Critical Factors Affecting Consumer Acceptance of Online Health Communication: An Application of Service Quality Models

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Abstract

The paper examines critical factors affecting consumer behavioral intentions in accepting online health communication through social networking sites. Unlike recent research under this topic, the paper assimilates some components of service quality dimensions and consumer behavior theories. The paper employs factor analysis and structural equation modelling analysis with latent variables to identify critical factors from the survey data collected from Korean consumers. The results of the study identifies three major constructs: consumer needs for health information, the perceived value of tangible attributes of health information providers, and the perceived value of intangible attributes of health information providers. The results show that consumer needs for health information and the tangible and intangible attributes of health information providers should be considered as important antecedents of accepting online health communication through social networking sites. The findings suggest that the success of online health communication via social networking sites largely depends on the tangible and intangible attributes of health information providers.

Keywords: Structural Equation Model, Factor Analysis, Health Information, Health Communication, Health Information Providers, Service Quality, Tangible Attributes, Intangible Attributes, Korea.

JEL Classification Code: L86, M15, M31, M37.

1. Introduction

Access to the Internet and social networking sites has witnessed a remarkable growth in all regions of the world. Social networking sites are rapidly transforming the way people communicate around the world. They elevate electronic communication to near face-to-face methods with one of the most popular connected devices that people use today being the mobile phone.

Social networking sites are rapidly emerging as a popular platform of providing health information especially for teens and young adults. Therefore, health information providers should recognize the importance of and the usefulness of social networking sites to communicate health information. In this regard, a better understanding of consumer behavioral intentions to use social networking sites in searching health information is an important and timely area of research. This paper attempts to incorporate some components of service quality dimensions and consumer behavioral theories to identify critical factors affecting consumer behavioral intentions to accept online health communication through social networking sites.

2. Literature Review

2.1. Health Communication over the Internet and Social Networking Sites

As health information becomes increasingly available over the Internet and social networking sites, individuals take a more active role in managing their personal health information by the use of the Internet and social networking sites. For example, a study reports that health information seekers turning to the Internet are younger, more educated and have higher income (Koch-Weser et al., 2010). However, another study reports that individuals' trust in online health information did not correlate with personal capital factors such as income, education and health status

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(Ye, 2010). It is said that, as individuals perceive their health communication with providers to be less patient-centered, they are more likely to engage in various types of online health communication activities such as using websites and social networking sites (Hou & Shim, 2010). A study reports that the trust in online health information is a significant predictor of online health communication (Rains, 2007). Another study reports that Internet health information has a positive effect on the increasing demand for online health communication (Suziedelyte, 2012).

In addition, Antheunis, Tates, and Nieboer (2013) provide some support that the use of social networking sites in the healthcare service grew significantly through established new information and communication technologies. For example, when Web 2.0 technologies were applied, the online health communication between patients and healthcare professionals were improved.

An increasing number of Internet users who are seeking health information are no longer solely passive consumers of online health information. They are also active producers as well. Social networking sites are increasingly being used as online venues for the exchange of health-related information and advice. For example, a study reports that 35% of online adults used social networking sites within the past 12 months, and there were no significant difference in the use of social networking sites by ethnicity or socioeconomic position (Kontos et al., 2010). Much literature also provides support for the increasing use of social networking sites to promote public health efforts (e.g. Cutrona et al., 2015; Lapinski et al., 2015; Lee et al., 2014; Metzger & Flanagin, 2011; Wright et al., 2013).

Focusing on the flow of communications between patients and healthcare providers, health information exchange was applied to transfer patients' information across healthcare institutions (O'Donnell et al., 2011). The health information exchange improved healthcare communication in the form of personal health records that patients could electronically access to their medical information from anywhere. Also, the patients were able to conduct administrative tasks online. As a result, the use of the health information exchange improved the communication among healthcare stakeholders as well as significant cost saving opportunities for both patients and healthcare providers. In addition, Koivunen, Niemi, and Hupli (2014) also mentioned the use of electronic devices within healthcare professionals which were used for practical nursing communication. It provided several advantages that improved the service quality of health communication. The use of electronic devices improved personal competences and transfer of administrative information. For example, healthcare professionals sent emails to communicate about patients' physical conditions. It was cost-savings and also improved time efficiency.

