' emotion and psychological state (e.g., enjoyment, like, or love) towards, and unconscious cognitive and behavioral responses (e.g., "internal forces" such as inertia, habit, or addiction) to the environment without taking much conscious deliberation into account [Back 1961]. It is worth noting that the division of rational and non-rational cognitions and behaviors can be blurry under many circumstances, where an individual may make rational decisions, but seemingly behaves non-rationally.

Through the rational/non-rational lens, notwithstanding the literature evolution, one key research gap can be identified. As IS scholars [e.g., Ortiz de Guinea & Markus 2009; Venkatesh et al. 2003] have indicated, the extant studies of IS value assessment and behavior have heavily premised upon the rational choice tradition, whereby the exclusive emphasis has been placed on the rational conscious factors. As such, since the rational and non-rational factors co-exist and simultaneously affect value assessment and decision-making of IS use, a holistic comprehensive view deserves to be explored on how individuals assess value and make behavioral choices of IS use through pinning both rational and non-rational phenomena and their dynamics on the map.

Meanwhile, as various social technologies are mushrooming, service types and applications, and business models of social media are still emerging. In the complex emerging contexts, it is rather challenging to capture the abstract of rational and/or non-rational factors to address research questions of interest [Birks et al. 2013; Kane et al. 2014; Kapoor et al. 2018]. While the quantitative field design has dominated the majority of social media studies [Cao et al. 2015; Ngai et al. 2015; Appendix A], as with any research methodology, the quantitative method has been clouded with integral methodological constraints especially in theory development for the emerging phenomena of social media [See social media literature review in Cao et al. 2015 and Ngai et al. 2015]. This unbalanced methodological reliance in IS area denotes a pressing need for complementary qualitative approaches to advance and enrich the research literature [Lai & To 2015].

Therefore, to bridge the research gap identified above, this study turns to a well-designed qualitative approach – the grounded theory – to account for the specific attributes and context of habitual social media use. In so doing, the study attempts to provide a holistic theoretical description of social media use addressing how people rationally and non-rationally assess value and determine usage behavior of habitual social media in the long run. Since the investigated phenomenon is still embolic in nature, this study adds values to the growing body of literature as follows. Firstly, we leverage the grounded theory approach to generate a new-fangled theoretical understanding of the phenomenon. Secondly, due to the specificity and complexity of social media, we collect detail-oriented qualitative data to identify usage attributes and situations of social media from users' narratives. Thirdly, we conduct a content analysis of the interview data to reveal key concepts and underlying structural relationships. And fourthly, building on the findings from the grounded theory, we develop a theoretical framework of value assessment and behavior of social media use encompassing both rational and non-rational factors. When people use social media over time, they develop usage habit with the technology. As such, the focus and theoretical development of this study are specifically on the habitual social media use.

This study makes several contributions to IS theory. Firstly, the study represents our systematic attempt in examining and theorizing both rational and non-rational phenomena into the theory building of IS use. The

conceptualization of key concepts and relationships of the proposed framework shall serve as a foundational model identifying and informing future research in both rational and non-rational contexts of value assessment and usage behavior of social media. Research of this stream can broaden the scope of IS literature by exploring the alternative theoretical perspectives beyond the rational choice tradition. Secondly, this study demonstrates that the grounded theory approach has unique methodological advantages over the dominant quantitative methods in IS area, especially as an approach that provides the set of detail-oriented descriptions of social media use, one of the emerging, abstract, and complex IS contexts.

For business practice, given that social media attract people's limited attention for business effectiveness and advertising revenue, organizations are yearning for richer understandings of users' value assessment and behavior. Effectively retaining active users is essential to the long-term sustainability and marketing extension of social media. The findings and the proposed framework of this study shall provide practical guidelines for social media firms and managers to improve service effectiveness for long-term prosperity and marketing extension.

The rest of the paper unfolds as follows. The coming section provides an extensive literature review of both streams of social media and IS use research on value assessment and usage behavior, which helps identify research gaps and objectives of this study. The next section presents an overview of the grounded theory and its methodological appropriateness for this study. Subsequently, data collection and coding, content analysis, and findings of this study are reported. Integrating key findings with those of both steams of services marketing and IS use literature, the next section develops a theoretical framework of value assessment and usage behavior of social media. The paper concludes with a discussion of contributions and implications, as well as limitations of this study and avenues for future research.

2. Literature Review and Research Objectives

To start, we argue that IS has been widely adopted and used for its creation and utility of value at both individual and organizational levels. Generally, IS value is realized as various utilizable benefits, usefulness, and advantages in a specific context (value-in-context). At the individual level, IS use value can be specified as users' perceived wants, benefits, and satisfaction for the higher-order needs such as usefulness, self-fulfillment, esteem, and "valued states of being such as happiness, convenience, security, and accomplishment" [Gutman 1982, p. 60]. At the organizational level, IS use value is reflected in business behavior and performance that an organization seeks to maximize the lifetime corporate benefits. In the particular context of social media, the usage value may take a great variety ranging among altruistic, materialistic, social, as well as extrinsic and intrinsic [Ranjan & Read 2016; Zwass 2010]. In this section, we provide key findings from our extensive literature reviews of TAM tradition in IS value assessment and behavior, value assessment and usage behavior of social media, and non-rational factors and processing of IS use. Through the reality check of the extant literature, we refine the research gap and justify motivations of the current study. The key findings and illustrative literature are shown in three tables (Tables A-1, A-2, and A-3) of Appendix A.

2.1. TAM Tradition in IS Value Assessment and Behavior

As illustrated in Table A-1 of Appendix A, over the past decades, the technology acceptance model (TAM) has established the most mature literature stream of IS research in explaining and predicting IS use in terms of value assessment and usage behavior. In so doing, the original TAM adapts the belief-behavior framework of social psychology into the IS context, and captures two cognitive variables, perceived usefulness (PU) and perceived ease of use (PEOU), that users rely on to evaluate design quality and make value assessment and choices of IS use [Davis 1989; Davis et al. 1989]. The unified theory of acceptance and use of technology (UTAUT) incorporates two additional variables, social influence and facilitating conditions, into the established nomological network of the TAM to advance the understanding of value assessment and behavior of IS use [Venkatesh et al. 2003].

For so long, IS research has integrated various constructs and relationships into the TAM nomological network, and accordingly the TAM tradition has been largely enhanced. For example, Agarwal and Karahanna [2000] and Van der Heijden [2004] suggest that users' holistic experience with IS – as captured in such emotion constructs as enjoyment and flow – plays an important role in IS use specifically for value assessment and behavior. This holds true especially for the pleasure-oriented (or hedonic) IS use [Van der Heijden 2004]. Along this line of research, Venkatesh et al. [2012] incorporate three additional constructs – hedonic motivation, price value, and habit – to study IS value and behavior in a consumer context. Bhattacherjee [2001] introduces two cognitive beliefs constructs (perceived usefulness and confirmation) and one affect construct (satisfaction) after initial acceptance of IS.

The TAM and its extended variations highlight the cost-benefit paradigm that steers users' cognitions in value assessment and decision-making of IS use [Kim et al. 2007; Ortiz de Guinea & Markus 2009; Venkatesh et al. 2003]. The well-established tradition indicates that users conduct conscious benefit-cost analysis to assess IS value in terms of the cognitive trade-off between efforts required for and benefits gained from the IS use. Even though some TAM studies suggest that the pleasure-oriented IS use may assume greater reliance on the hedonic properties, the mainstream

suggests that users place a higher priority in IS usefulness (e.g., performance expectancy) and ease of use (e.g., effort expectancy) in assessing value and making usage choices. This holds consistent especially in the organizational setting where IS use is mandatory, and users primarily employ IS to enhance efficiency and effectiveness of job performance.

2.2. Value Assessment and Usage Behavior of Social Media

Social media is generally viewed as an Internet-based service platform that people use voluntarily in a non-organizational setting for personal social needs. As social media is merely one type of IS applications, as shown in Table A-2 of Appendix A, the majority of pertinent studies have heavily adopted and adapted the TAM tradition to examine usage value and behavior of social media [e.g., Hsu & Lin 2008; Hu et al. 2011; Jin 2013]. More importantly, social media as a whole has demonstrated distinct design and implementation qualities than those of conventional IS applications, which have been configured and used for work purposes in the organizational settings. From the end user's perspective, in social media use, individuals play a dual role as a service customer and a regular user of IT artifacts. Our literature review shows that studies of value assessment and usage behavior of social media have taken into account the dual role, and integrated theories and findings from both streams of services marketing and IS use literature.

Among a variety of service marketing theories, the customer value perspective has been prominent. The perspective has provided a seminal definition of service value, indicating that the overall value assessment of a utility is based on "a perception of what is received and what is given" [Zeithaml 1988, p. 14]. According to the definition, value assessment represents a trade-off through which individuals assess benefits they gain relative to costs they pay for a utility/service. On the one hand, individuals perceive utility benefits as the "get" side of the value, indicating a positive relationship between benefits and value assessment; on the other hand, individuals perceive costs as the "give" side of the value – a negative relationship between the costs and value assessment. Also as shown Table A-2 of Appendix A, the customer value perspective has inspired IS studies [e.g., Dai et al. 2014; Kim et al. 2007] in value assessment and behavior of social media use [e.g., Hu et al. 2015].

It is worth noting that the customer value perspective builds upon the cost-benefit paradigm that, as does the TAM tradition, steers individuals to make a cognitive trade-off between utility benefits against costs to maximize usage value. Thus, it is reasonable to hold that the stream of studies has followed the line of reasoning and nomological network of the TAM tradition to examine the effect of user beliefs, perceptions, feelings, and cognitions on attitudes, intentions, and the actual behaviors of social media use [Kapoor et al. 2018; Toubiana & Zietsma 2017; Vermeulen et al. 2018]. While the service marketing literature has explicitly indicated that the service value consists of hedonic and utilitarian properties [Mathwick et al. 2001], IS research generally relies on the widely validated TAM constructs and relationships to formulate research questions, constructs, and relationships [Venkatesh et al. 2003].

2.3. Non-Rational Factors and Processing of IS Use

In reality, the rational and non-rational factors and processing are closely interrelated, and the division of rational and non-rational cognitions and behaviors can be blurry under some circumstances. As the preceding literature review shows, even among the rational value assessment and behavioral responses of IS usage, the impact and consequences of non-rational factors and processing on IS use can be captured such as those on human beings' emotion and psychological state (e.g., enjoyment, like, or love) towards IS use. For example, Van der Heijden [2004] highlights the important role of the non-rational emotional construct – enjoyment – in shaping individuals' value assessment and usage intention/behavior of the pleasure-oriented IS.

Additionally, as illustrated in Table A-3 of Appendix A, IS research has just begun explicit investigations into the impact and consequences of non-relational factors and internal forces and processing such as unconscious cognitive and behavioral responses on value assessment and usage behavior of IS use. For example, Limayem et al. [2007], Hu et al. [2018], and several others extend and enhance the TAM tradition to examine the direct and indirect effect of habit on IS value and behavior. Polites and Karahanna [2012] look at the role of human beings' "internal forces" such as habit and inertia in technology acceptance. In addition, Turel et al. [2011] examine the impact of addiction in technology use processes in the context of online auctions.

2.4. A Reality Check of Literature

While our literature reviews reveal that the above-reviewed studies are fruitful in expanding our understanding of IS use in specific terms of value assessment and usage behavior, one research gap can be identified and should be bridged through meaningful studies. That is, both TAM-oriented and extant social media studies have been dominantly premised upon the rational choice tradition. These studies largely build upon the cost-benefit paradigm and the value maximization perspective whereby users are commonly conceptualized as a rational actor evaluating utility benefits relative to costs to make value assessment and usage decisions. This notion of research suggests that IS usage decisions are made in a reason-based manner through carefully assessing and weighing associated beliefs, cognitions, and attitudes. As such, IS value assessment and usage are mainly pictured as a set of "quite rational" behaviors based on

extrinsic rational reasoning, rather than with non-rational factors and processing such as emotions, feelings, intuitions, habit, and inertia. Typically, this has established a rational calculus process of IS value assessment and usage behavior.

Notwithstanding the rational underpinning vis-à-vis the process, for ages, rational and non-rational factors and processing have been viewed as antagonistic and simultaneous to each other [Back 1961; Heracleous 1994]. The two modes of mental judging and decision-making may tap into IS value assessment and usage behavior dynamically and interdependently [Ortiz de Guinea & Markus 2009; Venkatesh et al. 2003]. In this study, we conjecture that the salient and inseparable efficacy of the rational and non-rational factors as a whole are missing from the TAM-oriented studies. While human action "is fundamentally 'rational' in character and [people] calculate the likely costs and benefits of any action before deciding what to do" [Scott 2000, p. 126], human decision-making involves at the meanwhile non-rational unconscious factors such as habit, symbols, intuition, inertia, and emotion [Ortiz de Guinea & Markus 2009]. For example, while IS research commonly reveals IS usage habit as an unconscious non-rational behavioral response to situational cues, its development and formation are a deliberate evaluative process involving conscious rational factors and relationships at the early adoption of the technology. This finding is rather consistent with the perspective of social psychology [e.g., Verplanken & Orbell 2003; Wood et al. 2002], and the literature of IS habit [e.g., Hu et al. 2018; Limayem et al. 2007; Polites & Karahanna 2012].

