

## THE EFFECTS OF DIMENSIONS OF SOCIAL MEDIA QUALITY ON USER SATISFACTION: A CROSS-CULTURAL COMPARISON OF THAI AND CHINESE USERS

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**ABSTRACT:** *This study was designed to investigate the influence of dimensions of social media quality (system, information, and service) on user satisfaction. Moreover, this study compared the cross-cultural results of these dimensions using data collected from 220 Chinese and 201 Thai social media users. Partial least squares regression was used to analyze the data. The analysis indicated that system, information, and service quality all were related positively to user satisfaction with social media both in Thai and Chinese people. This study provides implications for ways for social media developers to enhance the quality dimensions of social media both in China and Thailand.*

**KEYWORDS:** Social Media; User Satisfaction; Cross-Cultural; China; Thailand

### INTRODUCTION

#### Background of the Research

In this highly technological and globalized era, the platform for human communication has shifted to the virtual world (Sumathy & Vipin.K.P, 2016), in which people find and share information and their daily experiences with others online, which has promoted the emergence of social media. Social media are defined as forms of electronic communication (such as websites for social networking and micro blogging) through which users create online communities to share information and other content, such as videos (Rauniar, Rawski, Johnson, & Yang, 2013). Social media make it possible for everyone to generate content and interact with others socially (Moorhead et al., 2013). Over the past decade, social media sites, including Facebook, Twitter, and Weibo, have transformed modes of social interaction by creating new communication platforms, and many people try to integrate the information from social media sites to help them make decisions. Power and Phillips-Wren (2011) suggested that social media's influence on personal and managerial decision making can be extensive. Social media have become tools that influence consumers' awareness, information acquisition, opinions, attitudes, and behavior (Mangold & Faulds, 2009). For example, social media can alter consumer purchasing behavior by providing good or bad evaluations other consumers share. Today, different social media use different ways to help people meet their varied needs. Although they differ, these forms of social media all employ web-based technologies to create highly interactive platforms via which users can share, co-create, discuss, and modify user-generated content (Kietzmann, Hermkens, McCarthy, & Silvestre, 2011).

In recent years, social media have enjoyed a huge surge in popularity. Data from the Digital in 2017 Global Overview of the "We are Social" website indicated that there were 3.77 billion Internet users in 2017, 2.8 billion of whom used social media. According to the report, more than one-third of the world's population—approximately 2.8 billion people—use social media at least once a month. Moreover, approximately 18 new users join every second, which indicates that when you finish reading this sentence, more than 100 new users will have begun to use social media. Most people already use the largest social media platforms, such as Facebook, Twitter, Instagram, and YouTube, but there are many more social media than these, and people use various kinds of social media to connect with others for different reasons.

Following this trend, the numbers of social media users in Thailand and China have grown considerably each year. In Thailand in particular, there are more social media users than the global average. Social media use in Thailand has grown 21% since 2016 (We are social, 2017). 68.22 million Thai people use social media, 46 million of whom are active users. In China, because of the government's Great Firewall, the top social media like Facebook or Twitter are blocked, but China has WeChat, QQ, Qzone, and Weibo, which are in the top ten social networks ranked by the numbers of active users (We are social, 2017). China has a population of 1.38 billion and 596 million used social media in 2017. Social media users have increased 21% annually, and China posted 134 million new social media users during the past 12 months (We are social, 2017).

According to the data available, Thailand has a higher rate of social media use in the population, although it does not have a population as large as China. Hofstede (1980) influential framework demonstrated that people from different cultures are motivated by different values that lead to different attitudes and behaviors. In the past, China and Thailand had a shared value system in the cultural tradition of Confucianism, which has been most influential in shaping individual attitudes and behaviors in East Asian countries (Park & Cho, 1995). However, in the process of globalization, Western culture has begun to influence East Asian culture increasingly, especially in Thailand, so there is a significant difference today in their acceptance of Confucian values, which has led to different attitudes and values. Although they are influenced by the Confucian value system, researchers have suggested that cross-cultural variations may have appeared because of the different degrees of economic, social, and cultural transformation among these East Asian cultures (Watchravesringkan, 2008). Hence, it can be speculated that Thai and Chinese people may have different attitudes about the same social media. Meanwhile, strong positive associations have been found between user satisfaction and users' attitudes (Baumann, Burton, Elliott, & Kehr, 2007). Therefore, it is possible that people in these two countries differ in their satisfaction with the same social media.

Social media success should be investigated because of its wide popularity. At present, researchers simply have described the social media phenomenon, but have not focused on their use on the part of the end users (Rauniar et al., 2013). Ou, Davison, and Huang (2016) also have suggested that social media research should focus on its specific functions. Thus, there is a need to study social media based on their characteristics and users' choice behavior, as use is related to user satisfaction (Doll & Torkzadeh, 1991). Therefore, assessing social media end users' satisfaction can help determine who is using the sites, why, and for what purposes they use them (boyd & Ellison, 2007).

Many previous studies have investigated the factors that influence the success of information systems (IS), especially William H DeLone and McLean (1992) IS success model. Since they proposed this model, many researchers have applied it to different IS, such as student IS (Rai, Lang, & Welker, 2002), tourism companies' websites (Stockdale & Borovicka, 2006), and online retail sites (Brown & Jayakody, 2008), all of which are web-based IS. Social media also can be seen as web-based social media sites, so it is possible that the IS success model can be applied to them, although some dimensions of the model need to be adapted to the special system of social media. In this research, only system, information, and service quality were adopted to explain the social media system. Hong, Tam, and Yim (2002) stated that the fundamental factors necessary to ensure user satisfaction are superior IS design and marketing services. H.-F. Lin (2007) also indicated that user satisfaction can be increased by providing convenience, a well-designed user interface, customized information, and prompt service. The characteristics above are simple measures of IS quality. Therefore, we can assess users'

satisfaction with the quality dimensions of social media within the framework of the IS success model.

### **Research question**

As can be seen from the previous data, the number of social media users in Thailand and China has grown remarkably. C.-W. D. Chen and Cheng (2009) have proved that high levels of use are associated positively with high levels of user satisfaction. Thus, there is high user satisfaction in both countries. However, does this mean both Chinese and Thai users are satisfied with the same dimensions of social media quality? Bang, Raymond, Taylor, and Moon (2005) have argued that different cultures tend to value different dimensions of quality. Therefore, it is essential to identify which quality dimensions of social media are associated with user satisfaction.

### **Research objective**

The objective of this study was to determine whether the three aspects of social media quality, system, information, and service quality, are associated with user satisfaction. Accordingly, the research adopted William H DeLone and McLean (1992) framework of IS quality dimensions. This framework was selected because it is an existing measurement model that has been applied widely since its publication in 1992 (William H. DeLone & McLean, 2004). This model was proposed first for IS, and thus, only a few papers have used the model or some of its contents in research on social media (Emamjome, Rabaa'i, Gable, & Bandara, 2013; Rauniar et al., 2013). Moreover, no study was found that compared this topic in China and Thailand. Thus, another goal of this study was to explore whether the relation between each aspect of IS quality and user satisfaction is the same between China and Thailand.

### **Research Contribution**

This research provides several contributions. First, the study applies William H. DeLone and McLean (2003) model to social media research rather than IS research. Second, this research analyzed moderating effects to compare the results between China and Thailand to add more evidence to the existing literature about people's attitudes about social media quality dimensions in the two countries. In addition, this research also offers suggestions for social media developers to adjust the emphasis of their strategies to attract more users in both countries.

### **Organization of the paper**

The paper is organized as follows: first, the concept of social media quality dimensions and the way they influence user satisfaction is explained. Then, China and Thailand are compared. Next, the research model is proposed and the data are analyzed with a quantitative method. The results are presented, followed by a discussion and conclusions.

## **LITERATURE REVIEW**

### **Social Media**

Social media are defined as computer-mediated technologies that facilitate the creation and sharing of information, ideas, career interests, and other forms of expression via virtual

communities and networks (Noori, 2017). The rise of social media has changed the way that people communicate, and also has changed their lives (Kimanuka, 2015). Ou et al. (2016) attributed the surge in social media's popularity to their latent capacity to enable users to share information and ideas in ways previously impossible. Today, each of the many popular social media has its own functions and particular uses, and these platforms have more than one billion registered users. It has been reported that more than 60% of young people have at least one profile on social media and many spend more than two hours daily on social networking sites (Hajirnis, 2015). For example, teens now spend nearly nine hours daily on social platforms, and the majority of that time is spent on mobile devices (Asano, 2017). Various sources of evidence have shown that social media have become significant elements of people's daily lives (H. Lin, Fan, & Chau, 2014), and (Nielsen, 2015) reported that Internet users now spend more time on social media sites than any other type of site.