2.2. Service Quality Dimensions of Online Health Communication

Parasuraman, Zeithaml, and Berry (1988) categorized service quality into five dimensions in general, which largely divided into tangibles and intangibles. The tangible includes facilities, equipment and appearance of staff while intangibles are categorized into four dimensions: reliability, responsiveness, assurance and empathy. Clemes, Ozanne, and Laurensen (2001) further highlighted responsiveness, empathy and tangibles as three dimensions that closely related to healthcare services. In addition, it is said that different patients' characteristics led to different needs and wants for healthcare services (Clemes et al., 2001). For example, female patients were more concerned than men about reliability of the healthcare services. However, since the healthcare service has unique characteristics, some studies claim that other dimensions should also be taken into considerations such as efficacy, admission, assurance and empathy (Chaniotakis & Lymperopoulos, 2009), and personalization (Cutrona et al., 2015), for example, the use of personalized e-mail messages. Furthermore, Guiry, Scott, and Vequist (2011) reported that the service quality also depended on consumers' expectations, which compared with their perceptions of the actual service delivered.

With regard to the service quality of health communication, a study reports that the web introduction and the growth rate of Internet allowed people to search health information through search engines (Bert et al., 2013). Electronic health (e-health) was introduced as a new way aiming to improve healthcare communication by using information and communication technology. Furthermore, a study confirms that the use of Internet in the healthcare service industry improved communication through sharing platform (Yew, Choo, & Norishah, 2013). A few websites provided services that connected the cancer patients, caregivers and survivors together, and enabled them to communicate through online forum discussion. Also, the Internet allowed patients and survivors to form healthcare support groups through social media platform. Members of a trusted social group can access to health information in the form of facts, advice and personal experiences (Yew et al., 2013). For instance, the cancer patients and survivors communicate through Facebook, and sometimes shared the information that they thought interesting and reliable, mostly from friends and family. Additionally, they also report that people went online not only to find health information but also to gain peer support.

Another study supports the study of Yew et al. (2013) by introducing online health communities and Internet-based discussion forums (Rupert et al., 2014). The online health communities are peer-generated health information through

social networking sites. Treatments and medications were main communication exchanged by patients and caregivers through these communication channels. Healthcare providers, however, concerned about inaccurate information and some of them might not agree to apply this knowledge to patients' treatments. Some healthcare providers, on the other hand, appreciated the peer-generated health information, and they were willing to apply the health information to patients' treatments (Rupert et al., 2014). Dolce (2011) also reported that the use of Internet enhanced healthcare relationships. Since healthcare providers neither had enough time to communicate with patients nor keep up with the most current information, the healthcare providers or professionals should collaboratively explore online health information with patients or caregivers, which satisfies patients or caregivers in terms of health communication. Bert et al. (2013) report that, according to the women facing a pregnancy, the information from the Internet fulfilled the women needs and empowered them when they spoke to healthcare professionals. Healthcare professionals should either provide more information or guide these women to use reliable websites.

Chung (2013) reported that individuals who turned to the Internet for health information were concerned the most about trusting online health information and the quality of the health information. A possible reason was that the health information customers acquired online caused increasing concerns about their personal health conditions. In other words, the growing anxieties would consequently increase the times that these online health information seekers visit doctors owing to the fact that some online health information could be incorrect and biased for their use. Therefore, after searching such inaccurate information, patients seemed to visit their health professionals more frequently. Suziedelyte (2012) reported that the Internet was a complement to formal healthcare rather than a substitute for health professionals. Kim and Kwon (2010) reported that while preferring health information directly from their doctors over the Internet, patients use the Internet as their secondary information source. In addition, a study reports that although 35% cancer listserv users chose the Internet as their preferred source of health information, the level of empathy shown by the provider and the quality of time spent with the patient had a significant negative association with choosing the Internet as a preferred source of information (Tustin, 2010). Another study also reports that the higher the unmet need for health information was, the more likely individuals were to spend time in specialized health information (Lee & Hawkins, 2010). They emphasized the important role of provider-patient communication in motivating individuals to turn into the Internet for health communication purposes.