Furthermore, human beings encounter decisions and behaviors that even largely violate the assumed pattern of rationality [Herrmann et al. 2015]. In IS value assessment and usage behavior, for example, out of certain seemingly non-rational considerations, users resist a better alternative because of inertia – a persistence of an inefficient behavioral pattern [Polites & Karahanna 2012; Wang et al. 2019]. Another phenomenon has been found interesting in online auctions, where IT artifacts are perceived against general rationality, and usage decisions are made abnormally [Turel et al. 2011]. Not only do these non-rational factors function and further frame users' value assessment and usage behavior independently, but they also interplay with the rational factors. Dynamics exist between the two sets of factors in relation to IS value assessment and usage behavior [Ortiz de Guinea & Markus 2009].

We thus argue that, in those cases, the rational choice perspective may not be the omnipotent foundation for IS research, and IS usage process should be viewed holistically as the value-oriented rational behavior alongside the non-rational unconscious actions. Thus far, the non-rational factors and conceptualizations have yet to be systematically integrated into the models of IS value assessment and usage behavior [Hibbeln et al. 2017; Stieglitz & Dang-Xuan 2015]. Theoretical perspectives of the dynamics should be developed of pinning both rational and non-rational factors into the map [Ortiz de Guinea & Markus 2009; Stein et al. 2015; Toubiana & Zietsma 2017]. Primarily for this reason, Ortiz de Guinea and Markus [2009] have called for research that shall capture the integrative patterns.

Along the research avenue, the qualitative methods have unique methodological advantages. While the majority of the aforementioned studies have been performed in various organizational settings, the context-specific attributes, and complexities of social media use may not be fully captured [Kane et al. 2014]. In this regard, Ellison and Boyd [2013] and Kane et al. [2014] point out that the novel capabilities of social media introduce complex dynamics that the quantitative methods are limited in providing a deeper understanding. Studies aiming at theory development are needed to describe the situation and processes of how people assess value and make behavioral choices of social media use. This predicament methodologically represents a pressing need for qualitative approaches to advancing the body of IS literature.

To summarize, our literature review identifies one research gap and motivations for this study. Built on a systematic qualitative exploration (i.e., the grounded theory procedure), this study aims to accomplish the following: (1) provide a detailed description of the context, situation, and process of social media use, and (2) substantiate a theoretical perspective to explain how individuals rationally and non-rationally assess value and determine the behavior of habitual social media use in the long run.

3. The Grounded Theory

Since inception, IS research has been largely dominated by the quantitative design and methods [Orlikowski & Baroudi 1991]. This observation is rather consistent with the flipside concerns about the "disproportionately low number of qualitative articles in top journals" [Sarker et al. 2013, p. iii]. This holds true particularly for social media research [Cao et al. 2015]. Instead, the qualitative design and methods are rather promising for investigating social dynamics and building theoretical perspectives for new emerging phenomena such as social media [Conboy et al., 2012; Sarker et al. 2013; Sarker et al. 2018]. It is thus necessary to systematically employ the qualitative methods – such as the grounded theory approach in this study – to explore the context-specific details and complexities of habitual social media use to develop the theoretical perspectives of interest [Birks et al. 2013].

The grounded theory traces its origins back to the work of Glaser and Strauss [1967], in which the grounded theory approach is defined as "an initial, systematic discovery of the theory from the data" (p. 3), making a highly inductive approach to theory building [Gleasure & Feller 2018]. Grounded theory has been well-accepted in IS

research for theory building, model developing, and rich descriptions for new emerging research phenomena [Sarker et al. 2013; Sarker et al. 2018; Shiau & George 2014; Urquhart & Fernández 2013; Vaast & Walsham 2013; Wiesche et al. 2017].

The grounded theory approach is appropriate for research when there is no existing theory or if a phenomenon is not clearly understood, because the approach seeks to better understand human behavior and experience [Bogdan & Biklen 2003]. Since the grounded theory approach is less subject to the risk of transferring incorrect theoretical assumptions to emerging phenomena [Fernandez & Lehmann 2005], it is specifically appropriate for IS research when the focus of the study is on emerging socio-technical IS phenomena.

This study follows the grounded theory procedure to identify the context-specific attributes and complexities of social media use, and develops a theoretical framework of how people rationally and non-rationally assess value and make usage decisions about social media. We believe the grounded theory approach is appropriate for this study. Firstly, the grounded theory is "an inductive, theory discovery methodology that allows developing a theoretical account of the general features of a topic while simultaneously grounding the account in empirical observations or data" [Martin & Turner 1986, p. 141]. The theory-generative procedure is particularly relevant to this study in exploring and theorizing the context-specific situation and process of social media use. As aforementioned, the social media phenomena are highly novel and emerging, and the existing theories are in a lack of properly addressing rational and non-rational factors and their dynamics in relation to social media use. To fulfill the research objectives, we ground this study in empirical observations and interviews of how social media users evaluate their usage experience, feelings, and behaviors.

Secondly, the grounded theory enables "the generation of theories of process, sequence, and change pertaining to social interaction" [Glaser & Strauss 1967, p. 114]. Social media use involves various social interactions of individuals, IT artifacts, and usage environments. In the course, while gaining considerable usage benefits, individuals invest a significant amount of time and take certain informational risks in social media use. These activities and behaviors, as well as the dynamic process, tend to be rich-detailed and context-specific. For this study, the grounded theory supports the value of a qualitative approach in describing and conceptualizing the perceptional and behavioral factors and processes under the socio-technical condition, where social media users' beliefs, feelings, perceptions, and behaviors interact to frame their temporal value assessment and behavioral choices.

Thirdly, as social media are used primarily for personal social purposes in a non-organizational setting, the contextual particularities constitute a challenging setting for IS studies [Kane et al. 2014]. In this regard, this study relies on the grounded theory to develop theoretical insights about the general characteristics of the emerging social media setting in the account of qualitative observations [Martin & Turner 1986]. The interpretive nature of the grounded theory helps in identifying and elaborating on the context-specific categories and relationships of social media use with rich narrative details [Ellison & Boyd 2013; Rosen 2007].

In summary, the characteristics and methodological uniqueness of the grounded theory – inductive, contextual, and qualitative data-driven – fit well with the exploratory and interpretive nature of this study. To achieve the research objectives, this study follows the grounded theory procedure to collect qualitative interview data, and conduct data coding and content analysis for theory building.

4. Research Design

4.1. Data Collection

While user demographics of social media largely vary across cultures, nations, and geographical locations, young college students have long been considered to be the most active user group of social media [Pew Research Center 2019]. Following the sampling procedure of the grounded theory, we gathered the qualitative data through semi-structured interviews of 104 randomly selected undergraduate and graduate students enrolled in three public universities in North America. All of the interviewees have used social media for at least three years and formed usage habit with the technology. Each interview lasts approximately 55 minutes; interviews were tape-recorded and transcribed. We attached the semi-structured interview script in Appendix B.

Acknowledging the wide variety of service types and applications of social media, we adopted the academic definition of social media by Hu et al. [2015] to ensure interviewees to accurately understand the researched phenomenon: Social media is built upon the creation and exchange of user-generated contents, and provides a wide variety of services and applications to meet people's social needs for fun, relationship developing, and information sharing. During each interview, we used plain language to explain the definition to interviewees. To encourage interviewees to focus on providing their opinions and thoughts on social media use in general, as our interview script (Appendix B) shows, we asked interviewees to picture social media as a whole, and think about social media applications they have used most. We took YouTube as a usage case to exemplify: On the one hand, YouTube is a specific application of social media that people use to share and watch video clips online. On the other hand, YouTube

is among one of the general social media applications that people use to share user-generated content, exchange information, develop social relationships, and have fun over the Internet. In IS literature, the similar phrasing of interview questions and data collection procedures have been used to strengthen the sampling reliability and validity [e.g., Hu et al. 2011, 2015].

In line with sampling recommendations of Glaser [1978] and Birks et al. [2013], three rounds of interviews have been undertaken to capture new categories and relationships and to establish necessary clarifications and verifications. The interview questions were developed on the basis of an extensive literature review of extant social media studies.

While the sample size is fundamental to quantitative studies, this may not be as important in qualitative studies [Marshall et al. 2013]. The literature review of Marshall et al. [2013] shows that there is no best practice of justifying the sample size in IS qualitative studies. Additionally, our literature review shows that quite a few of the grounded theory studies [e.g., Hekkala & Urquhart 2013; Shiau & George 2014; Vaast & Walsham 2013] have used a similar sample size of interview data as ours to examine the complex IS phenomena.

Demographics including age, gender, ethnicity, work status, education, and social media websites used are collected. As shown in Table 1, the sample is nearly evenly divided by gender; the mean age of the interviewees is 26. While relatively youthful in the mix, 36.4% are above 25, and 34.4% work fulltime. The major social media websites that have been used include Facebook (45.3%) and YouTube (20.3%), with others such as Twitter, Reddit, Tumblr, LinkedIn, and Instagram. The sample demographics are relatively similar to that of the predominant social media website, Facebook. We have tested the sample differences upon the comparison of the demographics of the interviewees in the three universities. The results indicate no significant difference.

Table 1: Demographics of the Interviewees (N = 104)

Category	Value	Frequency	Percentage
Gender	Female	49	46.9%
	Male	55	53.1%
Ethnicity	White	76	73.4%
	African-American	18	17.2%
	Asian	8	7.8%
	Hispanic	2	1.6%
Work Status	Not Work Full Time	68	65.6%
	Work Full Time	36	34.4%
Education	Undergraduate	85	81.3%
	Graduate	19	18.7%
Social Media Website Used	Facebook	47	45.3%
	YouTube	21	20.3%
	Twitter	10	9.4%
	Reddit	5	4.7%
	Tumblr	3	3.1%
	LinkedIn	3	3.1%
	Instagram	2	1.6%
	Other	13	12.5%

4.2. Staging Data Analysis

Data coding and content analysis of interview text have been frequently used in the grounded theory approaches with methodological advantages [Merriam 2009]. Specifically, it is highly effective to exploratory investigations such as this study where quantitative approaches are not applicable, and when the researched subjects' viewpoints are taken into consideration for theory building [Lai & To 2015].

The data coding and content analysis of the grounded theory approach is highly iterative and recursive in an evolving abstraction manner, involving constant comparisons throughout multiple stages of analysis [Birks et al. 2013; Lai & To 2005; Pettigrew 1989]. As shown in Figure 1, following the established procedure of Strauss and Corbin [1998], the four researchers of this study conducted data coding and content analysis in multiple stages. During the staging process, researchers conducted, contrasted, and refined coding and content analysis interactively. According to the recommendations of Shmueli et al. [2017] and Welbers et al. [2017], we also relied on the text mining techniques of the R-Studio to enhance data coding and content analysis.