### **User Satisfaction and DeLone and McLean's Model**

User satisfaction is the most significant factor that affects users' intention to continue use in the related model of expectation confirmation theory (Bhattacharjee, 2001). William H. DeLone and McLean (2003) also believed that the user's satisfaction level drives use of a system, and thus, increased user satisfaction leads to increased use. The continuous use of social media indicates that users are more and more satisfied with social media today. Previous studies have investigated the functions of social media, but their quality dimensions also need to be considered to determine whether there is any association between quality dimensions and user satisfaction. Therefore, we need to know first what constitutes user satisfaction.

User satisfaction has been defined as a user's overall affective and cognitive evaluation of the pleasurable consumption-related needs fulfillment experienced with an IS (Hsieh, Rai, Petter, & Zhang, 2012). Users' satisfaction with IS also is defined as the affective attitude about a specific computer application by someone who interacts with it directly (Doll & Torkzadeh, 1988). If users are dissatisfied with one social medium, they can switch easily to a competing social commerce company to satisfy their needs (Beyari & Abareshi, 2018). Hence, user satisfaction is very important and it is necessary to revisit related theory about user satisfaction in the context of social media.

User satisfaction is among the measures of IS success used most frequently (Mudzana & Maharaj, 2017). The original IS success model DeLone and Mclean proposed in 1993 included system and information quality, use, user satisfaction, and individual and organizational effects. These six variables serve not as independent success measures, but as interdependent variables used to measure IS success (Petter, DeLone, & McLean, 2013). Thereafter, many other researchers began to study different IS systems based on this model. Pitt, Watson, and Kavan (1995) found that people focus more on products rather than the function of the IS services when they evaluate their effectiveness, and people will mismeasure IS effectiveness without measuring IS service quality, so there is a need to measure service quality as an element of IS success. In 2003, DeLone and McLean updated the model to include another six variables, system, information, and service quality, use, user satisfaction, and net benefit. One paper identified the temporal and causal interdependencies between these six dimensions and found that information, service, and system quality should be measured or controlled because they affect subsequent use and user satisfaction if used separately or together. Use and user satisfaction are related closely in the model proposed, and net benefits are the result of use and user satisfaction (Ou et al., 2016).

The model has been so successful that many researchers have cited it in different studies to explain the success of different IS and social media, even though some of these are not IS; however, we can understand the success of social media through the success of social media sites, which are IS. There remains one measure with which to compute user satisfaction that Doll and Torkzadeh developed to measure the specific software and IS applications, including web-based IS (Rauniar et al., 2013). Petter and Fruhling (2011) and Ou et al. (2016) both argued that the model of IS success can be applied to the social networking context. Therefore, in this paper, we applied this model to social media and chose the three quality dimensions of social media to explain their influence on user satisfaction based on prior research.

### Research Model

Based on the D&M model and the related literature, there are three primary variables that include sub-dimensions that influence users' satisfaction with social media, which are described in detail below. The research model used in this paper is shown in Figure 2.1.

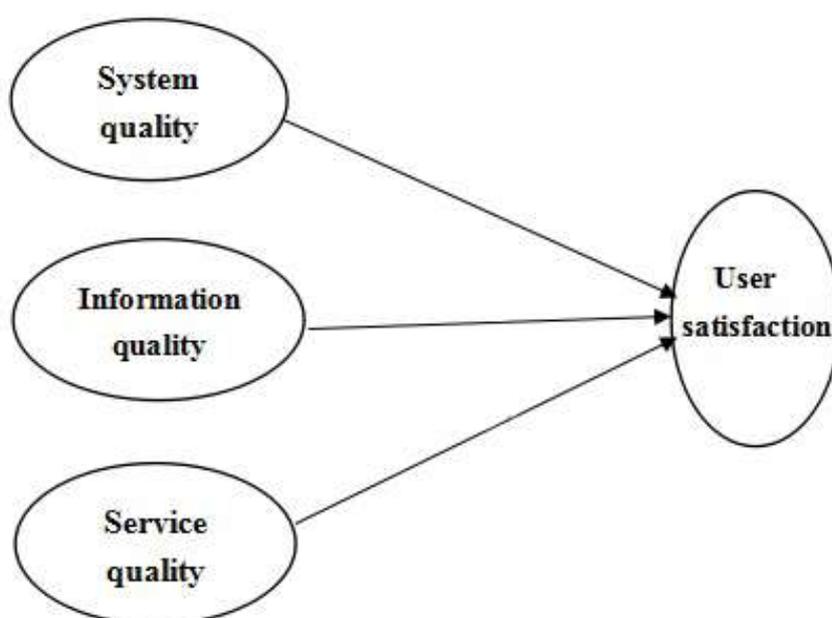


Figure 0.1 Research model adapted from William H. DeLone and McLean (2003)

### System Quality

System quality measures the way social media systems process information and can be measured by the degree of user friendliness that users perceive while using social media (H.-F. Lin, 2007). System quality focuses primarily on the technical aspects of an IS (William H. DeLone & McLean, 2003). For social media systems, system quality also is the primary metric used to study IS. Many researchers have developed multiple measures to assess system quality. Swanson used the reliability of the computer system, online response time, the ease of terminal use, and so forth (William H DeLone & McLean, 1992). System quality has been regarded as a functional measurement that includes reliability, responsiveness, and flexibility (C.-W. D. Chen & Cheng, 2009). Delone and McLean (1992) did not address the way in which each variable should be measured, but simply proposed certain sub-dimensions that can be selected

based on the purpose of the research. Examples of these measures are as follows: ease of use, system flexibility and reliability, ease of learning, as well as intuitiveness, sophistication, flexibility, and response time. These dimensions also are applicable equally to social media systems. In this study, the system quality of social media was considered to have three dimensions: reliability, ease of use, and responsiveness. Each dimension is defined as follows. Reliability refers to the dependability of IS operations (whether the IS acts efficiently at the proper time), and focuses largely on the technical aspects of an IS (Asano, 2017). An IS must be reliable, and a reliable system should have rapid error recovery and ensure correct operation (Liu & Arnett, 2000). For example, in WeChat, an experienced work team can guarantee system quality, and when there is a problem, the team can correct the system errors quickly and then provide explanations to users. Ease of use is the degree to which the social media system is user friendly. Anyone can learn to use WeChat easily because of its simple operation and clear instructions. Responsiveness refers to the presence of user feedback and the availability of responses from the site managers (Palmer, 2002). Users can join in the interactive multi-media-based environment to do what they want because of this feedback mechanism. WeChat now is developing into a large commercial transactions platform to meet users shopping needs by integrating online and offline channels, which also provides feedback to users with a new application of WeChat Mall. As a result, WeChat has become the most popular social media in China today.

Because millions of users transmit information, they have high requirements for social media system performance and to maintain their loyalty, a reliable system is required that ensures efficient action and quick error recovery (Ou et al., 2016). Hoxmeier and DiCesare (2000) argued that poor usability and lengthy system response time reduces satisfaction and causes people to stop using social media. When social media are easy to use, they help users conduct interactions more efficiently and increase their positive perceptions of social media's system quality (H. Lin et al., 2014). Previous research that has used different models of service quality has supported a positive relation between system quality and user satisfaction. For example, Iivari (2005) tested DeLone and McLean's IS model, and proved that perceived system quality, as measured by flexibility, integration, response time, recoverability, convenience, and reliability, is a significant predictor of user satisfaction. Cauter, Verlet, Snoeck, and Crompvoets (2017) also tested the IS model, and found a positive association between system quality and user satisfaction when they measured system quality as ease of learning and use, performance, and security. Based on these results, we expected to find that system quality contributes positively to user satisfaction in the context of social media. Therefore, the following hypothesis was proposed:

H1: The system quality of social media is associated positively with user satisfaction.

### **Information Quality**

Information has been considered an important asset for a long time, and things that lack information have no value. Scholars have stressed the importance of information quality repeatedly in the relevant IS literature, especially when the customers are users and customer-purchase decisions are the objective (William H. DeLone & McLean, 2004). Information quality in social media is slightly different compared to that in traditional IS. As we all know, social media makes use of information technology so users can share content, and has extended knowledge across organizational boundaries, so managers have no ability to influence the quality of the information obtained (Emamjome et al., 2013). In general, information quality has been defined as desirable characteristics of system outputs or the extent to which the

information fulfils the consumer's intended use (Cauter et al., 2017; Emamjome et al., 2013), and the extent to which it is important, helpful, meaningful, practical, and clear.

Good information has many positive characteristics, including being up-to-date, accurate, useful, and complete, all of which have been viewed as important determinants of perceived information quality (H.-F. Lin, 2007). Information quality also has many measurable dimensions. For example, Cauter et al. (2017) measured it according to completeness, sufficiency, and accuracy. The measures that are used most commonly are accuracy, currency, relevance, completeness, and comprehensibility (William H. DeLone & McLean, 2003). These dimensions also can apply to social media systems.