2.3. A Conceptual Model and Hypothesis

The hypothesized structural model is displayed graphically in Figure 1. Figure 1 shows the measurement component and the structural component by using thin lines. Big circles represent the latent variables that are unobserved endogenous variables. The indexes on the lines represent hypotheses, which will be replaced by coefficient values of the parameters estimated in the model.
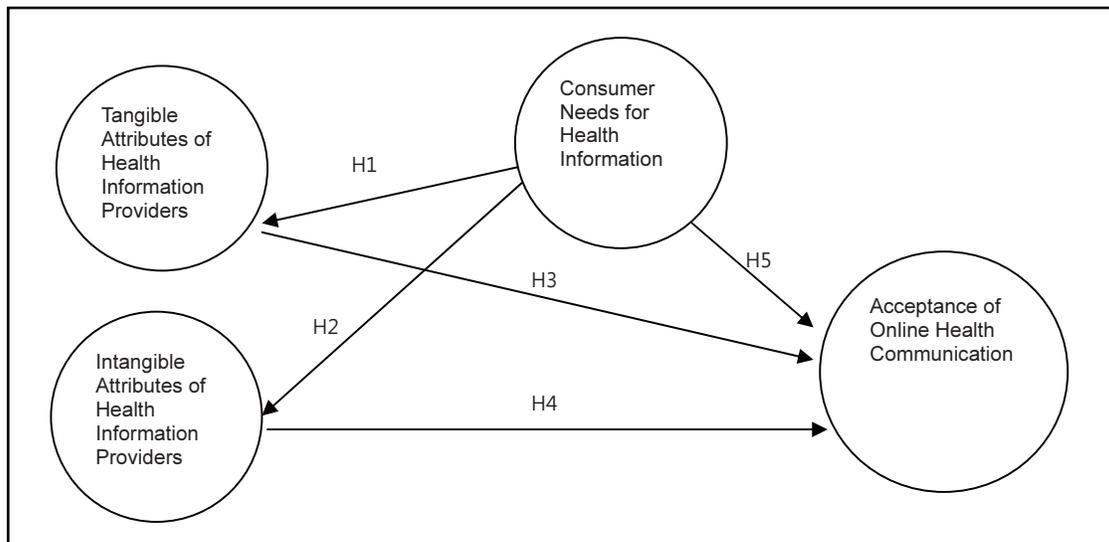

Figure 1. Conceptual Model of Acceptance of Online Health Communication

The following hypotheses are generated for verification based on the review above:

Hypothesis 1: Consumer needs for health information have a positive effect on tangible attributes of health information providers.

Hypothesis 2: Consumer needs for health information have a positive effect on intangible attributes of health information providers.

Hypothesis 3: Tangible attributes of health information providers have a positive effect on the acceptance of online health communication.

Hypothesis 4: Intangible attributes of health information providers have a positive effect on the acceptance of online health communication.

Hypothesis 5: Consumer needs for health information have a positive effect on the acceptance of online health communication.

3. Research Methodology

3.1. Survey and Sample Characteristics

Given that the model embeds complex relationships of acceptance of health communication through social networking sites, this study collected self-reported consumer perceptions using a questionnaire. An initial structured questionnaire was developed based on existing literature (e.g. Keillor, Hult and Kandemir, 2004; Lee, 2010; Parasuraman, Zeithaml, and Berry, 1988). The initial questionnaire included 23 items related to various constructs discussed in this study and 6 items that capture information pertaining to respondent gender, age, monthly income, educational level, employment status, and experience of searching health information through the Internet. The questionnaire was refined based on the feedback and initial analysis. A final questionnaire retained 18 items related to the various construct and 6 items for demographic information.