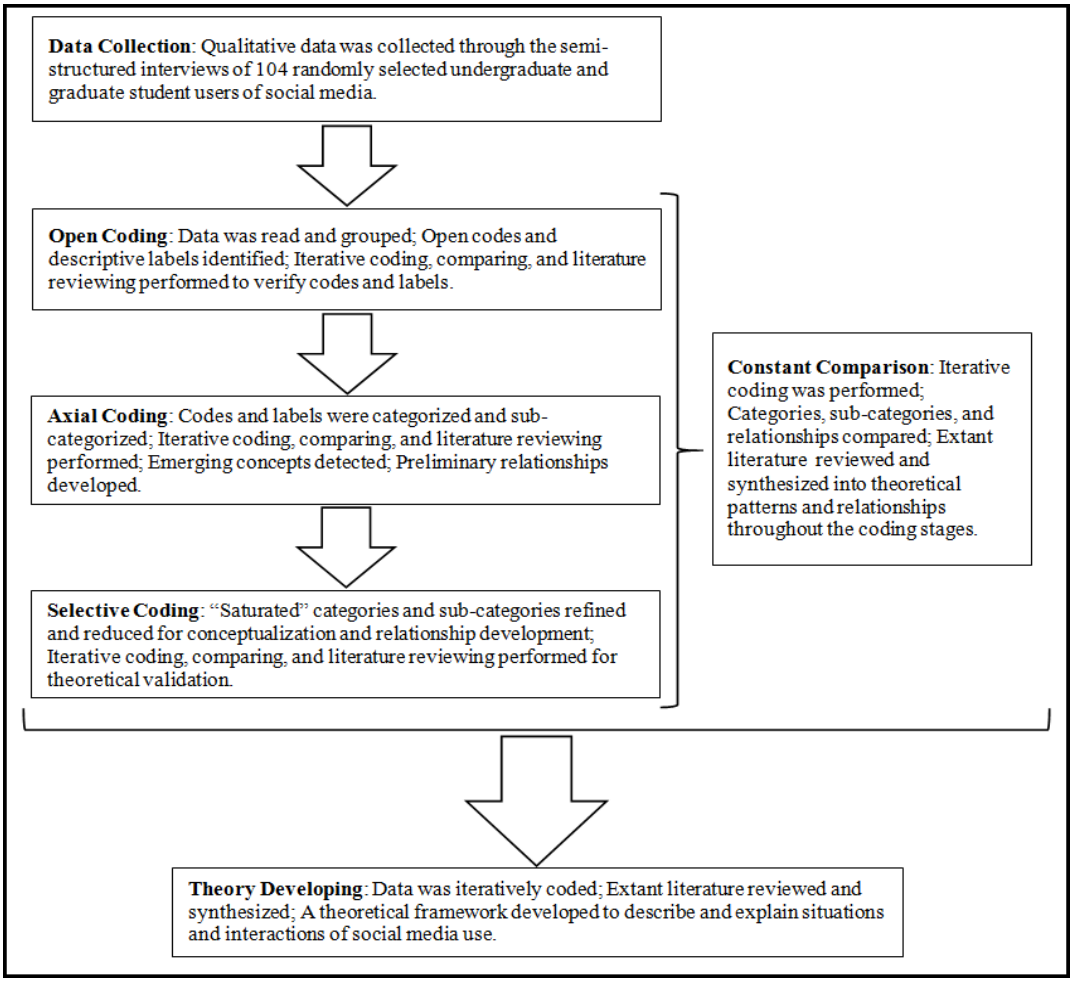

Figure 1: The Procedure of Data Collection, Coding, and Content Analysis

In the process, the analytic memos were written to trace the development of the grounded categories, sub-categories, and relationships [Glaser, 1978]; the extant literature was constantly reviewed and synthesized, and the emerging categories and sub-categories were defined and elaborated on recursively. The identified categories and sub-categories were then interrelated, and further integrated with the extant literature for theory building. In the subsequent sections, combining with the procedural descriptions of the data coding and content analysis of the grounded theory, we present tables and figures to illustrate open codes, reduced categories and subcategories, and relationships in an organized condensed manner.

4.3. The Procedure of Data Coding and Content Analysis

Open Coding. At the beginning of opening coding, the researchers of this study read and grouped the interview text according to interviewees' answers to the semi-structured questions. Our open coding initiated with analytically breaking down the interview text into words, terms, and short phrases, which were then assigned as descriptive labels and open codes. Whenever possible, the descriptive labels and open codes were assigned using words and phrases in the original interview text. As the open coding proceeded, and recurring themes identified, more open codes and descriptive labels were assigned to reflect a set of theoretical memos that evolved continuously during data collection and open coding.

Upon this point, theories and findings of the extant literature were reviewed, and researchers consistently compared and discussed to ensure that the coding and interpretations were reliable [Maxwell 1992; Patton 2014]. When necessary, the iterative coding was performed as part of multiple revisits to the interview text. The open coding ceased when the four researchers reached the consensus that the set of open codes and descriptive labels satisfied the following coding criteria: (1) each textual instance was captured by at least one of the codes or labels, and (2) the initial coding referred to the same phenomenon and was the most appropriate one. Table 2 reports the coding process as well as the open codes and descriptive labels captured in the process.

Table 2: Open Coding and Codes and Labels Captured

Sample Interview Text	Open Coding	Open Code and Descriptive Label
It is fun in social media to see everyone's pictures. *I enjoy the feeling of being connected.* *It is an entertaining experience.* *It is enjoyable to keep up with people.*	➢ Reading ➢ Grouping ➢ Iterative Coding ➢ Comparing	Cool, enjoyable, exciting, excitement, feeling, fun, good experience, hedonic, playful, pleasure
I use social media to look up old friends that I have not talked to or seen in years, to see where they are and what they are doing. *Social media help me stay connected with relatives and friends, and help me stay in contact with former classmates.*		Colleagues, family, friends, people, strangers, community, connect, related, relation, social network
I use social media to search for information about people, events, news, and social activities. *Acquiring information from people is an excellent experience for me to use social media.*		Activities, events, ideas, information, knowledge, exchange, find, lookup, search, share
I do not like the idea of potential employers looking up an applicant's Facebook page to gauge the person. *I am concerned about the potential for sex offenders to prey on young boys and girls.* *I think we have to be vigilant of our personal information.*		Disclose, reveal, steal, watching, look up, risks, informational, myself, personal, privacy, sensitive
I typically spend some time and effort on Facebook. *It has taken a large portion of my time when I could be focusing on more important things.*		Additional, efforts, time, too much, spare, use up, work
The value I receive from social media is high even given personal data input. *The benefit that I receive from using social media is very high when compared to the time and personal data.*		Assess, balance, compare, give up, outweigh, sacrifice, goodness, gains, benefits, loss, useful, value, valuable, wants
Using social media has become an automatic habit for me. *It is a habit of mine to automatically use social media.*		Automatic, habit, habitual, over time, out of habit, unconscious, without thinking
I have been using social media for 2 hours each day. *I would say the extent of my use of social media involves a lot of functions.*		Every day, frequency, hours, intense, lengthen, long, many purposes, often, use

Axial Coding. The opening coding captured 8 theoretically interrelated sets of open codes and descriptive labels. Subsequently, we initiated the axial coding in line with the paradigm established by Strauss and Corbin [1998]. In so doing, we performed axial coding (1) to identify the nature of social media use, (2) to identify causal and contextual conditions of social media use, (3) to identify situational cues that have an impact on social media use, (4) to identify the interactions of involved entities/constructs in social media use, and (5) to identify the antecedents and consequences of the interactions of social media use.

In this process, the open codes and descriptive labels captured were assigned to the further abstracted categories and sub-categories. This triggered more revisits to the interview data, and led to more robust categorizations and sub-categorizations to the previously identified ones. Upon this point, through multiple discussions, comparisons, and literature review, the emerging concepts were detected and preliminary relationships developed at a higher level of abstraction. Figure 2 illustrates the procedure of axial coding and a set of categories, subcategories, and preliminary relationships captured in the process (Note that the whole set of relationships is not showed due to the graphical

constrain in the figure). The sample interview texts in Table 3 were referenced to verify the preliminary relationships. More interview data serving theoretical validation is cited in the subsequent sections.

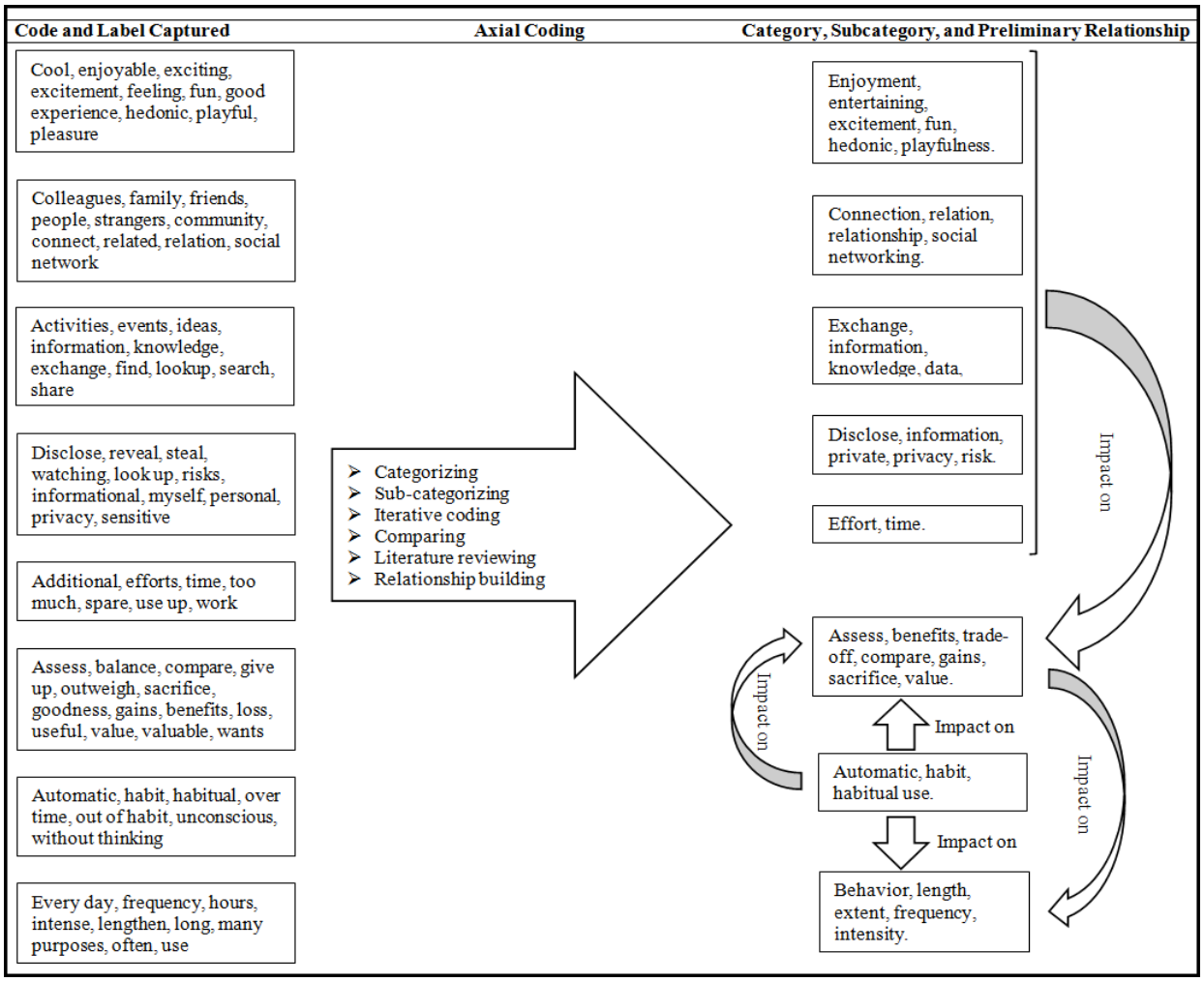

Figure 2: Axial Coding and Procedural Findings

Table 3: Sample Interview Texts for Preliminary Relationship Verification

The entertaining interactions are more valuable than other things.
Informational disclosure is definitely a major downfall.
I think as long as you know what you want to get out of it, benefits could be endless.
I think value has been added through my use.
As long as I feel valuable, I'll continue using social media.
Social media has value for me, I am going to use it even more.
I enjoy all good things with social media. Those good things made me continue using it habitually
I use social media out of habit, and constantly enjoy its benefits and value without thinking.
In the beginning, it gave me a high entertaining value, but the value decreased and became automatic repetitive.
It is just a habit. I really prefer talking to people in person.
It's not important to me when I use it habitually.
As I use it as a matter of habit, as long as I feel safe, it won't bother me.
Usage effort has never crossed my mind since I have begun using habitually.

Selective Coding. This stage initiated the selective coding and coded the "saturated" categories, sub-categories, and preliminary relationships captured in the stage of axial coding. Through iterative coding and constant comparisons and discussions, the categories, sub-categories, and preliminary relationships were reduced and abstracted to a core set of concepts, constructs, and relationships [Birks et al. 2013; Urquhart et al. 2010]. Following the recommendations of Miles and Huberman [1994], the researchers refined and elaborated on the categories, subcategories, and relationships in an increasing inductive and deductive manner.

In both the axial coding process and the selective coding process, theoretical insights and findings that are available in the literature were adopted and synthesized in the coding and content analysis. Whereas in situations there is no literature available, categories, subcategories, and relationships were coded inductively from the original interview data. In either situation, as in the process of axial coding, the original interview texts were referenced as the empirical support and validation for the identification and refinement of categories, subcategories, and the development of causal relationships. Figure 3 illustrates the procedure of selective coding and the set of core categories and subcategories, and refined relationships captured in the process (Note that the whole set of relationships is not shown due to the graphical constrain in the figure). Table 4 presents the conceptualizations of the core categories and sub-categories captured in the selective coding.