In this study, social media's information quality was considered to have four dimensions: completeness, relevancy, timeliness, and accuracy. Completeness indicates that all appropriate data are collected and stored, such that no information is missing (Cauter et al., 2017). For example, Weibo, also referred to as Chinese Facebook, focuses on allowing people to share the information and content they create themselves with others. The information always refers to current, popular events, about which users can obtain complete information because of the many people who share what they know about an event. Relevancy refers to the extent to which information is applicable to the task in hand (Emamjome et al., 2013). Most often, people can search the information shared by others who have the same experiences that are related to their lives through Weibo, such as how to solve various computer problems. Timeliness is the extent to which information is sufficiently up-to-date for the task in hand. People always can obtain timely information from knowledgeable people who tweet through Weibo. Accuracy indicates that correct, reliable data are recorded, and users can be assured that there are no errors either in the data or in the IS's output (Cauter et al., 2017). Although there may be inaccurate news sometimes, most often people can obtain accurate information because of the online surveillance of the Internet police.

Because different social media form a social network, users can continue to obtain the information that is important to them. Ou et al. (2016) suggested that social media satisfy people's needs for information. The more accurate, up-to-date, and useful the information presented through social media, the more people will engage in the social network, and the more they will be satisfied with their experiences. Various studies have found a significant positive relation between information quality and user satisfaction at the individual unit of analysis (Mudzana & Maharaj, 2017). Cauter et al. (2017) used completeness, sufficiency, and accuracy to measure information quality and found positive associations between information quality and user satisfaction. In a tourism setting, Kim, Lee, Shin, and Yang (2017) measured the information quality dimensions of value-added, relevancy, timeliness and completeness, they identified these quality factors were positively related to consumer satisfaction. Based on these results, we can expect to see a positive contribution of information quality to user satisfaction in the context of social media. Therefore, the following hypothesis was proposed:

H2: Social media's information quality is associated positively with user satisfaction.

### **Service Quality**

Service quality is users' perceptions of the quality related to user service and support, i.e., the extent to which administrators or user service staff provide support when they promise to do so, their willingness to help, their ability to answer questions, and their understanding of users' specific needs (Ou et al., 2016). There is no debate that support users receive is very important while they are using a social media system, whether it is provided through help desks, hotlines,

service centers, or the like (William H. DeLone & McLean, 2004). Service quality has become increasingly important with the popularity of social media, and without good service, users will receive poor support (Ou et al., 2016), which will translate to lost customers and sales (William H. DeLone & McLean, 2004). Social media rely more on the information that users generate and exchange, such that user support is not as important as in other enterprise-wide IS (Ou et al., 2016); nonetheless, social media providers that offer better service quality will be more competitive than are others. Service quality can be measured through users' needs, such as responsiveness and technical level. William H. DeLone and McLean (2003) has suggested tangibility, reliability, responsiveness, assurance, and empathy can be used to measure service quality, and these dimensions also apply to social media systems.

In this study, social media's service quality was viewed to include two dimensions: reliability and responsiveness, each of which is defined as follows. Reliability is the ability to perform the promised service dependably and accurately (Jiang, Klein, & Crampton, 2000). For example, WeChat has a special customer service department with professionals who can provide service at the time promised. Responsiveness is the willingness to help users solve problems they have with the system and provide prompt service for users when it is needed (Jiang et al., 2000). The service department provides answers to questions asked frequently anytime that users require or provides a phone number and email address to help users timely.

Researchers have indicated that service quality can be evaluated based on the assessment of whether the actual service provided meets user needs (Kettinger & Lee, 1994). D.Johnson and Fornell (1991) found that user satisfaction depends largely on fundamental needs and actual experiences. Users feel dissatisfied if they perceive that social media providers ignore them when they need user service (Ou et al., 2016). Previous research that has used different models of service quality has supported a positive relation between service quality and user satisfaction. For example, Liu and Arnett (2000) empirical study identified the function of service quality in user satisfaction, and used quick responsiveness, assurance, empathy, and follow-up service to measure the variability in service quality. In addition, C.-W. D. Chen and Cheng (2009) measured tangibility, reliability, responsiveness, assurance, and empathy, these can bring great usage from users. Based on these results, we can expect to see that service quality contributes positively to user satisfaction in the context of social media. Therefore, the following hypothesis was proposed:

H3: Social media's service quality is associated positively with user satisfaction.

### **The moderating role of culture—Hofstede's Cultural Dimensions**

Research has proposed that the cultural environment has a significant effect on people's beliefs, values, and attitudes (T.Gregory, G.Harris, A.Armenakis, & L.Shook, 2009). Thus, people in various nations will have different beliefs or values that the nation's culture shapes (Lok & Crawford, 2004). Therefore, in this paper, we wished not only to study the way the social media quality dimensions introduced above influence user satisfaction, but also to conduct a cross-cultural comparison between Thai and Chinese users to determine whether these two countries yield different results.

Culture is a general pattern of behavior based on the values and beliefs that develop over time in a given society (Matijević, Raguž, & Filipović, 2015). Moreover, culture tends to be relatively enduring and fundamental (Matijević et al., 2015). Many scholars in management research agree that the definition of culture is shared motives, values, beliefs, identities, and interpretations or meanings of significant events that result from members' common

experiences that are transmitted over generations (Markus & Kitayama, 1991). In the latter half of the 20<sup>th</sup> century, research on culture focused to a great degree on the cultural differences among different countries (Hofstede, 1980). A nation's culture is the values most people in the society hold at a particular time, not that of all the people all the time (Tse, Lee, Vertinsky, & Wehrung, 1988). The definition of national culture can be found in Hofstede's Cultural Dimensions framework, in which national culture is the collective cognitive programming that distinguishes the members of one group or category of people from another (Hofstede, 1993). Further, the norms and beliefs of a nation's culture are powerful forces that shape people's perceptions, dispositions, and behaviors (Markus & Kitayama, 1991). Thus, it is believed that national culture is a major environmental factor that can affect choices, including purchase behavior (Steenkamp, 2001). Some studies have investigated the way individuals choose to use social media and examined the effects of culture on webpage design (Lo, Waters, & Christensen, 2017) or the effects of organizational culture that support social media use (Vardeman-Winter & Place, 2015); however, these largely have addressed one nation alone. To date, few studies have focus on social media use in different cultures, which motivated us to conduct a cross-cultural investigation.

Many people have developed cultural frameworks, for example, Hofstede's six cultural dimensions (Hofstede, 2011), Schwartz's value theory (Schwartz, 1992, 1994), Victor's LESCANT mode I (Victor, 1992), and Inglehart's theory of value change (Inglehart, 1990), among others. Among all of these cultural frameworks, Hofstede's six-dimensional measure of culture has been the overwhelmingly dominant metric (Yoo, Donthu, & Lenartowicz, 2011) that can be used widely in different fields of research to improve our understanding of culture (Chan & Cheung, 2012), and contains the major conceptualizations of culture that have been developed within the past several decades (Yoo et al., 2011). Therefore, we applied Hofstede's theory in this study.

Hofstede was the management trainer at IBM International and he conducted a survey from 1967 to 1973 about employees' cultural values and collected over 100,000 questionnaires from subsidiaries of IBM in 72 countries, which made the study one of the largest cross-cultural surveys. His findings were published in the book *Culture's Consequences* to help people understand cultural differences. In 1980, Hofstede developed four dimensions of national culture, which included Individualism/Collectivism (IDV), the Power Distance Index (PDI), Masculinity/Femininity Index (MAS), and Uncertainty Avoidance Index (UAI). Thereafter, the Chinese Culture Connection team (1987) identified another cultural dimension, Confucian dynamism. However, this dimension is not correlated with any of the other four dimensions, so Hofstede added it as the fifth cultural dimension and referred to it as long-term orientation/short-term orientation (LTO: Hofstede & Bond, 1988). These five cultural value dimensions can be used to measure intercultural value differences (Reimann, Lünemann, & Chase, 2008). The dimensions are described below:

### **Individualism and Collectivism (IDV)**

The IDV dimension refers to the degree that people desire to be integrated into primary groups (Hofstede, 2011). Individualism is defined as people looking after themselves and their immediate family alone (Hofstede, Hofstede, & Minkov, 2010a). In individualism, people seek and protect their own interests over the common goals of the society and their roles in society (Dartey-Baah, 2013); they concentrate more on themselves or independence and seek the authority to make their own decisions (Dartey-Baah, 2013). Collectivism is defined as people belonging to groups and looking after each other to exchange loyalty (Hofstede et al., 2010a).

In collectivism, people do not need variety and diversity in society, but conformity and uniformity instead (Dartey-Baah, 2013), and they concentrate more on people's interdependence (Chan & Cheung, 2012); further, they tend to make group decisions (Dartey-Baah, 2013). In the IDV dimension, a high score indicates that individual rights and individuality are important to the society, while a low score indicates a more collectivist culture with close ties among individuals (Foster, 2015).