The principles of scale design and development are well documented in literature (e.g. Nunnally & Bernstein, 1994), and they are used to describe the methods of item selection, content validation, construct validation, reliability assessment, scaling and analysis. Dutta-Bergman (2005) measured health information searching behaviors, defined as a patient's willingness to seek additional health information beyond the doctor, by a single item. The item was measured on a 6-point scale ranging from 1 (= definitely disagree) to 6 (= definitely agree). Maibach et al. (2006) measured health information searching behaviors by multiple items. Each item was measured on a 5-point Likert scale. Stephens, Rimal, and Flora (2004) also measured health information searching behaviors with a three-item composite index measured by a 5-point scale. Although health information searching

behaviors were reported by reliability estimates (Stephens et al., 2004), the methods used in the studies did not lead themselves to reliability measures. In addition, the sensitivity of data in measuring consumer perceptions and behavioral intentions in different cultural contexts also poses a problem for the adoption of a single superior scale due to the limited data comparability (e.g. Bartoshuk, Fast, & Snyder, 2005; Dawes, 2008). For this reason, different researchers have employed different scales in their measurement of consumer perceptions and behavioral intentions as one size does not fit all. A seven-point Likert type scale is used in this study. To sum up, the scale ranges are from (1) strongly disagree, (4) neutral, and to (7) strongly agree.

A web-based survey was conducted with an online survey company in South Korea. There were a total of 746 filled-in questionnaires in the web-based survey, but 260 cases were removed from the analysis because of missing data or outliers. The final sample size was 486 cases that have no missing data and they were used for following analyses. These selected cases include the respondents who have registered to any of social networking sites and have experiences of sharing their health information via social networking sites. The concern that the web-based survey might induce a self-selection bias would be less serious on this sample because online survey participants who participated frequently in this kind of web-based surveys would more likely to respond. Table 1 presents descriptive statistics of the survey and sample characteristics.

Table 1: Survey and Sample Characteristics

Characteristics	Classifications	Frequency*	Percent
Gender	Male	178	36.6
	Female	308	63.4
Age group	Under 20 years old	20	4.1
	21 – 30 years old	129	26.5
	31 – 40 years old	181	37.2
	41 – 50 years old	113	23.3
	Over 51 years old	43	8.9
Monthly income	Less than US$ 1,000	80	16.4
	US$ 1,001- 2,000	135	27.8
	US$ 2,001- 3,000	132	27.2
	US$ 3,001- 4,000	66	13.6
	US$ 4,001- 5,000	50	10.3
	More than US$ 5,001	23	4.7
Education level	Secondary (high school)	141	29.0
	Junior college	84	17.3
	College or University	238	49.0
	Graduate	23	4.7
Employment status	Full-time employee	261	53.7
	part-time employee	75	15.4
	Self-employed	86	17.7
	Unemployed	54	11.1
	Other	10	2.1
Experience in searching health information online	Yes	486	100.0
	No	0	0.0

* Sample size = 486

3.2. Factor Analysis and Internal Consistency Reliability Test

Bartholomew (1996) and Basilevsky (1994) provided a comprehensive description of scale development and validation. Evidence of the effectiveness of the scale for its purpose in this study was examined. Many methods of validation rely heavily on the analysis of inter-term or inter-scale correlations. Construct validity embraces a variety of techniques for assessing the degree to which an instrument measures the concept that it is designed to measure: this include testing dimensionality and homogeneity. Construct validation is examined as a process of learning more about the joint behavior of the items and testing new predictions about this behavior. Factor analysis is an often-used technique in this process and purpose. In order to ensure the construct validity of the measurement instrument, factor analysis was employed in a two-stage process. First, the exploratory factor analysis with a varimax rotation procedure was employed to identify underlying predictors based on an eigenvalue cut-off of one. Second, the confirmatory factor analysis using structural equation modeling techniques were employed to confirm that the identified predictors are fitted the items correctly and reliably.

To identify underlying predictors of acceptance of online health communication, factor analysis with a varimax rotation procedure was employed. The component factor analysis was used to uncover the underlying structure of a large set of items and identified four components: component one with five items (eigenvalue = 3.796), component two with five items (eigenvalue = 3.564), component three with four items (eigenvalue = 3.202), and component four with four items (eigenvalue = 2.218). The analysis resulted in the retention of 18 items, which represented the four components. Afterward, the four components were used for the following analysis.