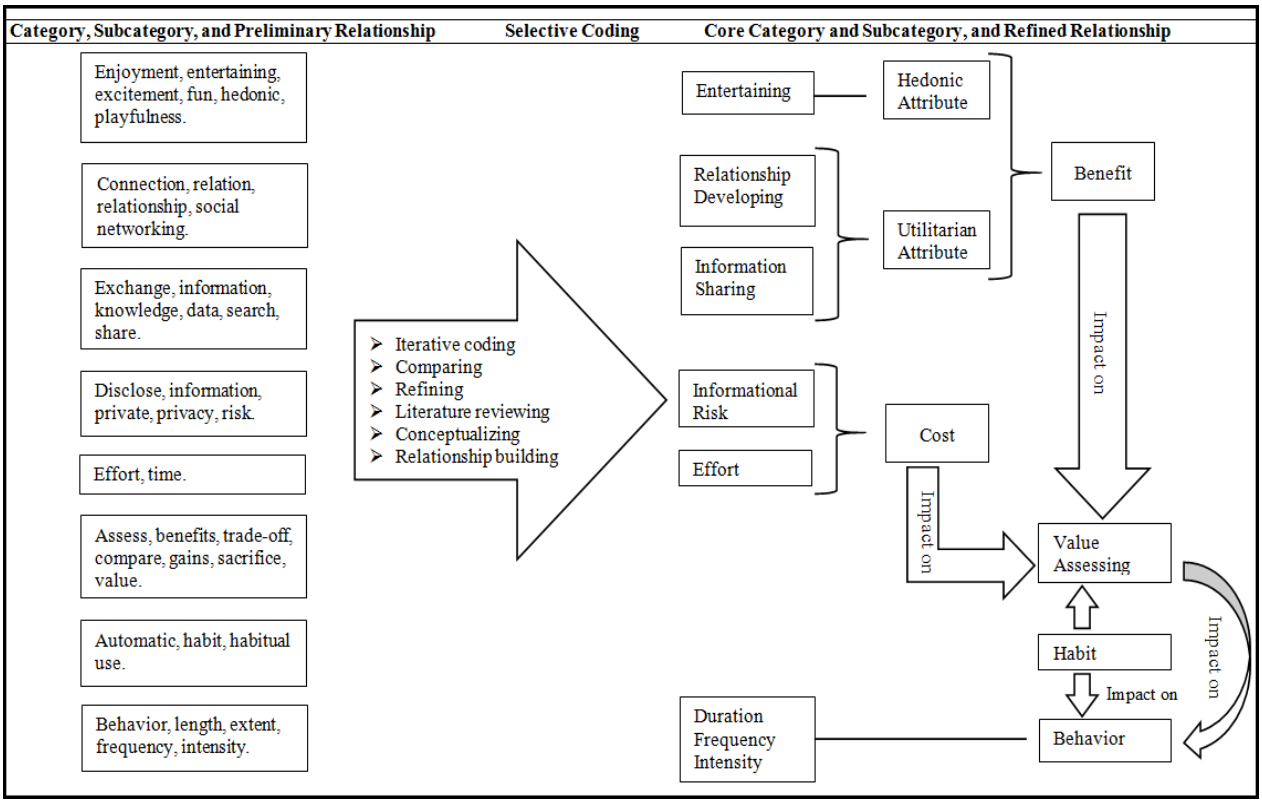

Figure 3: Selective Coding and Procedural Findings

Table 4: Conceptualizations of Core Categories and Sub-Categories in Selective Coding

Core Category and Sub-Category	Literature Source
Entertaining: People use social media to pursue entertaining fun experience in its own right.	Agarwal & Karahanna [2000]; Davis [1989]; Fredrickson [1998]; Herrando et al. [2019]; Holbrook [1994]; Hsu & Lin [2008]; Hsieh & Tseng [2018]; Hu et al. [2011]; Hu et al. [2015]; Jin [2013]; Turel & Serenko [2012]; Van der Heijden [2004]; Venkatesh et al. [2003].
Relationship Developing: People use social media to develop relationships with others.	Bhattacherjee [2001]; Davis [1989]; Herrando et al. [2019]; Hsieh & Tseng [2018]; Hsu & Lin [2008]; Hu et al. [2011]; Hu et al. [2015]; Jin [2013]; Nahapiet & Ghoshal [1998]; Venkatesh et al. [2003].
Information Sharing: People use social media to search and share information with others.	Ellison & Boyd [2013]; Herrando et al. [2019]; Hsieh & Tseng [2018]; Hu et al. [2011]; Hu et al. [2015]; Kane et al. [2014].
Informational Risk: The extent to which people disclose information and take informational risk in social media use.	Ellison & Boyd [2013]; Hu et al. [2011]; Hu et al. [2015]; Kane et al. [2014]; Turel & Serenko [2012].
Effort: The extent to which people invest time and effort for the use of social media.	Davis [1989]; Ellison & Boyd [2013]; Hu et al. [2011]; Hu et al. [2015]; Huang & Shih [2019]; Kane et al. [2014]; Turel & Serenko [2012]; Venkatesh et al. [2003].
Value Assessing: People assess the value of social media use in creating usage benefits at certain costs.	Dai et al. [2014]; Hu et al. [2015]; Kim et al. [2007]; Thaler [1999]; Zeithaml [1988].
Habit: The extent to which people use social media out of habit.	Huang & Shih [2019]; Hu et al. [2018]; Lankton et al. [2010]; Limayem et al. [2007]; Polities & Karhanna [2012]; Venkatesh et al. [2012]; Wu & Kuo [2008].
Behavior: The extent (frequency, duration, and intensity) of social media use.	Barki et al. [2007]; Burton-Jones & Straub [2006]; Doll & Torkzadeh [1998]; Hu et al. [2015]; Venkatesh et al. [2008]; Wirtz et al. [2017].

Theory Developing. In this stage, through iterative data coding, constant comparisons, and integration of insights and findings from the pertinent literature, this study developed a theoretical framework describing and explaining the situations and interactions of habitual social media use through encompassing rational and non-rational contextual attributes and usage behavior captured in the staging content analysis. The detailed procedure, explanations, and elucidations of the theoretical development are reported in the following sections.

5. Key Findings

5.1. Usage Attributes of Social Media

Figure 4 recaps the procedure of data coding and content analysis and summarizes key findings of this study derived from the process. It is shown that the behavior of habitual social media use can be categorized into three terms: duration, frequency, and intensity. Overall, the data reveals three types of usage attributes of social media: (1) Entertaining that is conceptualized as the hedonic attribute of pursuing fun exciting experience as individuals interact and socialize online with people; (2) Relationship developing conceptualized as one of the utilitarian attributes of maintaining relationships, staying in touch, and keeping connected with people; (3) Information sharing as the second utilitarian attribute of searching and sharing information, events, and ideas with others. At the higher abstraction level, the three usage attributes can be conceptualized as the benefit of social media use. The data also reveals two non-monetary cost attributes of habitual social media use: (1) Informational risk that is conceptualized as making personal data available to unknown parties, and possibly be used in uncertain ways; (2) Effort viewed as the time and effort users invest to keep active in online social networking.

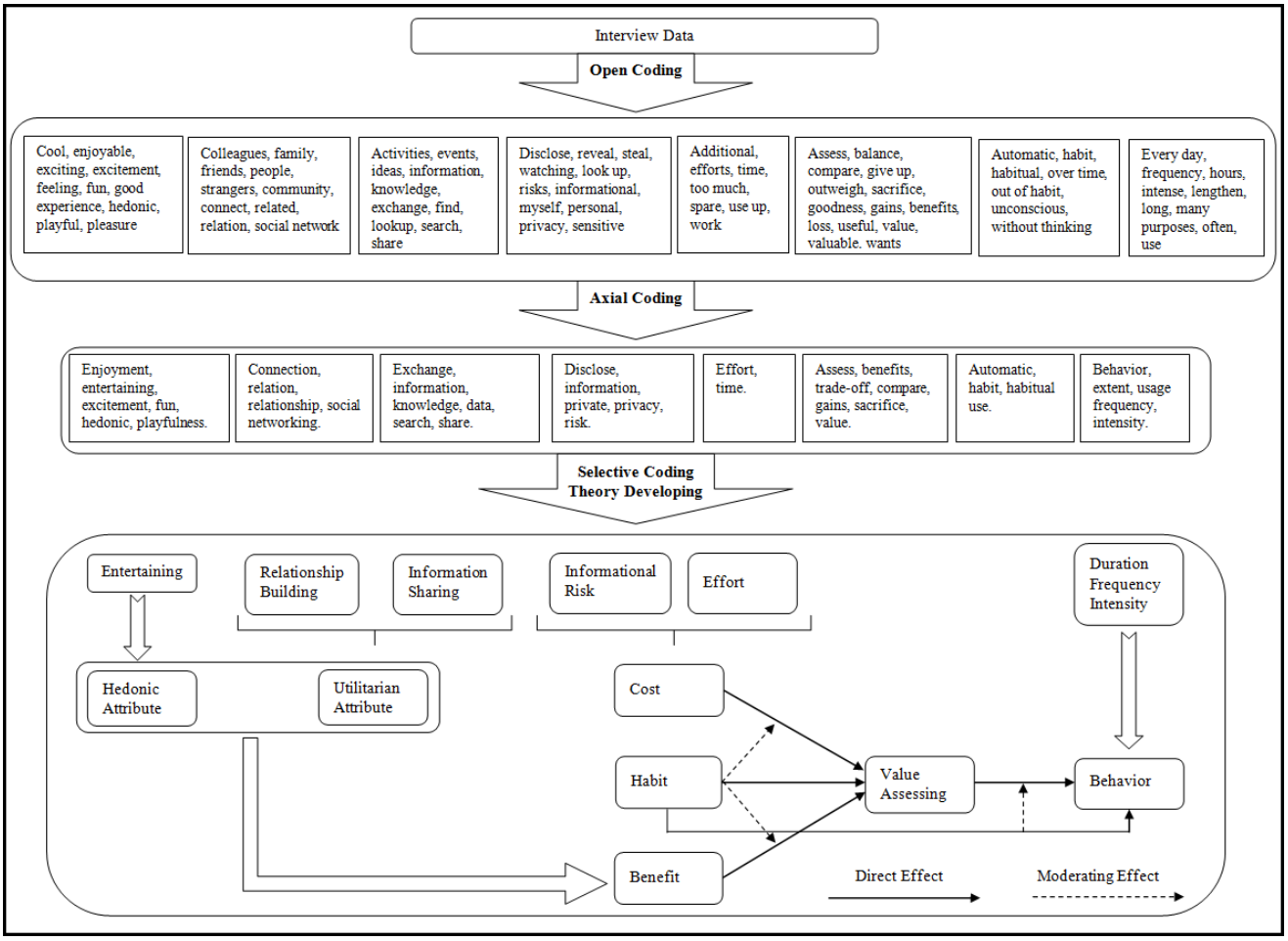

Figure 4: The Procedure of Data Coding and Content Analysis and Key Findings

5.2. Value Assessment

The interview data reveals how users assess the value of social media use – the category conceptualized as value assessing. As the sample text shows below, social media users refer to a cognitive comparison/trade-off between usage benefit and cost attributes to make value assessment and behavioral choices of their social media use.

I see it as a valuable tool that allows me to connect with people.

I believe the benefits outweigh the bad.

I think value has been added through the use.

I think as long as you know what you want to get out of it, benefits could be endless.

The data shows that users assess the high positive value of social media use in building fun experiences, social relationships, and informational connections. For example,

I assess the value by how much I gain from using it and if I'm entertained.

I think social media allow to network with friends, family, and colleagues.

Social media use really leads me to information resources for a lot of things.

Users comment that social media has gained no value as the usage cost goes high. They believe social media use could be less valuable and choose to quit when its use involves too much effort and informational risk. For example,

LinkedIn asks for more personal information than I am willing to give.

It can be worrisome to be caught up in someone's negative behavior.

5.3. Impact of Social Media Attributes

The interview data shows that users recognize benefit attributes of social media. It is shown that users assess the hedonic attribute (entertaining) more valuable than utilitarian attributes of relationship development and information sharing. For example,

The instantaneous fun nature is most valuable for me than anything else.

The fun enjoyable online interactions are much more valuable.

The data shows that users place the lowest value on cost attribute, informational risk. Users explicitly expressed concerns about informational risk, and chose to quit when the cost got too high.

The informational risk is worse than the effort.

Informational risk is definitely a major downfall to my use of SNS.

The data shows how social media users were concerned about the overall costs for social media use, given a great deal of what they have gained from the use. Users stressed that they "are not worried about the cost," or "really don't care," because "benefits outweigh the costs." They stressed the greater importance of benefit attributes than cost ones in value assessing and usage behavior. It is shown that the benefit attributes exercise much more effect than the costs to the point that the effect of benefit attributes can overwhelm that of the costs. It appears that the effect of cost attributes has diminished, allowing users to assess benefits much higher than and place less emphasis on the costs.

I care less about the costs because of the many benefits I have gained.

I have been slightly concerned about the risk, but overall it's not a big deal.

5.4. Usage Habit and Impact

The interview data shows that users have used social media habitually. The relationships among habit, value assessment, and usage behavior are a bit complicated according to our content analysis. On the one hand, the data shows that users' initial experience and value assessment with social media led to their usage habit:

At the beginning, I enjoyed all good things with social media. Later on, those good things and experience made me continue using it habitually.

On the other hand, the data shows the direct impact of habit on value assessment and usage behavior. Even more interestingly, the interviewees stated that, compared to their initial experience with social media, as time goes by, they assessed usage value of social media in a more unconscious automatic manner. For example,

In the long run, I use social media out of habit, and constantly enjoy its benefits and value without thinking.

I have used social media over time as a habitual response. Even I did not realize it, it is always valuable.