### **Power Distance Index (PDI)**

The PDI dimension is defined as the extent to which less powerful members of a society or an organization accept and expect that power is distributed unequally (Hofstede, 2001). In a high PD society, people in the social hierarchy all have their fixed place, and power is vested in a few people at the very top, while the majority of people are at the bottom and simply receive the commands and decisions from above (Dartey-Baah, 2013). In contrast, in a low PD society, people have more control over their lives (Chan & Cheung, 2012). They do not need to accept the commands or decisions from the top, but can make their own decisions (Dartey-Baah, 2013), such that the power is distributed roughly equally among people in these societies (R. House, Javidan, Hanges, & Dorfman, 2002; R. J. House, Hanges, Javidan, Dorfman, & Gupta, 2004). In the PDI dimension, a high score suggests that power and wealth are distributed unequally and the status quo is institutionalized to help the powerful, while a low score suggests that there is no emphasis on hierarchy and people in such cultures have more equal power and wealth (Foster, 2015).

### **Masculinity and Femininity (MAS)**

The MAS dimension is defined as the degree to which emotional roles are distributed between the genders (Hofstede, 2001). The dominant values in a masculine society are power, competitiveness, assertiveness, materialism, ambition, achievement, and success, while the dominant values in a feminine society are caring for others, and the quality of life and relationships (Hur, Kang, & Kim, 2015; Mooij & Hofstede, 2015). A high score on the MAS dimension indicates a masculine culture in which men and women are treated differently, and people are ego-oriented (Hofstede, 2001). In contrast, a low score indicates a feminine culture in which men and women tend to be modest, caring, and concerned with the quality of life (Viberg & Grönlund, 2013). Today, most countries are characterized by a masculine culture (Hofstede, 1980). In a masculine society, women do more housework than do men and are expected to be gentle and caring, while men focus more on material success (Rodrigues & Blumberg, 2000). In a feminine society, women can have the same values as men, and can be both nurturing and competitive, such that there is no difference between the genders when they hold the same position (Zhao, 2017). Generally, however, societies with a feminine culture are not as competitive as are those with a masculine culture (Dartey-Baah, 2013).

### **Uncertainty Avoidance Index (UAI)**

The UAI dimension is defined as the degree to which people feel comfortable or uncomfortable in unstructured situations, which can be described as those that are uncertain or ambiguous, such that a situation differs from the normal (Hofstede, 2001). In societies with high UA, people cannot tolerate unstructured situations, and do not like change and uncertainty (Chan & Cheung, 2012). Accordingly, people in these societies want to avoid risk (Dartey-Baah, 2013), and are willing to follow the current social system. These societies always are hierarchical and regulated heavily (Chan & Cheung, 2012). In contrast, people in societies with low UA are not bothered overly by uncertainty or ambiguity (Hofstede, 2001), and are more willing to accept

unknown changes and risks, and wish to enjoy the informality of life (Dartey-Baah, 2013). Therefore, people in these societies feel they have more control of their lives, authorities, and even the world (Hofstede, 1984).

### Long-term and Short-term Orientation (LTO)

LTO is defined as the extent to which a society exhibits a pragmatic, future-oriented perspective rather than a conventional historic or short-term perspective (Hofstede, 1991). A high LTO score suggests the country tends to be oriented more to the future (Buriyameathagul, 2013). People in these societies are willing to accept delayed gratification of material and social needs, and believe it is better to focus on achieving future goals to obtain current or future outcomes (Ganesan, 1994). In their opinion, the values of persistence, thrift, and loyalty are very important (Beugelsdijk, Maseland, & Hoorn, 2015; Dwyer, Mesak, & Hsu, 2005). In contrast, a low score suggests the country has a short-term orientation, and people in these societies depend on rapid outcomes (Buriyameathagul, 2013). They also respect traditions and social obligations to a greater extent (Hofstede, 2011), and the values of personal steadiness and stability are more important to them (Hofstede, 2011).

### Index scores of the five cultural dimensions

The index scores of the cultural dimensions differ in different countries; therefore, it was necessary to conduct a comparison between the two countries studied here. Table 2.1 shows the comparison of the index scores between China and Thailand. One aspect is similar, while the others differ. However, the differences will be used to explain why the perceptions of IS quality affect Chinese and Thai user satisfaction differently.

**Table 0.1 Hofstede's cultural dimensions and the index scores between China and Thailand**

Country	Individualism	Power distance	Masculinity / Femininity	Uncertainty avoidance	Long-term orientation
China	20	80	66	30	118
Thailand	20	64	34	64	32

(Source: Hofstede, 2011)

Table 2.1 shows that the IDV index in China and Thailand were the same, which indicates that both China and Thailand are collectivist societies.

China had an LTO index of 118 while Thailand's index was 32, so China has a long-term orientation and Thailand a short-term orientation. An LTO culture emphasizes the importance of the future, perseverance, and building long-term relationship (Hofstede, 1980). Good system quality in social media provides continuous efforts to ensure users can solve their problems (Liang, Ho, Li, & Turban, 2011). People in cultures with a LTO perceive the continuous efforts to meet users' needs with respect to brands by building strong, long-term relationships with them (Eisingerich & Rubera, 2010). Social media are a special type of online brand communities (Laroche, Habibi, Richard, & Sankaranarayanan, 2012). Therefore, people in cultures with a LTO can perceive social media with good system quality more easily than people in cultures with a STO. Social media with good system quality, such as reliability and ease of use, can satisfy users' needs for social interactions, which can increase their positive

perceptions of social media and user satisfaction (Liang et al., 2011; H. Lin et al., 2014). Therefore, people from LTO cultures are likely to be more satisfied with social media with good system quality. Thus, we hypothesized the following:

H4: The relation between social media system quality and users' satisfaction is more positive in the Chinese than in the Thai sample.

In the PD index, China was 80 while Thailand was 64, so comparatively, China has a culture with a higher PD, while Thailand's culture has a lower PD. In cultures with high PD, power is centralized among a few and hierarchically superior individuals usually make the decisions (Steinwachs, 1999). People in cultures with a high PD are expected to be told what to do and tend to accept and follow orders and decisions from superiors without question, so they do not have a strong motivation to access related and complete information (Calhoun, Teng, & Cheon, 2002; Hofstede, 2014; Steinwachs, 1999). Conversely, people in low PD cultures tend to make their own decisions and form their own opinions (Veiga, Floyd, & Dechant, 2001). Because of this preference, people in low PD cultures tend to have high expectations to receive timely, relevant, complete, and accurate information from social media. Therefore, people in a culture with a lower PD, such as Thailand, are likely to be more satisfied with the high-quality information from social media.

China had a UAI of 30, while Thailand's was 64. Uncertainty exists as a cognitive state when details of any situation are ambiguous or unpredictable or when information is unavailable or inconsistent (Vishwanath, 2003). Cultures high in UA values are more risk averse (Thompson & Chmura, 2015). Research has found that people in UA cultures tend to exhibit drastic behavioral changes when faced with limited information in an ambiguous decision-making context (I. Lee, Choi, Kim, & Hong, 2007). Because of risk-aversion and rationality, people from high UA countries gravitate to more complete and accurate information (Vishwanath, 2003). Therefore, people from a higher UA country, such as Thailand, expect to obtain high-quality information from social media and are inclined to feel satisfied with those that provide such information. Accordingly, we hypothesized the following:

H5: The relation between social media information quality and users' satisfaction is more positive in the Thai than in the Chinese sample.

China had a PDI of 80, and Thailand a PDI of 64, indicating that China is a higher PD country than is Thailand. Oh (1999) pointed out that user satisfaction can be influenced through perceptions of good service quality. Service quality perceptions result from a comparison of customers' expectations with the actual service performance (Pikkemaat & Weiermair, 2001). Gilbert A. Churchill and Surprenant (1982) indicated that people are more satisfied when they perceive that service performance is better than expected. Thus, people with lower expectations are satisfied more easily than are those with high expectations. Dash (2009) argued that people in high PD cultures tend to respect service providers, and because they accept the inequalities of power, they are more likely to tolerate shortcomings in reliability and responsiveness compared to people in a low PD culture. As a result of their tolerance of inequalities in power, they are likely to have a low level of service quality expectations (Donthu & Yoo, 1998). Therefore, faced with the same service, people in higher PD cultures such as China tend to have lower expectations of social media's service quality than do people in a culture with a low PD.

In the LTO index, China had a LTO and Thailand a STO. People in cultures with a LTO do not pursue truth eagerly and exhibit a future-oriented perspective (Hofstede, 1991); they also are

more tolerant. Donthu and Yoo (1998) pointed out that people in cultures with a LTO are likely to tolerate poor service delivery, and are prepared to find excuses when they encounter relatively poor service to maintain a relationship with their service provider (Tsoukatos & Rand, 2007). In addition, research has shown that people in these cultures have lower service quality expectations than do people with a STO (Donthu & Yoo, 1998). Therefore, people in LTO cultures tend to have lower expectations of service quality than do those in cultures with a STO. Accordingly, we hypothesized the following:

H6: The relation between social media service quality and users' satisfaction is more positive in the Chinese than in the Thai sample.