To test the appropriateness of factor analysis, two measures - the Kaiser-Meyer-Olkin and the Bartlett's test - were used. The Kaiser-Meyer-Olkin overall measure of sampling adequacy was 0.894, which falls within the acceptable significant level ($p < 0.01$). The Barlett's test of sphericity was 5800.907 with 153 degrees of freedom, which shows a highly significant correlation among the survey items ($p < 0.01$). The sums of squared loadings from the four components have the cumulative value of 71.005 percent in explaining the total variance of the data. The results of exploratory factor analysis using principal component analysis extraction method are reported in Table 2.

Table 2: Results of Factor Analysis of the Survey Question Items

Item Code	Factor Loadings	Eigenvalue	Extracted Variance	Construct Name	Item-total Correlation	Cronbach α
X101	0.597			Tangible attributes of health information providers	0.583	
X102	0.678				0.612	
X103	0.703	2.218	12.325%		0.529	0.780
X104	0.755				0.616	
X105	0.784			Intangible attributes of health information providers	0.726	
X106	0.761				0.746	
X107	0.815	3.796	21.087%		0.760	0.901
X108	0.841				0.770	
X109	0.832				0.764	
X110	0.781			Consumer needs for health information	0.743	
X111	0.774				0.704	
X112	0.789	3.564	19.803%		0.742	0.881
X113	0.740				0.712	
X114	0.700				0.673	
Y201	0.709			Acceptance of online health communication	0.623	
Y202	0.872				0.844	
Y203	0.878	3.202	17.791%		0.863	0.893
Y204	0.767				0.734	

Internal consistency reliability is a measure of how well a test addresses different constructs and delivers reliable scores. A more comprehensive description of scale development and reliability is given in literature (Dunn, 1989). Three main reliability tests are split halves, Kudar Richardson and Cronbach's alpha tests. These tests check whether the constructs measured by a test are correct, and whether subject and size of the data and responses dictate the test used. However, the most common method for assessing internal consistency is Cronbach's alpha. The form of intra-class correlation is closely related to convergent validity i.e. the extent to which the items in a scale are all highly inter-correlated. For example, in a series of questions that ask the subjects to rate their response between one and seven, Cronbach's alpha gives a score between zero and one, with 0.7 and above being considered as reliable. The test also takes into account both size of the sample and the number of potential responses.

The Cronbach's alpha test is preferred in this study due to the benefit of averaging the correlation between every possible combination of split halves and allowing multi-level responses. For example, for the four constructs, the internal consistency reliability test provides a measure so that each of these constructs is measured correctly and reliably. The results of internal consistency reliability tests for the four constructs are identified as the following: tangible attributes of health information providers (4 items, α = 0.780), intangible attributes of health information providers (5 items, α = 0.901), consumer needs for health information (5 items, α = 0.881), and acceptance of online health communication (4 sites, α = 0.893). The details of the internal consistency reliability tests, including item-total correlation coefficient values, are reported in Table 2.

The confirmatory factor analysis using the structural equation modeling technique was employed to confirm that the identified predictors fit the items correctly and reliably. The results of confirmatory factor analysis indicated that a single factor solution fits the items appropriately:

Tangible attributes of health information providers: The tangible attributes variable was measured by four survey items and explained 12.325 percent of the total variance. The factor loading value of each item to the variable is presented in Table 2. The Cronbach's alpha for the scale was 0.780. The confirmatory factor analysis for convergent validity indicated that a single factor solution fits the items acceptably.

Intangible attributes of health information providers: The intangible attributes variable was measured by five survey items and explained 21.087 percent of the total variance. The factor loading value of each item to the variable is presented in Table 2. The Cronbach's alpha for the scale was 0.901. The confirmatory factor analysis for

convergent validity indicated that a single factor solution fits the items acceptably.

Consumer needs for health information: The consumer needs variable was measured by five survey items and explained 19.803 percent of the total variance. The factor loading value of each item to the variable is presented in Table 2. The Cronbach's alpha for the scale was 0.881. The confirmatory factor analysis for convergent validity indicated that a single factor solution fits the items acceptably.