As such, the interviewees stated that their usage gradually became "boring, dull, and annoying" over time. Out of habit, as their social media use became automatic and unconscious, they did not believe the entertaining is "a big deal." It appears that users' value assessment of social media being enjoyable and fun had been down bit by bit as they formed usage habit with the technology. For example,

The more they are used, the less entertaining they become, it's a part of life and the less you will think about it.

When habit comes in, I am just there for the content and the polish fun vanishes.

When I use it habitually, it is just a routine connection; fun? maybe not so much.

In addition to the direct impact of habit on value assessment and usage behavior, which appeared unconscious and automatic over time, the data shows how the habitual users assess the utilitarian benefit of relationship development. Users stated that they felt "so bored" when they used social media habitually that they no longer assessed value as high as they used to. In our content analysis, we interpreted the interview data as that users' value assessment of social media in the utilitarian aspect has been down quite a bit as the usage habit developed. The interviewees expressed the same experience and feeling about information sharing. For example,

The value may not be higher as a habit.

I do not care much about relational interactions. I use it habitually.

The social functions have become less and less important as I use it habitually.

The data shows how habitual users weighed the importance of informational risk in assessing value. They believed the informational risk was no longer an important concern in the long term due to the impact of habit.

I use it as a matter of habit, I feel safe, the informational risk doesn't bother me much.

My care about the information risk faded with time as I developed a habit with it.

The habitual users described how they weighed the importance of informational risk in determining usage behavior. They believed that the informational risk is no longer important given a habit developed over time. They agreed that, as they used social media habitually, it was hard to change the behavior unless the informational risk became so high. For example,

It is my habit. Until something bad happens, it is not likely that I will give much thought.

It is part of my life. Even the risk is big it can't change our mind.

The data shows how habitual users weighed the importance of usage effort in assessing usage value. They stated that usage effort was not much an "important issue."

It's not important to me when I use it habitually.

At first, I cared more about effort. Later on, I don't when habit with it develops.

Habitual users described how they weighed the importance of usage effort in determining behavioral choices. They believed usage effort no longer important when habit formed.

Usage effort will not drive me away from the use because I use it habitually.

Usage effort has never crossed my mind since I have begun using the SNS habitually.

5.5. Summary

In summary, the results of data coding and content analysis of this study indicate that habitual social media users weighed the importance of social media attributes distinctively. For the benefit attributes, users assessed the hedonic attribute of entertaining more valuable than the utilitarian attributes of relationship developing and information sharing, and stressed that it was more important in determining usage behavior. For the cost attributes, users expressed more concerns about the informational risk in value assessment, and viewed it more important than effort in determining usage behavior.

Overall, habitual social media users stressed the greater importance of benefit attributes than that of the costs in value assessment and usage behavior. Users appreciated the benefit attributes so much that they focused much less on the cost attributes.

The data shows that, at the beginning of social media use, users' initial experience and value assessment lead to their usage habit. As users continue using social media habitually, the direction of the relationship turns way around as that, habit constantly exercises impact on value assessment and future usage behavior. Compared to the early users at the initial adoption stage, habitual users assess value of social media use in a more unconscious, automatic manner. On the one hand, as time goes by, the direct impact of habit on value assessment and usage behavior becomes less significant, and more unconscious possibly due to the moderating effect of habit [Limayem et al. 2007; Wu & Kuo 2008]; On the other hand, the direct impact is still present and alive. The finding is consistent with the IS habit literature [e.g., Hu et al. 2011, 2018; Limayem et al. 2007].

Furthermore, the data unfolds the role of habit in moderating the effect of social media attributes on value assessment and usage behavior. It appears that, as users developed usage habits, the conscious evaluative impact of social media attributes on value assessment became diminished.

6. Theory Development

As illustrated in Figure 4, as the staging data coding and content analysis proceed, the categories, sub-categories, conceptualizations, and relationships identified in the process combine to showcase "a substantive theory" offering an abstract account of situations and interactions of social media use. In the grounded theory approach, scaling up key findings to a more generalizable theory requires the transformation of the "narrow" categories and sub-categories into the higher-level abstractions of concepts and relationships – the process of theory development in which the higher-level abstractions are constantly compared, refined, and integrated with the existing perspectives and findings in the pertinent literature [Urquhart et al. 2010].

As aforementioned, the focus and theoretical development of this study specifically rest on the habitual social media use in the long run. Following the grounded theory procedure, the theory development of this study is built upon key findings as follows. The social media attributes include benefit attributes and cost attributes. The benefits include the hedonic attribute of entertaining, and utilitarian attributes of relationship development and information sharing. The cost attributes include informational risk and effort. Furthermore, when assessing value, social media users (1) perceive and weigh the importance of the hedonic attributes higher than the utilitarian ones, (2) perceive and weigh the importance of informational risk higher than that of usage effort, and (3) perceive and weigh the importance of benefit attributes higher than that of costs.

We next consolidate key findings of this study and insights from streams of both services marketing and IS usage literature to develop a theoretical framework (the framework hereafter) of how social media users assess value and determine usage behavior in habitual social media use. As illustrated in Figure 5, the framework encompasses the aforementioned underlying attributes and relationships of habitual social media use, and describes specific situations and processes of how users rationally and non-rationally evaluate the impact of the attributes, and make decisions in value assessment and behavioral choices of habitual social media use. The detailed explanations and elucidations of the theoretical framework are as follows.

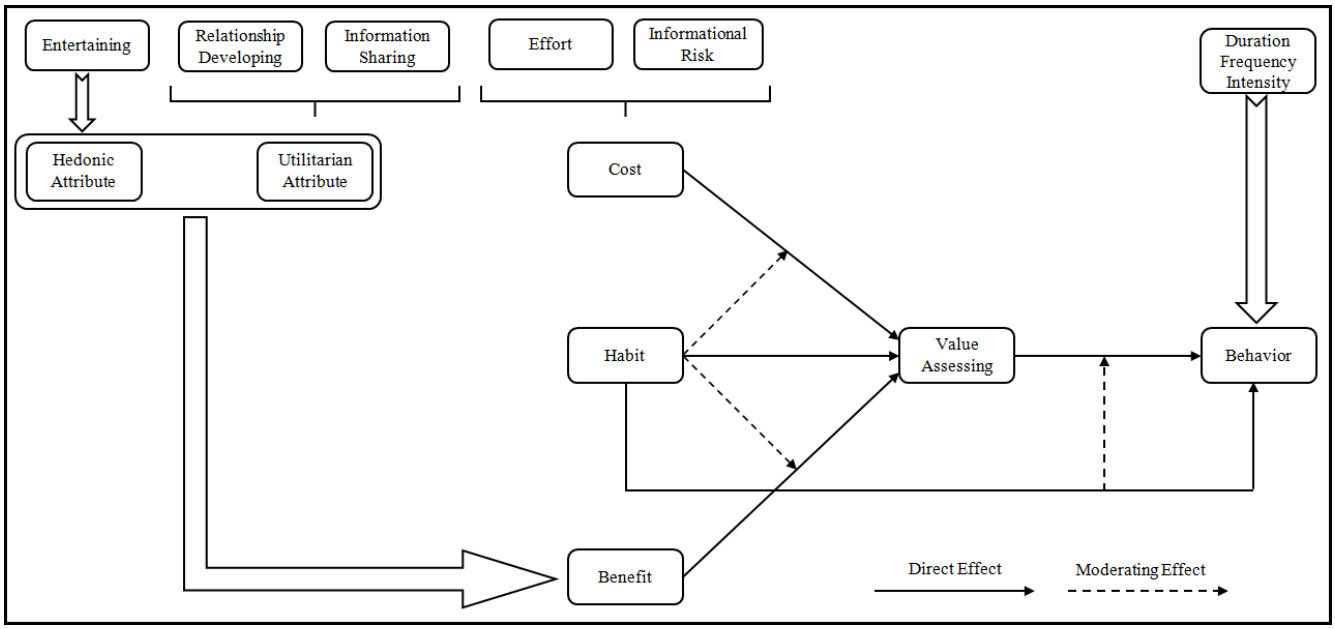

Figure 5: The Theoretical Framework of Social Media Use

6.1. Usage Attributes

The framework incorporates the usage attributes captured in the procedural coding and content analysis that jointly define the nature of habitual social media use. Each of the attributes is conceptually distinct from others, and defines a unique prominent aspect of social media use. For instance, the utilitarian attributes of relationship development and information sharing represent the instrumental nature of social media use in that people use social media to build and enhance online social interactions. The hedonic attribute of entertaining, on the other hand, reflects people's entertaining experience representing the intrinsic distanced appreciation of social media – an impulsive experiential feeling aroused by social media use [Fredrickson 1998; Holbrook 1994].

Among the utilitarian attributes, relationship development reflects social media use in building interpersonal relationships, whereas information sharing represents the use in searching and exchanging information within heterogeneous groups [Nahapiet & Ghoshal 1998]. Combined, the hedonic and utilitarian attributes help users achieve benefits for social media use, whereas effort and informational risk represent cost attributes reflecting what users pay for social media use.

6.2. Rational and Non-Rational Impact of Social Media Attributes

The framework indicates that, in social media use, habitual users tend to compare benefits against costs to make usage decisions rationally and non-rationally. The perceptional and behavioral tendencies are reflected in three types of trade-off that users make in social media use. Firstly, given the nature of social media as an enjoyment-oriented service platform, users perceive and weigh the importance of the hedonic attribute higher than the utilitarian ones. This observation has considerable supports from IS usage literature. For instance, Hu et al. [2011] found that people use social networking services because the services are fun and enjoyable instead of useful in building relationships, suggesting that the aroused entertaining experience with the use is more valuable than the usefulness.

The framework recognizes the emergence and impact of some non-rational factors – for example, the impulsively aroused entertaining experiential feeling – in habitual use of social media that are largely outside of the conscious awareness and at the very opposite of the substantive rationality [Gigerenzer 2001; Oritz de Guinea & Markus 2009] exercising the superordinate effect on users' value assessment and behavior of social media use. In those instances, the framework indicates that users de-emphasize the utilitarian quality of social media, and are cognitively and behaviorally dictated by the far-reaching hedonic needs for entertaining [Turel & Serenko 2012; Turel et al. 2011] – a typical non-rational syndrome of "amusing to death" [Postman 2005].

Secondly, when trading off the effect of cost attributes, users perceive and weigh the importance of informational risk higher than that of usage effort. In those instances, people treat cost attributes differently. This can be explained through the mental accounting theory [Soster et al. 2010; Thaler 1999]: In the human being's mental accounting system, informational risk is relatively easy to balance and keep track of, whereas effort is relatively flexible and

ambiguous [Festjens & Janiszewski 2015; Okada & Hoch 2004]. As such, people may account less for effort, and as a result, underestimate its impact and strength and magnitude [Okada & Hoch 2004; Soman 2001].

The findings of this study show that, in social media use, people tend to live with wasting time than taking informational risk, and usage effort is more easily ignored than risk. In those instances, social media users fairly show some concerns about effort, and rationally express more concerns about informational risk. This tendency is rather consistent with the notion of the rational choice theory [Thaler 1999]. Thus, the framework proposes that informational risk has a stronger negative effect than an effort on value assessment and behavioral choices in social media use.

Thirdly, when trading off benefits against costs, social media users perceive and weigh the importance of benefit attributes higher than that of costs. On the one hand, social media users perform social transactions for the maximized value in entertaining, relationship developing, and information sharing at the minimized costs in usage effort and informational risk. In those instances, users act rationally and stress the greater importance of benefit attributes than costs. Again, this is rather consistent with the rational choice tradition.

On the other hand, users seem to go too far to the non-rational extreme. They strongly opt for benefits, and fail to adequately incorporate costs into value assessment. When benefit and cost attributes are both present, and benefits are tremendous, users tend to integrate small costs with large gains, and eventually ignore the cost attributes. This observation is consistent with the findings of Ray et al. [2012]. As people eventually diminish marginal sensitivity on cost attributes, their decision-making deviates from the normative notion of the rational choice, and weighs the importance of large benefits higher than that of costs [Thaler 1999]. In those instances, users appreciate benefit attributes so much that they focus much less on the costs. The framework here highlights the non-rational tendency in value assessment and behavior of social media use.

6.3. Non-Rational Impact of Habit

Consistent with the perspective of social psychology [e.g., Verplanken & Orbell 2003; Wood et al. 2002] and the literature of IS usage habit as well [e.g., Hu et al. 2018; Limayem et al. 2007; Polites & Karahanna 2012], the findings of this study show that, at the beginning of social media use, users' initial experience and conscious value assessment leads to usage habit. As people spend an excessive amount of time on social media over time, the direct impact of habit on value assessment and usage behavior appears less significant and more unconscious, as the rational choice theory indicates [Hu et al. 2018]. Additionally, usage habit moderates the effect of social media attributes on value assessment and behavior [Limayem et al. 2007]. Specifically, due to the intervention of habit, users do not weigh the importance of benefit and cost attributes as significantly as they used to before habit comes into play; and such effect becomes weaker and weaker. Thus, the framework suggests that, when people use social media habitually, they may not place conscious evaluative processing as much as they used to do at the early adoption of social media, such that the comparative impact of social media attributes diminishes.