## **METHODOLOGY**

### **Sample and data collection**

In this study, we adopted published scales from IS research to measure the variables, all of which have been validated in previous research. Some minor wording changes were made to tailor the scales to the social media context. Harzing (2005) argued that research in more than one country usually involves respondents with different native languages, so people must translate a common language questionnaire into other languages. In this research, the questionnaire was developed first in English, and then was translated into Chinese and Thai. The participants were people who use social media in China and Thai. To obtain a diverse sample in China, a snowball sampling technique was used to collect data through the online platform, Questionnaire Star, in which people are asked to distribute questionnaires to their friends online. 237 questionnaires were collected and 17 were invalid, so there was a response rate of 92.8%. A convenience sampling technique was used to collect the Thai data. 210 questionnaires were handed out in one public university in Bangkok, and 201 valid questionnaires are collected with a response rate of 95.7%.

72 respondents in the Chinese sample were males (32.7 percent) and 148 are females (67.3 percent). Their mean age was 26.64 years ( $SD=6.80$ ). With respect to educational level, 45 respondents had less than a bachelor's degree (20.5 percent), 110 had a bachelor's degree (50 percent), 56 had a master's degree (25.5 percent), and 9 had a doctoral degree (4.1 percent). With respect to occupation, 79 respondents were students (35.9 percent), 117 were employees (53.2 percent), 2 were business owners (0.9 percent), and 23 were self-employed or freelance (10.5 percent). With respect to the frequency with which they used social media, 207 respondents used social media daily (94.1 percent), 9 used them several days per week (4.1 percent), 2 used social media several days per month (0.9 percent), 1 used social media more than once a month (0.5), and 1 used them once a month (0.5). With respect to average daily use of social media, 17 respondents spent less than one hour (7.7 percent), 51 spent 1 to 2 hours (23.2 percent), 45 spent 2 to 3 hours (20.5 percent), 32 spent 3 to 4 hours (14.5 percent), and 75 spent more than 4 hours (34.1 percent). The mean number of hours of average time spent on social media daily was 3.44 hours ( $SD=1.37$ ).

94 respondents in the Thai sample were males (46.8 percent) and 107 were females (53.2 percent). Their mean age was 29.17 years ( $SD=6.82$ ). 7 respondents had less than a bachelor's degree (3.5 percent), 71 had a bachelor's degree (35.3 percent), 121 had a master's degree (60.2 percent), and 2 had a doctoral degree (1 percent). 78 respondents were students (38.8 percent), 99 were employees (49.3 percent), 11 were business owners (5.5 percent), and 13 were self-

employed or freelance (6.5 percent). 192 respondents used social media daily (95.5 percent), 7 used them several days per week (3.5 percent), 2 used social media several days per month (1 percent), and none used social media more than once a month or once a month. 18 respondents spent less than one hour using social media (9.0 percent), 37 spent 1 to 2 hours (18.4 percent), 44 spent 2 to 3 hours (21.9 percent), 30 spent 3 to 4 hours (14.9 percent), and 72 spent more than 4 hours (35.8 percent). The mean number of hours of average daily use of social media was 3.5 hours (SD=1.37). The respondents' descriptive statistics are reported in Table 3.1.

**Table 0.2 Respondents' demographic characteristics**

	<b>China</b>	<b>Thailand</b>
<b>Age (in years)</b>	Mean: 26.64 Standard deviation: 6.80	Mean: 29.17 Standard deviation: 6.82
<b>Gender</b>	Male: 72 (32.7 percent) Female: 148 (67.3 percent)	Male: 94 (46.8 percent) Female: 107 (53.2 percent)
<b>Education level</b>	Less than bachelor's degree: 45 (20.5 percent) Bachelor's degree: 110 (50 percent) Master's degree: 56 (25.5 percent) Doctoral degree: 9 (4.1 percent)	Less than bachelor's degree: 7 (3.5 percent) Bachelor's degree: 71 (35.3 percent) Master's degree: 121 (60.2 percent) Doctoral degree: 2 (1 percent)
<b>Occupation</b>	Student: 79 (35.9 percent) Employee: 117 (53.2 percent) Business owner: 2 (0.9 percent) Self-employed/Freelance: 23 (10.5 percent)	Student: 78 (38.8 percent) Employee: 99 (49.3 percent) Business owner: 11 (5.5 percent) Self-employed/Freelance: 13 (6.5 percent)
<b>Frequency of social media use</b>	Daily: 207 (94.1 percent) Several days per week: 9 (4.1 percent) Several days per month: 2 (0.9 percent) Once a month: 1 (0.5 percent) More than once a month: 1 (0.5 percent)	Daily: 192 (95.5 percent) Several days per week: 7 (3.5 percent) Several days per month: 2 (1 percent) Once a month: 0 More than once a month: 0
<b>Average daily use (in hours)</b>	Mean: 3.44 Standard deviation: 1.37 Less than 1 hour: 17 (7.7 percent) 1-2 hours: 51 (23.2 percent) 2-3 hours: 45 (20.5 percent) 3-4 hours: 32 (14.5 percent) More than 4 hours: 75 (34.1 percent)	Mean: 3.5 Standard deviation: 1.37 Less than 1 hour: 18 (9 percent) 1-2 hours: 37 (18.4 percent) 2-3 hours: 44 (21.9 percent) 3-4 hours: 30 (14.9 percent) More than 4 hours: 72 (35.8 percent)

## Measures

The questionnaire for this study consisted of two parts, the first of which collected respondents' demographic information. Four items were used to assess the respondents' profiles: age; gender;

educational level; frequency of social media use, and the average time social media were used daily (in hours).

The second part measured the independent variables of the study, system, information, and service quality, and the dependent variable, user satisfaction. This study adapted the measures used in the IS success model literature, and some minor wording changes were made to tailor these measures to the social media system.

User satisfaction was measured using a scale C.-W. D. Chen and Cheng (2009) developed, which includes four questions.

System quality was measured using a scale C.-W. D. Chen and Cheng (2009), and H.-F. Lin (2007) developed, which is comprised of six questions that cover three aspects of system quality—reliability, ease of use, and responsiveness.

Information quality was measured using a scale Nelson, Todo, and Wixom (2005) and Y. W. Lee, Strong, Kahn, and Wang (2002) developed. The scale includes eight questions that cover four aspects of information quality: completeness; relevance; timeliness, and accuracy.

Service quality was measured using a scale Ou et al. (2016) and Gorla, M.Somers, and Wong (2010) developed. The scale includes four questions that cover two aspects of service quality, reliability and responsiveness.

These items are measured using a five-point Likert scale that ranges from 1 = strongly disagree to 5=strongly agree. All question items are presented in Table 3.2.

### **Control variables**

The following control variables that can affect user satisfaction also were included in the data analysis: age; gender; educational level; occupation; frequency of social media use, and average daily time using social media. Age was measured in years. Gender was measured as a dummy variable (females=0; males=1). Educational level was measured on an ordinal scale (1=less than bachelor's degree; 2=bachelor's degree; 3= master's degree; 4=doctoral degree). Occupation was measured as a dummy variable. Average time spent using social media daily was measured on an ordinal scale (1=less than 1 hour; 2=1 hour; 3=2 hours; 4=3 hours; 5=4 hours; 6=5 hours; 7=more than 5 hours). Respondents' nationality was measured as a dummy variable (Chinese=1; Thai=0).

### **Data analysis technique**

Partial least-squares (PLS) regression was used to analyze the data. PLS is a technique that integrates principal component analysis, path analysis, and a set of regressions to generate estimates of the standardized regression coefficients for the model's paths and factor loadings for the measurement items (W. W. Chin & Newsted, 1999). The approach was chosen because PLS regression has advantages that make it more appropriate than other statistical estimation techniques for small size samples or data with non-normal distributions (Goodhue, Lewis, & Thompson, 2012). The analysis was performed using Warp PLS v. 6.0.

**Table 0.3 Measurement scale**

<b>Construct</b>	<b>Items</b>
<b>System quality</b>	Social media performs reliably (0.51). The social media operation is dependable (0.54). Social media is convenient to access (0.72). Social media is user friendly (0.73). Social media employees are never too busy to give users feedback (0.80). Social media provides quick feedback (0.75).
<b>Information quality</b>	Social media provides me with a complete set of information (0.76). Social media provides comprehensive information (0.80). The information on social media is useful to me (0.73). The information on social media applies to me (0.73). Social media provides me with the most recent information (0.65). The information on social media always is up to date (0.59). Social media provides correct information (0.72). The information provided by social media is accurate (0.73).
<b>Service quality</b>	Social media user service has the ability to provide the service that they promised accurately (0.82). Social media user service provides their service at the time they promise (0.85). Social media user service is always willing to help you when you contact them (0.77). Social media user service gives prompt service to users when they are in need (0.83).
<b>User Satisfaction</b>	I am very satisfied with the information I receive from social media(0.78). I have a positive attitude about using social media (0.86). My interaction with social media is very satisfying (0.89). Overall, I am very satisfied with social media (0.88).