Acceptance of online health communication: The acceptance of health information through social networking sites variable was measured by four survey items and explained 17.791 percent of the total variance. The Cronbach's alpha for the scale was 0.893. The confirmatory factor analysis for convergent validity indicated that a single factor solution fits the items acceptably.

4. Results

4.1. Structural Equation Model, Estimates, and Path Diagram

The analysis of moment structures was used for an empirical test of the structural model. The maximum likelihood estimation was applied to estimate numerical values for the components in the model. In the process of identifying the best-fit model, multiple models were analyzed because the researchers were testing competing theoretical models. From a predictive perspective, we determined which model best fits the data, but sometimes the differences between the models appear small on the basis of model fit indexes. When comparing non-nested models, the Akaike information criterion fit index is used as our first choice because the difference in the Chi-square values among the models cannot be interpreted as a test statistic (Kline, 2005), the root mean square of approximation fit index is the second choice to be used, and then goodness of fit index will be our third choice to use.

Table 3 displays the estimates of structural equation modelling analysis. The results of the analysis of moment structures generally achieve acceptable goodness-of-fit measures. For example, the goodness-of-fit index of 0.923 indicates that the fit of the proposed model is about 92% of the saturated model (the perfectly fitting model). The normed fit index of 0.912 indicates that the fit of the proposed model is about 91%. Other goodness-of-fit measures are as follow:

Model fit summary: The minimum value of the sample discrepancy (CMIN) = 871.868, degree of freedom (DF) = 131, CMIN/DF = 6.655.

Table 3: Structural Equation Model Estimates

Hypo.	Path	Regression estimates	Decision	Total effects	Direct effects	Indirect effects
H1	Consumer needs → Tangible attributes	0.427***	Accept	0.427	0.427	
H2	Consumer needs → Intangible attributes	0.350***	Accept	0.350	0.350	
H3	Tangible attributes → Acceptance of online health communication	0.412***	Accept	0.558	0.412	0.146
H4	Intangible attributes → Acceptance of online health communication	0.529***	Accept	0.570	0.529	0.041
H5	Consumer needs → Acceptance of online health communication	0.493***	Accept	0.747	0.493	0.254

Note: Numbers in the cells are standardized coefficient values.
Probability values for rejection of the null hypothesis of zero coefficient are employed at the 0.05 level (*** $p < 0.01$).

Model fit measures: The goodness of fit index (GFI) = 0.923, the adjusted goodness of fit index (AGFI) = 0.909, the parsimony goodness of fit index (PGFI) = 0.895, the root mean square residual (RMR) = 0.043, the root mean square of approximation (RMSEA) = 0.036.

Baseline comparisons measures: The Bentler-Bonett normed fit index (NFI) = 0.912, the Bollen's relative fit index (RFI) = 0.902, the Tucker-Lewis coefficient index (TLI) = 0.938, the comparative fit index (CFI) = 0.946.

Parsimony-adjusted measures: The parsimony ratio (PRATIO) = 0.905, the parsimony normed fit index (PNFI) = 0.872, the parsimony comparative fit index (PCFI) = 0.895.

The estimate of the non-centrality parameter (NCP) = 740.868, the Akaike information criterion (AIC) = 951.868, the Browne-Cudeck critetion (BCC) = 955.13, and the Bayes information criterion (BIC) = 1119.317.

In testing hypotheses 1 and 2, proving that there are relationships between consumer needs and tangible attributes and between consumer needs and intangible attributes, Table 3 shows that there is a positive relationship between consumer needs and tangible attributes of health information providers and there is a positive relationship between consumer needs and intangible attributes of health information providers. Each pair shows statistical significance at a 95% confidence level ($p < 0.01$). This suggests that consumer needs have a positive and direct effect on tangible attributes of health information providers as well as a positive and direct effect on intangible attributes of health information providers.

Hypotheses 3 and 4 test the relationships between tangible attributes and acceptance of online health communication and between intangible attributes and acceptance of online health communication. Table 3 shows that there is a positive relationship between intangible attributes and acceptance of online health communication and there is a positive relationship between tangible attributes and acceptance of online health communication.

Each pair shows statistical significance at a 95% confidence level ($p < 0.01$).