The framework further suggests that, when people develop a heavier habit, the non-rational decision-making goes even farther against the normative notion of the rational choice theory. Our findings show that, as the conscious evaluative impact of social media attributes becomes weaker, habit diminishes the impact eventually. At the extreme, neither benefit nor cost attributes matter. The only factor that matters is habit. People simply use social media habitually for efficiency, convenience, and simplicity with no more deliberate cost-benefit calculus [Hu et al. 2018; Limayem et al. 2007]. Once habit forms, it is hard to change even though people rationally realize the value of change. In this sense, it appears that social media users leave habit to dictate a major influence on value assessment and usage behavior. This, once again, is a non-rational tendency against the rational choice theory [Oritz de Guinea & Markus 2009; Scott 2000].

7. Discussion

This study examines specific situations and processes of how people assess value and determine usage behavior of social media out of habit. On the one hand, the findings and the theoretical framework of this study proposed hereby lend support to the existing IS usage literature in that IS users follow the normative notion of the rational choice theory to maximize usage benefits and minimize costs. On the other hand, the study extends the non-rational point of view, and highlights that social media users display non-rational tendencies in value assessment and behavioral choices. In those instances, users non-rationally weigh the importance of the hedonic attribute of social media over and above the utilitarian attributes. They are rationally concerned about the informational risk and non-rationally underestimate the usage effort. They mentally calculate usage value of benefits relevant to costs, and non-rationally opt for overall benefit gains, failing to adequately incorporate costs into value assessment and behavioral choices. Furthermore, when users develop usage habit with social media, the non-rational behavioral factor diminishes the effects of social media attributes such that habit dictates major influence on value assessment and usage behavior.

7.1. Implications for Theory

This study bears several implications for IS theory. Firstly, the study represents our systematic attempt in pinpointing both rational and non-rational factors into IS theory. While the traditional IS research is heavily premised upon the rational choice theory, users' value assessment and behavior are frequently at odds against the presumed patterns of the rational behavior [Avgerou & McGrath 2007; Ortiz de Guinea & Markus 2009]. The deeply ingrained tradition of the rational choice theory has been challenged constantly, and calls for research on non-rational IS use have been on repeatedly [e.g., Avgerou & McGrath 2007; Ortiz de Guinea & Markus 2009; Polites & Karahanna 2012]. Built upon the grounded theory, this study recognizes that IS users are not always rational. They may act rationally and non-rationally at the same time, and display both rational and non-rational tendencies in value assessment and behavioral choices of IS use.

The findings and conceptualizations of habitual social media use of this study respond to the research call that IS studies should break away from the tradition of the rational choice, and open up a new research window towards refining and elaborating IS usage theories. Our study provides an empirical testimony into the context-specific attributes of habitual social media use, and showcases a theoretical opportunity to encompass non-rational factors into IS theory building. This should shed light on future research that holistically integrates both rational choice and non-rationality theories to examine IS value and behavior in various contexts. Such research shall paint a realistic picture of IS use, and take into account non-rational phenomena such as intuition, habit [e.g., Huang & Shih 2019; Limayem et al. 2007], symbols [e.g., Orlikowski 1993], inertia [e.g., Polites & Karahanna 2012], addiction [e.g. Turel et al. 2011], and emotion [e.g., Koch et al. 2012; Mohammad et al. 2020; Stieglitz & Dang-Xuan 2013; Toubiana & Zietsma 2017] that the rational choice theory has missed and may not be able to explain inherently. The research of this stream shall have much to broaden the scope of IS literature by exploring alternative theoretical perspectives beyond the rational choice tradition.

Secondly, this study provides a detailed description of the situations and processes of habitual social media use. The grounded theory approach in this study has unique methodological advantages in addressing the parallel impact of both rational and non-rational factors on the decision-making of IS use. The proposed framework meets the criteria of grounded theory applicability [Glaser & Strauss 1967]. As we move up the level of abstraction, the framework can be generalized into an overarching model and applied in various contexts of IS services and applications.

7.2. Implications for Practice

The findings and the theoretical framework of the study offer instrumental guidelines for social media organizations and managers to improve service effectiveness and retain a critical mass of active users. Our study suggests that social media managers and practitioners should integrate rational and non-rational factors into social media designs and service delivery. Specifically, managers should consider altering social media design attributes based on what attributes matter most to people's value assessment and behavior of habitual social media use, and further determine what subsets of service/application offerings are most appropriate to invest resources and attract users in the long run. In this regard, our study suggests the following: (1) special design attention focuses on delivering and promoting benefit attributes of social media. In so doing, even though users rationally recognize costs, they strongly opt for overall benefit gains, and assess high value and retain active use; (2) given users' non-rational emphasis on the hedonic attribute, managers should consider placing the highest design priority on this attribute; and (3) because social media users are more concerned about informational risk, managers should develop explicit measures to secure users' privacy and personal data in social media use.

With respect to human beings as a habitual creature, our study suggests that the long-term use of social media is a set of habit-driven behaviors. Effectively retaining a critical mass of habitual users is thus important. To this end, managers may consider categorizing users in line with their habit levels. For the early adopters, managers should intervene in their usage activities and promote them to develop usage habit. For this purpose, managers should watch social media design features closely, and deliver services that are most appropriate to the group of users. For those users who have already developed a heavy habit, managers should maintain those design features to retain the users [Hu et al. 2018; Turel & Serenko 2012].

7.3. Limitations and Future Research

This study has limitations in some aspects. Firstly, while the objective of this study is to identify and theorize key attributes and relationships relevant to value assessment and behavior of habitual social media use, we recognize that the context-specific social media features may limit the detection of potential factors and causalities of interest. As a result, the generalizability of the theoretical framework may be limited. For instance, the sunk cost may play an important role in shaping social media use [Kim & Son 2009], and online trust and people's psychological needs could be important factors that are particularly pertinent to social media users' value perceptions [Cenfetelli et al. 2008; Karahanna et al. 2019]. Other rational and non-rational factors that are relevant to the phenomenon may include

intuition, inertia, addiction, social pressures, and so on. Future research should integrate these factors and causalities into the theoretical framework to enrich our understandings in this regard.

Secondly, given that service types and applications of social media and user demographics largely vary across cultures, nations, and geographical locations, the sampling reliability and validity of research of this stream may be affected to a certain extent. In this study, while our qualitative sampling procedure provides a solid foundation for theory building, our interviews nevertheless focused on general social media as a whole, and data was gathered in a higher education environment. As such, the interview data may not fully reflect specifics of social media, or represent the general social media population. While the data homogeneity of this study is appropriate in developing an exploratory point of view, it may limit the generalizability of the findings and the theoretical framework. To reframe the study on a greater variety of social media types and sampling heterogeneous groups of users from multiple cultural locations, future research may consider elaborating on the theoretical framework and triangulating data collection and analysis. In so doing, further comparative studies can be performed in a global context to enrich our understanding of social media phenomena [Vaast & Walsham 2013].

REFERENCES

Agarwal, R. and E. Karahanna, "Time Flies When You're Having Fun: Cognitive Absorption and Beliefs about Information Technology Usage," *MIS Quarterly*, Vol. 24, No. 4:665-694, 2000.

Avgerou, C. and K. McGrath, "Power, Rationality, and The Art of Living Through Socio-Technical Change," *MIS Quarterly*, Vol. 31, No. 2:295-315, 2007.

Back, K.W., "Decisions Under Uncertainty Rational, Irrational, and Non-Rational," *American Behavioral Scientist*, Vol. 4, No. 6:14-19, 1961.

Barki, H., R., Titah, and C. Boffo, "Information System Use-Related Activity: An Expanded Behavioral Conceptualization of Individual-Level Information System Use," *Information Systems Research*, Vol. 18, No. 2:173-192, 2007.

Bhattacherjee, A., "Understanding Information Systems Continuance: An Expectation-Confirmation Model," *MIS Quarterly*, Vol. 25, No. 3:351-370, 2001.

Birks, D.F., W. Fernandez, N. Levina, and S. Nasirin, "Grounded Theory Method in Information Systems Research: Its Nature, Diversity and Opportunities," *European Journal of Information Systems*, Vol. 22, No. 1:1-8, 2013.

Bogdan, R.C. and S.K. Biklen, Qualitative Research for Education: An Introduction to Theories and Methods, 4th ed. MA, Boston: Allyn and Bacon, 2003.

Burton-Jones, A. and D. Straub, "Reconceptualizing System Usage: An Approach and Empirical Test," *Information Systems Research*, Vol. 17, No. 3:228-246, 2006.

Cao, J., K.A. Basoglu, H. Sheng, and P.B. Lowry, "A Systematic Review of Social Networks Research in Information Systems: Building A Foundation for Exciting Future Research," *Communications of the Association for Information Systems*, Vol. 36:727-758, 2015.

Cenfetelli, R.T., I. Benbasat, and S. Al-Natour, "Addressing the What And How of Online Services: Positioning Supporting-Services Functionality and Service Quality for Business-To-Consumer Success," *Information Systems Research*, Vol. 9, No. 2:161-181, 2008.

Chaffey, D., "Global Social Media Research Summary 2021," https://www.smartinsights.com/social-media-marketing/social-media-strategy/new-global-social-media-research, 2021.

Clement, J., "Corporate Social Media Usage of Inc. 500 Companies 2017," https://www.statista.com/statistics/626872/fortune-500-corporate-social-media-usage/, 2019.

Conboy, K., G. Fitzgerald, and L. Mathiassen, "Qualitative Methods Research in Information Systems: Motivations, Themes, and Contributions," *European Journal of Information Systems*, Vol. 21, No. 2:113-118, 2012.

Dai, H., T. Hu, T., and X. Zhang, "Continued Use of Mobile Technology Mediated Services: A Value Perspective,". *Journal of Computer Information Systems*, Vol. 54, No. 2:99-109, 2014.

Davis, F.D., "Perceived Usefulness, Perceived Ease of Use, And User Acceptance of Information Technology," *MIS Quarterly*, Vol. 13, No. 3:319-340, 1989.

Davis, F.D., R.P. Bagozzi, and P.R. Warshaw, "User Acceptance of Computer Technology: A Comparison of Two Theoretical Models," *Management Science*, Vol. 35, No. 8:982-1003, 1989.

Doll, W.J. and G. Torkzadeh, "Developing A Multidimensional Measure of System-Use in An Organizational Context," *Information & Management*, Vol. 33, No. 4:171-185, 1998.

Ellison, N.B. and D.M. Boyd, Sociality Through Social Network Sites. In W.H. Dutton (Ed.), The Oxford Handbook of Internet Studies, Oxford, UK: Oxford University Press, 2013.

Festjens, A. and C. Janiszewski, "The Value of Time," *Journal of Consumer Research*, Vol. 42, No. 2:178-195, 2015.