## RESULTS

Before using the PLS technique to estimate the research model, a series of analyses was performed to ensure the latent variables were sufficiently reliable and valid. First, two types of construct validity were considered: convergent and discriminant. Convergent validity is designed to ensure that each indicator of a given construct shares a high proportion of its variance (Paspallis et al., 2018). This can be assessed using factor loadings, which J. Hair, Black, Babin, and Anderson (2009) indicated should be greater than 0.50. The results shown in Table 3.2 indicate that all of the latent variables met this requirement. Discriminant validity is used to ensure a latent variable is differentiated from others (Paspallis et al., 2018), and is assessed using the average variance extracted (AVE). Fornell and Larcker (1981) recommended that the square root of the AVE of each construct should be more than that of the other correlations. The results in Table 4.2 show that the square roots of AVE of each latent

variable were significantly greater than those of the other correlations. Therefore, the level of discriminant validity of the latent variables was satisfactory.

Next, construct reliability is used to ensure that a scale yields the same response consistently (Nunnally Jr., 1978). This is tested using Cronbach's alpha ( $\alpha$ ) and composite reliability coefficients. Nunnally Jr. (1978) recommended that the Cronbach's alpha ( $\alpha$ ) should be more than 0.70 and J. F. Hair, Black, and Tatham (2010) suggested that the Composite reliability coefficients also should be greater than 0.70. The results in Table 4.1 show that all of the Cronbach's alpha ( $\alpha$ ) coefficients were greater than 0.70, and all of the Composite reliabilities were greater than 0.80. Therefore, all of the coefficients of the variables met the requirement.

Table 4.2 reports the correlations among the key variables, for which the full variance inflation factor (VIF) needs to be measured to ensure that multi-collinearity is not a major concern in the analysis. Multi-collinearity leads to very high inter-correlations or inter-associations among independent variables that will bias the results (H. W. Chin & Fitrianto, 2013). Petter, Straub, and Rai (2007) suggested that all the VIFs should be less than 3.30. The results showed that all of the VIFs ranged from 1.09 to 2.58, indicating that multi-collinearity did not need to be considered in the analysis.

Finally, to investigate the normality of the data, Warp PLS 6.0 provides two tests for normality, the Jarque-Bera test (Normal-JB) and the Robust Jarque-Bera test (Normal-RJB). The results are reported in Table 4.3.

**Table 0.1 Latent variable reliability indicators**

	<b>SYQ</b>	<b>IQ</b>	<b>SEQ</b>	<b>US</b>
<b>Composite reliability</b>	0.84	0.89	0.89	0.91
<b>Cronbach's alpha</b>	0.77	0.86	0.84	0.87

Note: SYQ=system quality, IQ=information quality, SEQ=service quality, US=user satisfaction.

**Table 0.2 Correlations among latent variable**

	<b>SYQ</b>	<b>IQ</b>	<b>SEQ</b>	<b>US</b>	<b>GEN</b>	<b>AGE</b>	<b>EDU</b>	<b>JOW</b>	<b>OEP</b>	<b>JSE</b>	<b>FRQ</b>	<b>AVT</b>	<b>NAT</b>
<b>SYQ</b>	(0.65)												
<b>IQ</b>	0.57***	(0.72)											
<b>SEQ</b>	0.54***	0.61***	(0.82)										
<b>US</b>	0.60***	0.71***	0.60***	(0.85)									
<b>GEN</b>	0.06	-0.06	-0.01	-0.03	(1)								
<b>AGE</b>	0.03	0.07	0.01	0.05	0.18***	(1)							
<b>EDU</b>	0.06	0.03	-0.02	0.05	0	0.16**	(1)						
<b>JOW</b>	0.06	0.05	-0.04	0.04	0.11*	0.29***	0.08	(1)					
<b>OEP</b>	-0.02	0.04	0.07	0.02	0.04	0.19***	-0.13**	-0.18***	(1)				
<b>JSE</b>	-0.12*	-0.09*	-0.07	-0.10*	-0.04	0.10*	-0.12*	-0.06	-0.31***	(1)			
<b>FRQ</b>	-0.03	0.02	-0.02	0.02	0.06	0.16***	-0.09	0.04	0.01	0.03	(1)		
<b>AVT</b>	0.08	0.05	-0.01	0.12*	-0.15**	-0.32***	0.00	-0.11*	-0.08	2	-	(1)	
<b>NAT</b>	-0.04	0.04	-0.07	0.09	-0.14**	-0.18***	-0.31***	-0.13**	0.04	0	0.244**	-	(1)
										0.07	*	0.023	
										1	0.050		

Notes: SYQ=system quality, IQ=information quality, SEQ=service quality, US=user satisfaction, GEN=gender, AGE=age, EDU=education, JOW=job of business owner, OEP= employee occupation, JSE= self-employed or freelance, FRQ=frequency of social media use, AVT=average time using social media daily, NAT= respondents' nationality (Chinese=1);

Square roots of AVEs are reported in parentheses;

\*\*\*, \*\*, \*  $p < 0.001$ , 0.01, and 0.05, respectively.

**Table 0.3 Normality of the data**

	<b>SYQ</b>	<b>IQ</b>	<b>SEQ</b>	<b>US</b>	<b>GEN</b>	<b>AGE</b>	<b>EDU</b>	<b>FRE</b>	<b>AVT</b>	<b>CHI</b>
<b>Normal-JB</b>	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
<b>Normal-RJB</b>	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO

Notes: SYQ=system quality, IQ=information quality, SEQ=service quality, US=user satisfaction, GEN=gender, AGE=age, EDU=education, FRQ=frequency of social media use, AVT=average time using social media daily, CI=Chinese dummy variable (Chinese=1).

In Table 4.3, “Yes” indicates that the data were distributed normally, while “No” indicates that they were not. The results in the table show that system quality, user satisfaction, and the control variables of gender, age, education, frequency of social media use, average time using social media daily, and the moderating role of the Chinese dummy variable were not distributed normally. Therefore, PLS was a suitable technique to adopt in this research, as compared to other methods, PLS does not require data distributed normally (Astrachan, Patel, & Wanzenried, 2014).

Results from the PLS analysis are reported in Table 4.4. Briggs and Elizabeth (2006) found that the bootstrapping method generally is superior in testing hypotheses with small samples. Efron, Hastie, Johnstone, and Tibshirani (2004) also recommended that *t*-values of the path coefficients in the structural model should be estimated using bootstrapping resampling. Therefore, a bootstrapping resampling method was used to estimate the beta coefficient and *p*-values (Efron, 1992), and we used a resampling procedure with 100 subsamples.

Various indicators determine the goodness of fit in PLS estimation. These include the average path coefficient (APC), average  $R^2$  (ARS), average full collinearity (AFVIF), Simpson’s paradox ratio (SPR),  $R^2$  contribution ratio (RSCR), and statistical suppression ratio (SSR) (Kock, 2012). Kock (2017) Warp PLS 6.0 manual indicates that APC refers to how strong the paths are in the model overall; ARS refers to the power to explain the model overall. It is recommended that the *p*-value for both APC and ARS should be equal to or less than 0.05. AFVIF is used to measure both vertical and lateral collinearity, or multi-collinearity, in the model, and the *p*-value is recommended to be equal to or less than 3.3 (ideally) or equal to or less than 5 (acceptable). The SPR index is a measure of the extent to which a model is free from instances of Simpson’s paradox, and the acceptable value of SPR is equal to or greater than 0.70, which indicates that at least 70 percent of the paths in a model are free from Simpson’s paradox. The RSCR index is a measure of the extent to which a model is free from negative  $R^2$  contributions, and its acceptable value is equal to or greater than 0.90, which indicates that the sum of the positive  $R^2$  contributions in a model constitutes at least 90 percent of the total sum of the absolute  $R^2$  contributions in the model. The SSR index is a measure of the extent to which a model is free from instances of statistical suppression, the acceptable value of which is equal to or greater than 0.70; 1.0 is ideal. The results Table 4.4 show that all of these indicators were satisfactory.

Table 4.4 shows two models, the first of which provides the results of the main effects that do not add the interaction term to test the moderating effect of national culture, and the second model provides the results of the effects that do add the interaction term to test the moderating effect.