Hypothesis 5, which tests the relationship between consumer needs and acceptance of online health communication, shows a significant positive relationship at a 95% confidence level ($p < 0.01$). This means that consumer needs for health information have a positive propensity towards acceptance of online health communication.

Overall, consumer needs for health information serve as an important antecedent of acceptance of online health communication. From Table 3, the 0.747 total effects of consumer needs for health information on acceptance of online health communication consist of a direct effect of 0.493 and an indirect effect of 0.254. On the other hand, the intangible attributes of health information providers have the highest impact on acceptance of online health communication, which the 0.570 total effects on acceptance of health communication consist of a direct effect of 0.529 and an indirect effect of 0.041. Overall, consumer needs for health information and the tangible and intangible attributes of health information providers serve as important antecedents of acceptance of online health communication.

5. Discussion and Managerial Implications

The results from an empirical analysis support all of the hypotheses. This study shows that consumer needs for health information wield an important influence on their behavioral intention to accept online health communication. The positive impact of the tangible and intangible attributes of health information providers on behavioral intentions of accepting online health communication is a special interest. The results indicate that consumer needs for health information and the perceived value of the tangible and intangible attributes of health information providers should be viewed as important antecedents explaining behavioral intentions to accept online health communication.

Patients and caregivers have exploited the benefits of communication technologies, especially through social networking sites. They are able to form a group to exchange health information, share personal health experience, and gain mental support within the group. Online health communities are diversely used among different groups with different diseases or health topics, such as cancer group and pregnancy group. Since patients need to satisfy their needs of perceiving health information, which they were not fulfilled by healthcare professionals due to physician's time scarcity, these online health communities fulfill the needs of these patients and caregivers. However, the healthcare providers and healthcare professionals should collaborate with patients and caregivers when they come to discuss about the health information that they found on the Internet. The healthcare professionals should be open-minded to listen and apply the reliable online information as well as guide the users to the reliable websites or groups.

Although the number of social networking customers is increasing, they often refuse to release or share their personal information because they do not trust Internet information security. Accordingly, consumers would choose social networking sites as a tool for gathering information for health or purchasing health care products only if they trust the information provider. The online health communication community provides any combination of consulting, promoting, sharing, and providing health information and health care products via social networking sites. Tangible attributes of health information providers via social networking sites refer to the external surrounding and conditions in which something visual. The tangible attributes of health information providers affect its service evaluation by consumers and their behavior of using the online community though it was mediated by consumer needs for health information. Because of the strong impact of it, health information providers should develop a superior physical environment for delivering the service and demonstrating better fulfillment of service delivery. For example, state-of-the-art facilities, up-to-date medical equipment, hospitals and healthcare centers affiliated with their service would provide a superior level of tangible attributes to ensure a high quality of service.

Furthermore, the extent of health communication via social networking sites is not limited only between patients and healthcare providers. It is also extensively used for communication between healthcare institutes or healthcare providers as well as between healthcare professionals. For example, healthcare providers can retrieve patients' health information that was recorded by other healthcare institutions. This practice is helpful for those who have chronic disease. In addition, healthcare professionals also use social media to communicate with patients and colleagues as well as expand their connections. The social media is often used by different purposes based on different social networking communities. For instance, healthcare professionals usually use Twitter to communicate with their colleagues more than communicate with patients, while use LinkedIn to extend their network within professionals.

The result of this study also showed that the intangible attributes of health information providers via social networking sites directly influence consumer behavioral intentions to accept online health communication. The perceived reliability, capability and customization ability of staff clearly determine levels of the intangible attributes of online health information providers. Therefore, staffing by suitably qualified and experienced staff should remain stable to meet consumer needs in safe, efficient and timely manner. And so, consumers can rest assured that they receive health information in a safe and timely manner that complies with current legislative requirements and safe practice guidelines.

6. Conclusion

The findings of this research reflect the success of health information providers via social networking sites, which depends on not only consumer needs for health information, but also the tangible and intangible attributes of online health information providers. In contrast to the recent research under this topic, this paper assimilated some components of the service quality dimensions and consumer behavior theories along with consumer needs for health information to determine behavioral intentions to accept online health communication. This would be a unique contribution of this research.

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