Fernandez, W. and H. Lehmann, "Achieving Rigor and Relevance in Information Systems Studies: Using Grounded Theory to Investigate Organizational Cases," *The Grounded Theory Review*, Vol. 5, No. 1:79-107, 2005.
Fredrickson, B.L., "What Good Are Positive Emotions?" *Review of General Psychology*, Vol. 2, No. 3:300-319, 1998.
Gefen, D., "TAM or Just Plain Habit: A Look at Experienced Online Shoppers," *Journal of Organizational and End User Computing*, Vol. 15, No. 3:1-13, 2003.
Gigerenzer, G., "Decision-Making: Nonrational Theories," *International Encyclopedia of the Social and Behavioral Sciences*, Vol. 5:3304-3309, 2001.
Glaser, B.G. Theoretical Sensitivity: Advances in the Methodology Of Grounded Theory. Mill Valley, CA: The Sociology Press, 1978.
Glaser, B.G. and A.L. Strauss, The Discovery of Grounded Theory: Strategies for Qualitative Research. Chicago, IL: Aldine Publishing Company, 1967.
Gleasure, R. and J. Feller, "What Kind of Cause Unites a Crowd? Understanding Crowdfunding as Collective Action," *Journal of Electronic Commerce Research*, Vol. 19, No. 3:223-236, 2018.
Gutman, J. "A Means-End Chain Model Based on Consumer Categorization Processes". *Journal of Marketing*, Vol. 46, No. 2:60-72, 1982.
Hekkala, R. and C. Urquhart, "Everyday Power Struggles: Living in an IOIS Project," European *Journal of Information Systems*, Vol. 22, No. 1:76-94, 2013.
Heracleous, L.T., "Rational Decision Making: Myth or Reality," *Management Development Review*, Vol. 7, No. 4:16-23, 1994.
Herrando, C., J. Jiménez-Martínez, and M.J. Martín-De Hoyos, "Social Commerce Users's Optimal Experience: Stimuli, Response and Culture," *Journal of Electronic Commerce Research*, Vol. 20, No. 4:199-218, 2019.
Herrmann, P.N., D.O. Kundisch, and M.S. Rahman, "Beating Irrationality: Does Delegating to IT Alleviate The Sunk Cost Effect," *Management Science*, Vol. 61, No. 4:831-850, 2015.
Hibbeln, M., J.L. Jenkins, C. Schneider, J.S. Valacich, and M. Weinmann, "How Is Your User Feeling? Inferring Emotion through Human-Computer Interaction Devices," *MIS Quarterly*, Vol. 41, No. 1:1-21, 2017.
Holbrook, M.B., The Nature of Customer Value: An Axiology of Service in the Consumption Experience. In R. T. Rust, & R. L. Oliver (Eds.), Service Quality: New Directions in Theory and Practice, Newbury Park, CA: Sage Publications, 21-71, 1994.
Hsieh, J.K. and C.Y. Tseng, "Exploring Social Influence on Hedonic Buying of Digital Goods-Online Games' Virtual Items," *Journal of Electronic Commerce Research*, Vol. 19, No. 2:164-185, 2018.
Hsu, C.-L. and J.C.-C. Lin, "Acceptance of Blog Usage: The Roles of Technology Acceptance, Social Influence and Knowledge Sharing Motivation," *Information & Management*, Vol. 45, No. 1:65-74, 2008.
Hu, T., Kettinger, W.J., and R.S. Poston, "The Effect of Online Social Value on Satisfaction and Continued Use of Social Media," *European Journal of Information Systems*, Vol. 24, No. 4:391-410, 2015.
Hu, T., R.S. Poston, and W.J. Kettinger, "Nonadopters of Online Social Network Services: Is It Easy to Have Fun Yet?" *Communications of Associations for Information Systems*, Vol. 29:441-458, 2011.
Hu, T., T.F. Stafford, W.J. Kettinger, X. Zhang, and H. Dai, "Formation and Effect of Social Media Usage Habit," *Journal of* Computer *Information Systems*, Vol. 58, No. 4:334-343, 2018.
Huang, H. and S.P. Shih., "Remaining on Current Social Network Sites: An Unconscious and Conscious Perspective," *Journal of Electronic Commerce Research*, Vol. 20, No. 2:118-140, 2019.
Jin, C., "The Perspective of a Revised TRAM on Social Capital Building: The Case of Facebook Usage," *Information & Management*, Vol. 50, No. 4:162-168, 2013.
Kane, G.C., M. Alavi, G. Labianca, and S.P. Borgatti, "What's Different About Social Media Networks? A Framework and Research Agenda," *MIS Quarterly*, Vol. 38, No. 1:274-304, 2014.
Kapoor, K.K., K. Tamilmani, N.P. Rana, P. Patil, Y.K. Dwivedi, and S. Nerur, "Advances in Social Media Research: Past, Present And Future," *Information Systems Frontiers*, Vol. 20, No. 3:531-558, 2018.
Karahanna, E., S.X. Xu, Y. Xu, and N. Zhang, "The Needs-Affordances-Features Perspective for the Use of Social Media," *MIS Quarterly*, Vol. 42, No. 3:737-756, 2019.
Kettinger, W.J., S.-H. Park, and J. Smith, "Understanding the Consequences of Information Systems Service Quality in IS Service Reuse," *Information & Management,* Vol. 46, No. 6:335-341, 2009.
Kim, H.-W., H.C. Chan, and S. Gupta, "Value-Based Adoption of Mobile Internet: An Empirical Investigation," *Decision Support Systems*, Vol. 43, No. 1:111-126, 2007.
Kim, S.S. and J.-Y. Son, "Out of Dedication or Constraint? A Dual Model of Post-Adoption Phenomena and Its Empirical Test in the Context of Online Services," *MIS Quarterly*, Vol. 33, No. 1:49-70, 2009.
Koch, H., E. Gonzalez, and D. Leidner, "Bridging the Work/Social Divide: The Emotional Response to Organizational Social Networking Sites," *European Journal of Information Systems*, Vol. 21, No. 6:699-717, 2012.

Lai, L.S. and W.M. To, "Content Analysis of Social Media: A Grounded Theory Approach," *Journal of Electronic Commerce Research*, Vol. 16, No. 2:138-152, 2015.

Lankton, N.K., E.V. Wilson, and E. Mao, "Antecedents and Determinants of Information Technology Habit," *Information & Management*, Vol. 47, No. 5-6:300-307, 2010.

Limayem, M., S.G. Hirt, and C.M.K. Cheung, "How Habit Limits the Predictive Power of Intention: The Case of Information Systems Continuance," *MIS Quarterly*, Vol. 31, No. 4:705-737, 2007.

Lin, H., W. Fan, and P.Y.K. Chau, "Determinants of Users' Continuance of Social Networking Sites: A Self-Regulation Perspective," *Information & Management*, Vol. 51, No.5:595-603, 2014.

Marshall, B., P. Cardon, A. Poddar, and R. Fontenot, "Does Sample Size Matter in Qualitative Research? A Review of Qualitative Interviews in IS Research," *Journal of Computer Information Systems*, Vol. 54, No. 1:11-22, 2013.

Martin, P.Y. and B.A. Turner, "Grounded Theory and Organizational Research," *Journal of Applied Behavioral Science*, Vol. 22, No. 2:141-157, 1986.

Mathwick, C., N. Malhortra, and E. Rigdon, "Experiential Value: Conceptualization, Measurement and Application in the Catalog and Internet Shopping Environment," *Journal of Retailing*, Vol. 77, No. 1:39-56, 2001.

Maxwell, J., "Understanding and Validity in Qualitative Research," *Harvard Educational Review*, Vol. 62, No. 3:279-301, 1992

Nahapiet, J. and S. Ghoshal, "Social Capital, Intellectual Capital, and the Organizational Advantage," *Academy of Management Review*, Vol. 23, No. 2:242-266,1998.

Mohammad, J., F. Quoquab, R. Thurasamy, and M.N. Alolayyan. "The Effect of User-Generated Content Quality on Brand Engagement: The Mediating Role of Functional and Emotional Values," *Journal of Electronic Commerce Research*, Vol. 21, No. 1:39-55, 2020.

Merriam, S.B., Qualitative Research: A Guide to Design and Implementation, New York, NY: John Wiley and Sons, 2009.

Ngai, E.W.T., S.S.C. Tao, and K.K.L. Moon, "Social Media Research: Theories, Constructs, and Conceptual Frameworks," *International Journal of Information Management*, Vol. 35, No. 1:33-44, 2015.

Miles, M.B. and A.M. Huberman, Qualitative Data Analysis, 2nd ed., Thousand Oaks, CA: Sage, 1994.

Okada, E.M. and S.J. Hoch, "Spending Time Versus Spending Money," *Journal of Consumer Research*, Vol. 31, No. 2:313-323, 2004.

Orlikowski, W.J. "CASE Tools as Organizational Change: Investigating Incremental and Radical Changes in Systems Development," *MIS Quarterly*, Vol. 17, No. 3:309-340, 1993.

Orlikowski, W.J. and J.J. Baroudi, "Studying Information Technology in Organizations: Research Approaches and Assumptions." *Information Systems Research*, Vol. 2, No. 1:1-28, 1991.

Ortiz de Guinea, A. and M.L. Markus, "Why Break the Habit of a Lifetime? Rethinking the Roles of Intention, Habit, and Emotion in Continuing Information Technology Use," *MIS Quarterly*, Vol. 33, No. 3:433-444, 2009.

Oh, O., M. Agrawal, and H.R. Rao, "Community Intelligence and Social Media Services: A Rumor Theoretic Analysis of Tweets during Social Crises," *MIS Quarterly*, Vol. 37, No. 2:407-426, 2013.

Patton, M.Q. Qualitative Research and Evaluation Methods: Integrating Theory and Practice, Newbury Park, CA: Sage Publications, 2014.

Pettigrew, A.M., Issues of Time and Site Selection in Longitudinal Research on Change. In J.I. Cash, Jr., & P.R. Lawrence (Eds.), The Information Systems Research Challenge: Qualitative Research Methods, Boston, MA: Harvard Business School Press, 13-19, 1989.

Pew Research Center, "Social Media Fact Sheet," https://www.pewresearch.org/internet/fact-sheet/social-media/, 2019.

Polites, G.L. and E. Karahanna, "Shackled to the Status Quo: The Inhibiting Effects of Incumbent System Habit, Switching Costs, and Inertia on New System Acceptance," *MIS Quarterly*, Vol. 36, No. 1:21-42, 2012.

Postman, N., Amusing Ourselves to Death: Public Discourse in the Age of Show Business, London, UK: Penguin Books, 2005.

Ranjan, K.R. and S. Read, "Value Co-Creation: Concept and Measurement," *Journal of Academy of Marketing Science*, Vol. 44, No. 3:290-315, 2016.

Ray, S., C.A. Wood, and P.R. Messinger, "Multicomponent Systems Pricing: Rational Inattention and Downward Rigidities," *Journal of Marketing*, Vol. 76, No. 5:1-17, 2012.

Rosen, C. "Virtual Friendship and The New Narcissism," *The New Atlantics*, No. 17:15-31, 2007.

Sarker, S., X. Xiao, and T. Beaulieu, "Qualitative Studies in Information Systems: A Critical Review and Some Guiding Principles," *MIS Quarterly*, Vol. 37, No. 4:iii-xviii, 2013.

Sarker, S., X. Xiao, T. Beaulieu, and A.S. Lee, "Learning from First-Generation Qualitative Approaches in the IS Discipline: An Evolutionary View and Some Implications for Authors and Evaluators (part 1/2)," *Journal of Association for Information Systems*, Vol. 19, No. 8:752-774, 2018.

Scott, J., Rational Choice Theory. In Browning, G., A. Halcli, and F. Webster (Eds.), Understanding Contemporary Society: Theories of The Present, London, UK: Sage Publications, 126-136, 2000.

Shiau, W.-L. and J.F. George, "A Grounded Theory Approach to Information Technology Adoption," *Communications of the Association for Information Systems*, Vol. 34:1379-1407, 2014.

Shmueli, G., P.C. Bruce, I. Yahav, N.R. Patel, and K.C. Lichtendahl Jr., Data Mining for Business Analytics: Concepts, Techniques and Applications in R. Hoboken, NJ: John Wiley & Sons, 2017.

Soman, D., "The Mental Accounting of Sunk Time Costs: Why Time Is Not Like Money," *Journal of Behavioral Decision Making*, Vol. 14, No. 3:169-185, 2001.

Soster, R.L., A. Monga, and W.O. Bearden, "Tracking Costs of Time and Money: How Accounting Periods Affect Mental Accounting," *Journal of Consumer Research*, Vol. 37, No. 4:712-721, 2010.

Stein, M.-K., S. Newell, E.L. Wagner, and R.D. Galliers, "Coping with Information Technology: Mixed Emotions, Vacillation, And Nonconforming Use Patterns," *MIS Quarterly*, Vol. 39, No. 2:367-392, 2015.

Stieglitz, S. and L. Dang-Xuan, "Emotions and Information Diffusion in Social Media-Sentiment of Microblogs and Sharing Behavior," *Journal of Management Information Systems*, Vol. 29, No. 4:217-248, 2013.

Strauss, A. and J. Corbin, Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory. Thousand Oaks, CA: Sage Publications, 1998.

Sundararajan, A., F. Provost, G. Oestreicher-Singer, and S. Aral, "Information in Digital, Economic, and Social Networks," *Information Systems Research*, Vol. 24, No. 4:883-905, 2013.

Thaler, R.H., "Mental Accounting Matters," *Journal of Behavioral Decision Making*, Vol. 12, No. 3:183-206, 1999.

Toubiana, M. and C. Zietsma, "The Message Is on The Wall? Emotions, Social Media and The Dynamics of Institutional Complexity," *Academy of Management Journal*, Vol. 60, No. 3:922-953, 2017.

Turel, O. and A. Serenko, "The Benefits and Dangers of Enjoyment with Social Networking Websites," *European Journal of Information Systems*, Vol. 21, No. 5:512-528, 2012.

Turel, O., A. Serenko, and P. Giles, "Integrating Technology Addiction and Use: An Empirical Investigation of Online Auction Users," *MIS Quarterly*, Vol. 35, No. 4:1043-1061, 2011.

Urquhart, C. and W. Fernández, "Using Grounded Theory Method in Information Systems: The Researcher as Blank Slate and Other Myths," *Journal of Information Technology*, Vol. 28, No. 3:224-236, 2013.

Urquhart, C., H. Lehmann, and M.D. Myers, "Putting The 'Theory' Back into Grounded Theory: Guidelines for Grounded Theory Studies in Information Systems," *Information Systems Journal*, Vol. 20, No. 4:357-381, 2010.

Vaast, E. and G. Walsham, "Grounded Theorizing for Electronically Mediated Social Contexts," *European Journal of Information Systems*, Vol. 22, No. 1:9-25, 2013.