**Table 0.4 PLS results**

Interaction term	Dependent variable	
	Model I Main effect	Model II Moderating effect
<b>System quality (H1)</b>	0.21**	0.20**
<b>Information quality (H2)</b>	0.43**	0.43**
<b>Service quality (H3)</b>	0.24**	0.24**
<b>Chinese Dummy Variable*system quality (H4)</b>		0.02
<b>Chinese Dummy Variable*information quality (H5)</b>		0.05
<b>Chinese Dummy Variable*service quality (H6)</b>		0.01
<b>Chinese Dummy Variable</b>	0.14**	0.14**
<b>Gender</b>	0.01	0.01
<b>Age</b>	0.06*	0.06*
<b>Education</b>	0.06*	0.06*
<b>Occupation, business owner</b>	0.02	0.02
<b>Occupation, employee</b>	0.02	0.02
<b>Occupation, self-employed or freelance</b>	0.03	0.03
<b>Frequency of social media use</b>	0.04	0.03
<b>Average time using social media daily</b>	0.11**	0.11**
<b>Model fit indicators</b>		
<b>R<sup>2</sup></b>	0.61	0.62
<b>Maximum full-collinearity VIF</b>	2.58	2.59
<b>Average path coefficient</b>	0.11***	0.09***
<b>Average R<sup>2</sup></b>	0.61***	0.62***
<b>Average full collinearity VIF</b>	1.54	1.63
<b>Simpson's paradox ratio</b>	0.83	0.80
<b>R-square contribution ratio</b>	0.10	0.10
<b>Statistical suppression ratio</b>	0.83	0.87

Notes: *p*-values as in Table 4.4 above

Standardized coefficients are reported.

Hypothesis 1 predicted a positive association between a social media system's quality and user satisfaction, and the results showed a positive and significant relation between the two ( $\beta=0.21$ ,  $p<0.01$ ). Therefore, Hypothesis 1 was supported.

Hypothesis 2 predicted a positive relation between a social media system's information quality and user satisfaction, and the results demonstrated a positive and significant relation between them ( $\beta=0.43$ ,  $p<0.01$ ). Accordingly, Hypothesis 2 was supported.

Hypothesis 3 predicted a positive association between a social media system's service quality and user satisfaction. The results indicated a positive and significant relation between them ( $\beta=0.24$ ,  $p<0.01$ ). Thus, Hypothesis 3 was supported.

The interaction between the Chinese dummy variable and each main independent variable in the hypothesis was created and added to the model estimation to test Hypotheses 4, 5, and 6, which addressed the moderating effects.

Hypothesis 4 predicted that the positive relation between a social media system's quality and user satisfaction will be more positive in the Chinese than in the Thai sample. The beta coefficient of the interaction term between the Chinese dummy variable and system quality in Table 4.3 was positive, but not statistically significant ( $\beta=0.02$ ,  $p=0.37$ ). Therefore, hypothesis 4 was not supported.

Hypothesis 5 predicted that the positive relation between a social media system's information quality and user satisfaction will be more positive in the Thai than in Chinese sample. The beta coefficient of the interaction term between the Chinese dummy variable and information quality in Table 4.3 was positive, but not statistically significant ( $\beta=0.05$ ,  $p=0.21$ ). Accordingly, hypothesis 5 was not supported.

Hypothesis 6 predicted that the positive relation between social media system's service quality and user satisfaction will be more positive in the Chinese than in Thai sample. The beta coefficient of the interaction term between the Chinese dummy variable and service quality in Table 4 was positive, but again, not statistically significant ( $\beta=0.01$ ,  $p=0.43$ ). Therefore, hypothesis 6 was not supported.

With respect to the significant relations between the dependent and the control variables, age, education, nationality, and average time using social media daily were related significantly to the dependent variable. The results indicated that older users expressed greater user satisfaction with social media than did younger users ( $\beta=0.06$ ,  $p<0.05$ ). Users with a higher educational level indicated greater satisfaction than did those with a lower educational level ( $\beta=0.06$ ,  $p<0.05$ ). Chinese users were more satisfied with social media than were Thai users ( $\beta=0.14$ ,  $p<0.01$ ). People who spent more time using social media expressed greater user satisfaction with social media than did those who spent less time ( $\beta=0.11$ ,  $p<0.01$ ).

Figures 4.1 to 4.3 indicate the moderating effects of culture. All of the graphs were generated from the PLS analysis with standardized data. The results shown are consistent with the results from the hypothesis tests. Figure 4.1a indicates that the positive association between social media system quality and user satisfaction was stronger in the Chinese than in the Thai sample. Figure 4.1b shows that the positive relation between social media information quality and user satisfaction was greater in the Chinese than in the Thai sample. Figure 4.1c illustrates that the positive association between social media service quality and user satisfaction was stronger in the Chinese than in Thai sample. However, none of the relations in these figures were

statistically significant. Therefore, no differences were found between Thai and Chinese users' satisfaction with the three dimensions of social media quality.

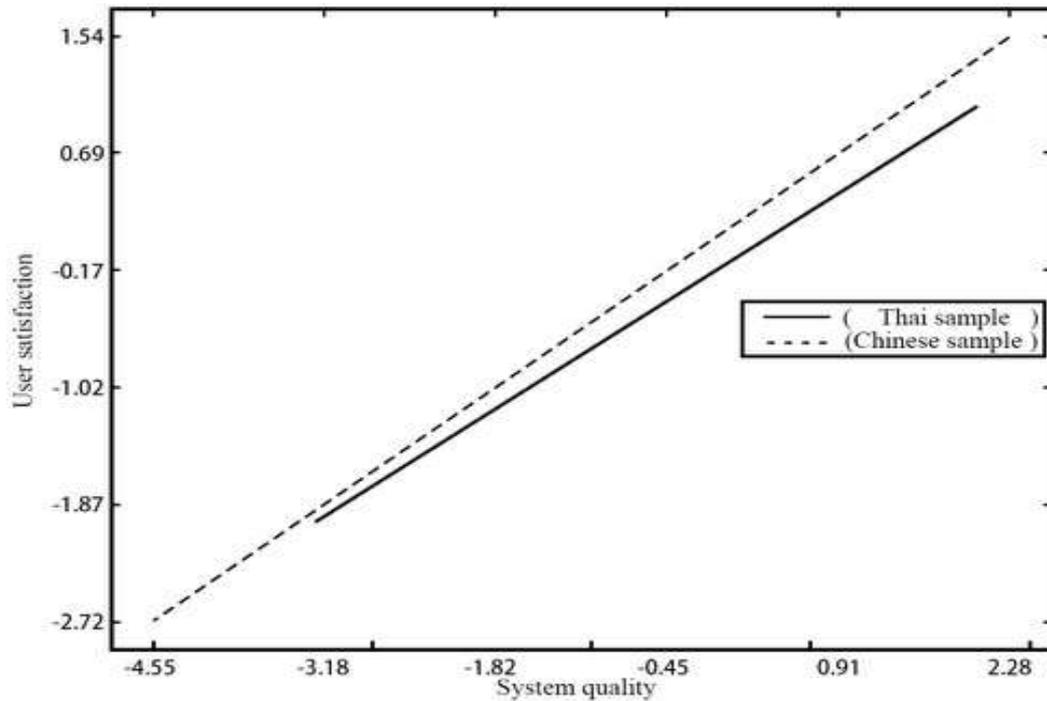


Figure 0.1. Relations between social media system quality and user satisfaction in the Thai and Chinese samples

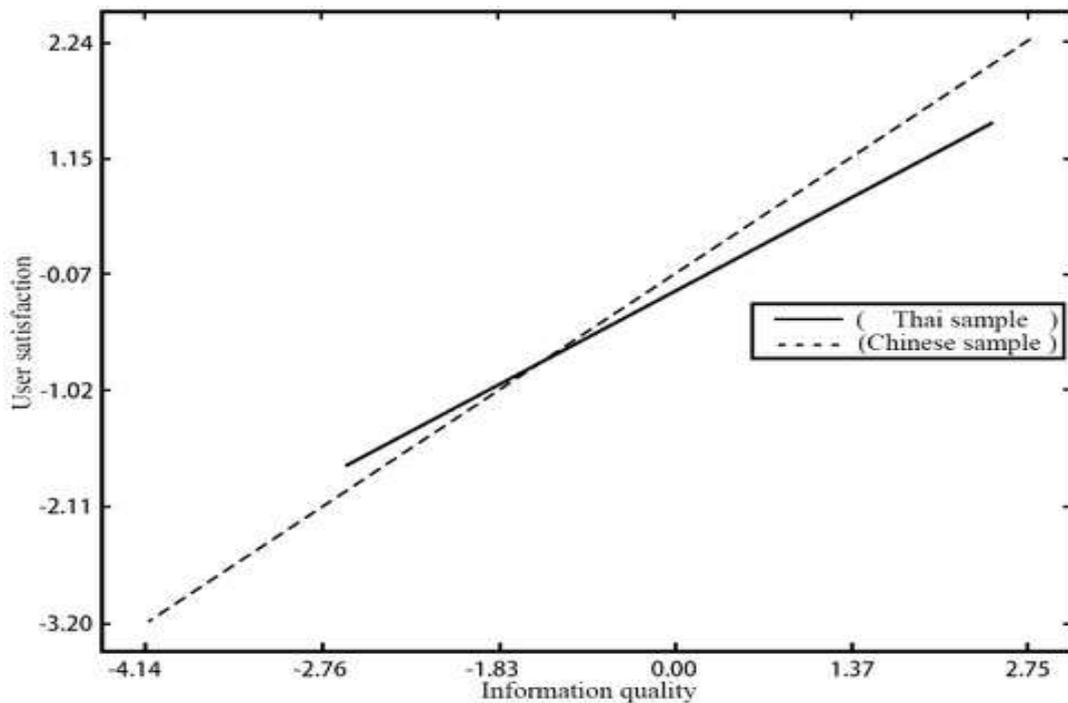


Figure 0.2. Relations between social media information quality and user satisfaction in the Thai and Chinese samples

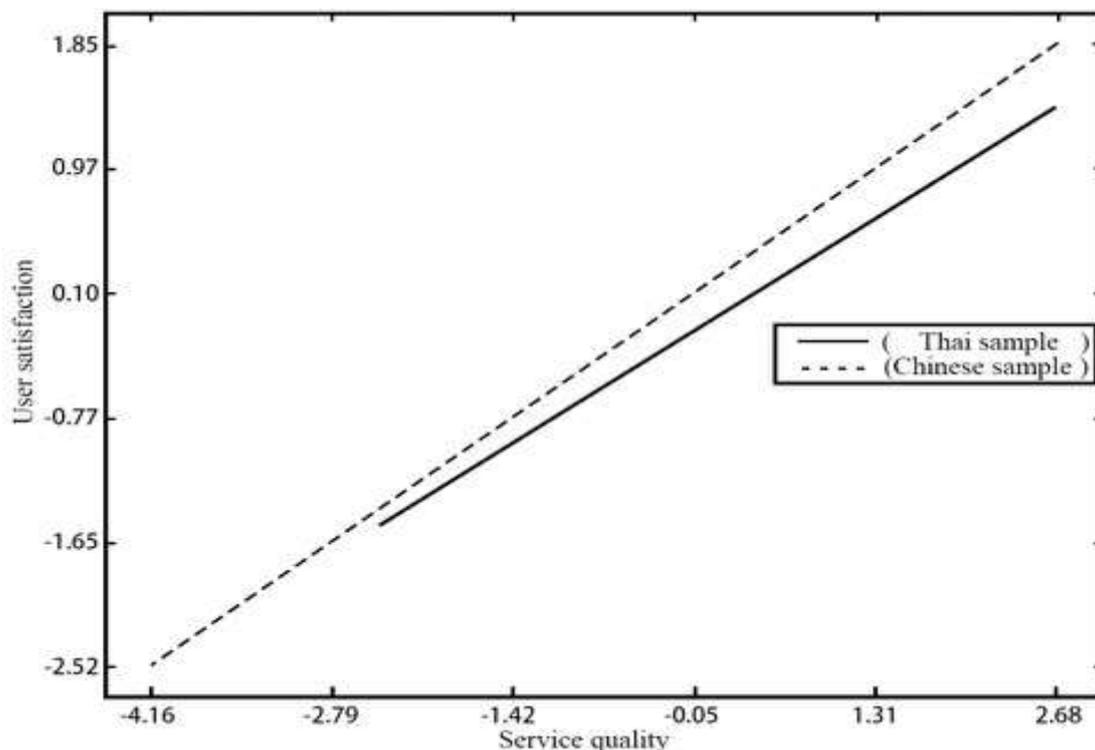


Figure 0.3. Relations between social media service quality and user satisfaction in the Thai and Chinese samples

## DISCUSSION

### General Discussion of the Results

This study explored the relations between social media quality dimensions (system, information, and service quality) and user satisfaction, and compared the results of the relations in these dimensions between Chinese and Thai social media users. The analytical results of the study are discussed below.

All of the factors of social media hypothesized to influence user satisfaction were supported. With respect to system quality, we found a strong and significant relation to user satisfaction. Specifically, the better the social media's system quality, the greater the users' satisfaction. This result is consistent with the findings from K. Chen and C.Yen (2004) study. Information quality also was found to have a significant positive association with user satisfaction. The higher the quality of the information users perceived on social media, the greater their satisfaction. This finding is consistent with a previous study by Mudzana and Maharaj (2017). The same also was found in the dimension of service quality, which was associated significantly and positively with user satisfaction. The better service users receive from the social media service center, the greater their satisfaction. This result is consistent with C.-W. D. Chen and Cheng (2009) findings. However, one point about social media's service quality needs to be noted. In real life, users do not always experience social media's service quality (Ou et al., 2016), because if social media are self-operated, people never contact the social media service center until they encounter problems previously unsolved. However, this does

not mean that social media service is unimportant, but simply that users may stop using it when they perceive that service is unavailable when they need it.

Moreover, the results of the analysis indicated there was no difference between Chinese and Thai users' satisfaction with the same dimensions of social media quality, which implies that people from the two countries do not differ in the way that system, information, and service quality are related to their satisfaction with social media use. We can speculate that the index scores of Hofstede's cultural dimensions for China and Thailand cannot discriminate clearly to which kind of culture users belong. For example, the PDI in China was 80, while it was 64 in Thailand. These scores only show us that China's culture has a higher PD than Thailand's has. Thus, the characteristics of Hofstede's cultural dimensions cannot be applied to the two countries accurately.

In addition, the significant beta coefficients for some control variables offered some useful information. In particular, this study found that in both the Chinese and Thai samples, older users tended to be more satisfied with social media than were younger users. Second, those with a higher educational level tended to be more satisfied with social media than were those with lower educational levels. Third, users who spent more time on social media tended to be more satisfied than were those who spent less time. Fourth, the results indicated that Chinese users tended to be more satisfied with social media than were Thai people.

### **Limitations**

This study has several limitations. First, the samples were collected largely from younger respondents, and the Thai sample was derived from a single university, such that the majority of the sample was students, which is not representative of the general population of social media users. Therefore, this limits the ability to generalize the results here. Second, this study used a self-reported questionnaire survey, and some people tend to give answers they believe will be viewed favorably, which results in a social desirability bias. Third, online surveys were used to collect data in China, and respondents received the questionnaires from friends. It is possible that some respondents filled out the questionnaire without giving it much thought, or treated it like a task, and thus, did not answer the questions seriously. In such cases, researchers have little control over which people fill out the questionnaires and how, which jeopardizes the survey's reliability (Lefever, Dal, & Matthíasdóttir, 2007). Finally, because of the government policy in China, people in China cannot use social media such as Facebook or Twitter that Thai people do use, so users in the two countries did not have the same social media as references, although they may perceive the same quality dimensions of these different social media differently. However, despite these limitations, the authors expect that this study will help further applications of the IS success model to social media.

## **CONCLUSIONS**

### **Research Contribution**

This study applied DeLone and Mclean's model to social media systems rather than IS, as many researchers have done previously, which can widen the scope of the literature in this area. Further, to the best of the authors' knowledge, little previous literature has studied this topic in a comparison between China and Thailand, and thus, the study also fills the gap in this area, and can improve our understanding of the cultural differences between China and Thailand.

Moreover, the results of this study indicated that the three social media quality dimensions had the same effects on user satisfaction in both countries, such that users in the two countries focused on the same factors despite differences in their nations' cultures.

### **Practical Implications**

In addition to the most popular social media, such as Facebook or WeChat, the recent surge in the popularity of new social media platforms in China, such as Tiktok, has aroused public interest substantially, because people are able to update their status in their own unique way anytime and anywhere on these platforms. Social media are not just simple platforms to share information with others now; they have become effective tools for marketing as well. Therefore, social media will be more important in future, and it is critical for social media developers in Asia to know that in developing a social media system, they need to emphasize its system, information, and service quality equally to attract and maintain users regardless of whether they are Thai or Chinese. First, the quality of a system should be guaranteed, and have a simple user interface and a professional team to recover system errors quickly and give feedback to users timely. Second, it should provide high-quality information that is complete, up-to date, relevant, and accurate to suit users' needs. Finally, the service promised should be performed timely and accurately, and users' problems should be solved as quickly as possible. All of these dimensions are important to achieve user satisfaction.

### **Implications for Future Studies**

Some points need to be considered in future studies in this area. First, it would be valuable to study different countries that use the same popular social media. Second, it is better to use one social media platform as the reference, such as Facebook or Twitter. Finally, it would be ideal to use more diverse samples, such as those from different industries, regions, and ages.

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