Van der Heijden, H., "User Acceptance of Hedonic Information Systems," *MIS Quarterly*, Vol. 28, No. 4:695-704, 2004.

Venkatesh, V., S.A. Brown, L.M. Maruping, and H. Bala, "Predicting Different Conceptualizations of System Use: The Competing Roles of Behavioral Intention, Facilitating Conditions, and Behavioral Expectation," *MIS Quarterly*, Vol. 32, No. 3:483-502, 2008.

Venkatesh, V., M.G. Morris, G.B. Davis, and F.D. Davis, "User Acceptance of Information Technology: Toward A Unified View," *MIS Quarterly*, Vol. 27, No. 3:425-478, 2003.

Venkatesh, V., J.Y.L. Thong, and X. Xu, "Consumer Acceptance and Use of Information Technology: Extending The Unified Theory of Acceptance and Use of Technology," *MIS Quarterly*, Vol. 36, No. 1:157-178, 2012.

Vermeulen, A., H. Vandebosch, and W. Heirman, "#Smiling, #Venting, or Both? Adolescents' Social Sharing of Emotions on Social Media," *Computers in Human Behavior*, Vol. 84:211-219, 2018.

Verplanken, B. and S. Orbell, "Reflections on Past Behavior: A Self-Report Index of Habit Strength," *Journal of Applied Social Psychology*, Vol. 33, No. 6:1313-1330, 2003.

Wang, L., X. Luo, X. Yang, and Z. Qiao, "Easy Come or Easy Go? Empirical Evidence on Switching Behaviors in Mobile Payment Applications," *Information & Management*, Vol. 56, No. 7:1-13, 2019.

Welbers, K., W.V. Atteveldt, and K. Benoit, "Text Analysis in R," *Communication Methods and Measures*, Vol. 11, No. 4:245-265, 2017.

Wiesche, M., M. Jurisch, P.W. Yetton, and H. Krcmar, "Grounded Theory Methodology in Information Systems Research," *MIS Quarterly*, Vol. 41, No. 3:685-701, 2017.

Wirtz, B. W., V. Göttel, and P. Daiser, "Social Networks: Usage Intensity and Effects on Personalized Advertising," *Journal of Electronic Commerce Research,* Vol. 18, No. 2:103-123, 2017.

Wood, W., J.M. Quinn, and D.A. Kashy, "Habits in Everyday Life: Thought, Emotion, and Action," *Journal of Personality and Social Psychology,* Vol. 83, No. 6:1281-1297, 2002.

Wu, M.-C. and F.-Y. Kuo, "An Empirical Investigation of Habitual Usage and Past Usage on Technology Acceptance Evaluations and Continuance Intention," *The Data Base for Advances in Information Systems,* Vol. 39, No. 4:48-73, 2008.

Xu, C., S. Ryan, V. Prybutok, and C. Wen, "It Is Not for Fun: An Examination of Social Network Site Usage," *Information & Management*, Vol. 49, No. 5: 210-217, 2012.

Zeithaml, V.A., "Consumer Perceptions of Price, Quality, And Value: A Means-End Model and Synthesis of Evidence," *Journal of Marketing*, Vol. 52, No. 3:2-22. 1998.

Zhang, H., Y. Lu, B. Wang, and S. Wu, "The Impact of Technological Environments and Co-Creation Experiences on Customer Participation," *Information & Management,* Vol. 52, No. 4:468-482, 2015.

Zhang, K.Z.K., M.K.O. Lee, C.M.K. Cheung, and H. Chen, "Understanding the Role of Gender in Bloggers' Switching Behavior," *Decision Support Systems*, Vol. 47, No. 4:540-546, 2009.

Zhou, Z., Y. Fang, D.R. Vogel, X.-L. Jin, and X. Zhang, "Attracted to or Locked in? Predicting Continuance Intention in Social Virtual World Services," *Journal of Management Information Systems*, Vol. 29, No. 1:273-306, 2012.

Zwass, V., "Co-Creation: Toward A Taxonomy and An Integrated Research Perspective," *International Journal of Electronic Commerce*, Vol. 15, No. 1:11-48, 2010.

APPENDIX A. ILLUSTRATIVE LITERATURE REVIEW

Table A-1: Illustrative Literature Review of TAM Tradition in IS Value Assessment and Behavior

Literature	Theory	Methodology	Value Assessment Construct	Findings
Davis [1989]; Davis et al. [1989]	• Theory of planned behavior (TPB) • Theory of reasoned action (TRA)	Quantitative field survey	• Perceived Usefulness (PU) • Perceived Ease of Use (PEOU)	• PU and PEOU are fundamental determinants of usage intention/behaviors. • PEOU is a causal antecedent to PU.
Agarwal & Karahanna [2000]	• TAM • Flow theory	Quantitative field survey	• PU and PEOU • Cognitive absorption.	• Cognitive absorption is a proximal antecedent of PU and PEOU.
Bhattacherjee [2001]	• TAM • Expectation-confirmation theory	Quantitative field survey	• PU • Satisfaction • Confirmation	• Users' continuance intention is determined by their satisfaction with PU and IS use.
Gefen [2003]	• TAM • Social psychology of habit	Quantitative field survey	• PU and PEOU • Habit	• Intentions to continued use depend not only on PU and PEOU, but also on habit. • Habit explains a large of variance in continued use.
Venkatesh et al. [2003]	• TAM • Prominent models of IS use	Quantitative field survey	• Performance expectancy • Effort expectancy • Social influence • Facilitating conditions	• Performance expectancy, effort expectancy, and social influence directly influence behavioral intention, which in turn influences usage behavior. • Facilitating conditions has a direct significant effect on usage behavior.
Van der Heijden [2004]	• TAM	Quantitative field survey	• PU and PEOU • Perceived enjoyment	• Perceived enjoyment and PEOU are stronger determinants of intentions to use pleasure-oriented IS than PU. • The hedonic nature of an IS is a boundary condition to the validity of the TAM.
Limayem et al. [2007]	• TAM-based IS continuance model • Social psychology of habit	Quantitative field survey	• PU • Satisfaction • Confirmation • Habit	• Habit moderates the influence of intention such that its importance in determining behavior decreases.
Wu & Kuo [2008]	• TAM • Social psychology of habit • Self-perception theory	Quantitative field survey	• PU and PEOU • Habit	• The relationship between evaluations of PU/PEOU and intention to use weakens due to the effect of habitual use.
Venkatesh et al. [2012]	• Unified theory of acceptance and use of technology (UTAUT)	Quantitative field survey	• Performance expectancy • Effort expectancy • Social influence • Facilitating conditions • Hedonic motivation • Price value • Habit	• Hedonic motivation and price value directly influence behavioral intention to use.

Table A-2: Illustrative Literature Review of Value Assessment and Usage Behavior of Social Media

Literature	Theory	Methodology	Value Assessment Construct	Findings
Kim et al. [2007]	• TAM • Customer value perspective	Quantitative field survey	• PU • Enjoyment • Fee • Technicality	• Consumer perceived value is a principal determinant of adoption intention. • Perceived value is determined by PU, enjoyment, fee, and technicality.
Hsu & Lin [2008]	• TRA • TAM • Social influence perspectives	Quantitative field survey	• PEOU • Enjoyment • Social factors • Knowledge sharing	• PEOU, enjoyment, and knowledge sharing are related to attitude. • Social factors and attitude significantly influence intention.
Zhang et al. [2009]	• TAM. • Social role theory	Quantitative field survey	• User satisfaction • Sunk costs • Attractive alternatives	• Bloggers' intention to switch is strongly associated with satisfaction, sunk costs, and attractive alternatives.
Hu et al. [2011]	• TAM • Innovation diffusion theory	Quantitative field survey	• PU • Information risk • Perceived effort	• Non-adopters do not see usefulness, information risk, or perceived effort as factors that influence use of social media.
Xu et al. [2012]	• TAM • Gratifications theory	Quantitative field survey	• Utilitarian gratification • Hedonic gratification • Social presence	• Utilitarian and hedonic gratifications and social presence are positive predictors of usage behavior.
Zhou et al. [2012]	• TAM-based IS continuance model • Organizational commitment	Quantitative field survey	• Affective commitment • Calculative commitment • Utilitarian value • Hedonic value • Relational capital	• Continuance intention is determined by affective and calculative commitments. • Perceived utilitarian and hedonic value, and relational capital promote affective commitment.
Jin [2013]	• TAM • Technology readiness theory	Quantitative field survey	• PU and PEOU • Technology readiness • Perceived playfulness	• PU, PEOU, technology readiness, and perceived playfulness have significant effect on behavioral intention.
Dai et al. [2014]	• Customer value perspective	Quantitative field survey	• Utilitarian benefit • Hedonic benefit • Effort	• Customer perceived utilitarian and hedonic benefit affect users' value assessment, which in turn influences users' intention to continued use.
Lin et al. [2014]	• IS continuance model. • Social presence	Quantitative field survey	• User satisfaction • Sense of belonging	• User satisfaction and sense of belonging positively influence continuance intention.
Hu et al. [2015]	• Customer value perspective • IS continuance model	Quantitative field survey	• Satisfaction • Online social value	• Online social value predicts satisfaction and continued use. • Satisfaction has a significant positive effect on continue use.
Zhang et al. [2015]	• Service co-creation perspective • Stimulus-organism-response framework	Quantitative field survey	• Customer learning value • Social integrative value • Hedonic value	• Customers' co-creation experience consists of value assessment components. • Customers' co-creation experience has a significant positive effect on their intention of future participation in social media sites.

Table A-3: Illustrative Literature Review of Non-Rational Factors and Processing of IS Use

Literature	Theory	Methodology	Non-Ratoinal Factor and Processing	Findings
Van der Heijden [2004]	• TAM	Quantitative field survey	• Perceived enjoyment	• Perceived enjoyment is a stronger determinant of intentions to use pleasure-oriented IS than PU.
Limayem et al. [2007]	• TAM-based continuance model • Social psychology of habit	Quantitative field survey	• Habit	• Habit moderates the influence of intention such that its importance in determining behavior decreases.
Lankton et al. [2010]	• TAM-based continuance model • Learning theory	Quantitative field survey	• Habit	• Habit predicts continued IS use.
Turel et al. [2011]	• TAM • Technology Addiction	Quantitative field survey	• Addiction	• Users' levels of online addiction influence their reasoned IS usage decisions by altering users' belief systems.
Polites & Karahanna [2012]	• TAM • Status quo bias theory • Social psychology of habit	Quantitative field survey	• Habit • Inertia	• Habitual use of incumbent systems leads to the development of usage inertia. • Usage inertia plays a complicated role in intentions to use new IS.
Venkatesh et al. [2012]	• UTAUT	Quantitative field survey	• Habit	• Habit has a direct significant effect on usage behavior.
Hu et al. [2018]	• Social psychology of habit	Quantitative field survey	• Habit	• Habit has a direct significant effect on future IS use.

APPENDIX B. THE INTERVIEW SCRIPT

1. Describe in greater details how you have used social media (e.g., Facebook, YouTube, Twitter, and Instagram, and Google+, etc.) to maintain relationships and keep connected with people.
2. Describe in greater details how you have gained fun exciting experience in the use of social media.
3. Describe how you are concerned about personal information risks for the use of social media.
4. You probably spend some time and effort in using the social media, how are you concerned about the time and effort for its use?
5. How do you assess the value of your use of the social media? In other words, given informational risk and effort you have put into the use of the social media, have you gained a great deal from using it? Is your use of the social media totally worthwhile?
6. What attribute (usage activity) would you value most about the use of the social media, its fun exciting experience, or relationship development? What usage attribute (usage activity) is more valuable than the other?
7. What attribute (usage activity) would make you value less your use of the social media, informational risk or effort? What attribute (usage activity) would make you dislike or even want to quit the social media?
8. Given the great deal you have gained from the use of the social media, how are you concerned about the losses for its usage costs? Will you care more or less about the usage costs; or you just don't care at all?
9. You have used the social media for some while, has your use become a habit? Has your use become automatic to you?
10. When you use social media as a matter of habit, how will you assess its value in building fun exciting usage experience? Will you place higher (or lower) value of social media use in building fun exciting usage experience?
11. When you use the social media as a matter of habit, do you believe the usage fun still is an important reason for you to continue using it?
12. When you use the social media as a matter of habit, how will you assess its value in relationship development? Will you place higher (or lower) value of social media use in this attribute?
13. When you use the social media as a matter of habit, do you believe relationship development still is an important reason for you to continue using it?
14. When you use the social media as a matter of habit, will you care more or less about informational risk for its use? Is informational risk still important for you to assess the value of the use?
15. When you use the social media as a matter of habit, do you believe informational risk still is an important reason for you to dislike or even want to quit the use?
16. When you use the social media as a matter of habit, will you care more or less about the usage effort? Is effort still important for you to assess its value?
17. When you use the social media as a matter of habit, do you believe usage effort still is an important reason for you to dislike or even want to quit the use?