An examination of cross-cultural differences in e-service quality, e-satisfaction and e-marketing success: Korean vs. American portal sites

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Abstract: The purpose of this study is to examine e-service quality, e-satisfaction and e-WOM performance as measures of e-marketing success and identify whether or not cultural differences influence e-marketing success between South Korea and the USA. Especially, our focus is on customers of portal sites, i.e., Naver and Google (the largest portals in the two countries). A cross-culture survey was conducted and 250 Koreans and 300 Americans responses were collected by two commercial research institutes in Korea and the USA, respectively. The four dimensions of e-service quality and e-WOM performance were suggested as antecedents and output, respectively, as e-marketing success by a few analyses. Noticeably, we found that there are differences in influences of credibility and responsiveness on e-satisfaction between the Korean and American portal site customers but there are no significant differences in influences of the other variables such as contents attractiveness and entertainment. This suggests that the differences lead to better understanding of cultural influences on e-marketing and provide practical implications to internet companies offering services internationally.
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**Keywords:** e-marketing; cultural differences; portal sites; e-service quality; e-satisfaction; e-WOM performance; Korea; USA.


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## 1 Introduction

The last 20 years has seen rapid growth of the online market and increasing number of internet users. This is because online transactions have advantages over offline transactions, which include faster transactions, and greater convenience (Srinivasan et al., 2002). Exponential increases in online business such as e-retailing and e-banking have changed the way customer and marketers communicate with each other to seek information. This has led to an increasing interest in how to satisfy customers in learning and communicating over the internet, which is becoming an utmost important task for e-marketing success.

Indeed, customer satisfaction with online experiences is related to service quality over the websites, which eventually leads to customer loyalty (van Riel et al., 2001). Traditionally, it is believed that satisfaction results from the customer’s favourable feelings towards the services offered (Nagel and Cilliers, 1990) and furthermore, much literature extends the concept of service in websites to consider the total service provided by firms encompassing person-to-person interaction, place utility, and overall process to provide service in a cost effective and customer-service-effective way (Dresner and Xu, 1995). Noticeably, recent several online studies frequently refer to the dimensions related to service quality scales (e.g., Devaraj et al., 2002; Janda et al., 2002; Montoya-Weiss et al., 2003) and service quality of online environments has become recognised as an important factor determining the success or failure of internet firms (Yang, 2001). In addition, numerous studies show that higher perceived website service quality leads to higher profitability and e-marketing success (e.g., Hoffman et al., 1995; Lohse and...
Spiller, 1998; Tilson et al., 1999; Vanitha, 1999; Yang et al., 2003). Accordingly, e-marketing success investigation needs to incorporate studies on e-service quality as well as e-satisfaction leading to customer loyalty such as e-WOM performance to measure e-marketing success.

However, with regard to e-marketing success, previous online marketing studies are the subject of some criticism. The first and foremost problem with them is that they are difficult to apply to a wide range of internet service settings. That is, most of their findings are limited in online firms which use websites to sell customers their goods or services although the dimensionality may vary with the type of the service studied (Babakus and Boller, 1992). Accordingly, e-marketing success needs further investigation to adequately capture a particular study context. Especially, internet portals providing internet search services and a variety of information such as news and entertainment have not been empirically studied yet although these have powerful corporate governance incorporated with a mechanism of virtual organisation and so their success seems to reside in a different front. Therefore, exploring these portals can be important findings in better understanding e-marketing success.

More importantly, the second problem is that despite the rapid development of globalisation of e-business, there is little literature on relationship between e-marketing and culture which can give important managerial implications for the global marketing. Similarly-rolled websites in each home country seem to have different meanings and dimensions for both online customers and internet firms according to cultures. On the other hand, cultural differences may be nullified due to similar characteristics of customers as internet users. Specifically, for a better understanding of the relationship between e-marketing success and culture, it is needed to consider ‘global integration (GI)’ – globally-spread the internet cultural – and ‘local responsiveness (LR)’ – local-specific national cultural – aspects. Understanding e-marketing in various cultures becomes a critical issue in this research field.

Hence, this paper is to investigate e-service quality, e-satisfaction and e-WOM performance as measures of e-marketing success in the portals and identify if cultural differences influence e-marketing success. We next review the literature to develop our conceptual model and hypotheses. Research methodology is then followed by the results of our survey. Finally, implications, limitations, and future research directions are discussed.

2 Literature review

2.1 Dimensions of e-service quality

E-marketing research cannot be considered separately from the service quality research, since an important role of websites is servicing customers through the internet. According to DeLone and McLean (2003), various dimensions of service quality are needed to measure along with system quality and information quality to develop an information system (IS) success model (specifically, e-commerce). The literature demonstrated that the service quality scales such as the e-SERVQUAL scale have been widely used for e-satisfaction (e.g., Devaraj et al., 2002; Janda et al., 2002; Montoya-Weiss et al., 2003).
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Kaynama and Black’s (2000) measures (i.e., content, access, navigation, design, response, background, and personalisation) to identify customer perceptions for online travel agencies are built on the traditional SERVQUAL dimensions. Similarly, Yang (2001) suggests factors of online service quality to measure e-commerce system that include reliability, responsiveness, access, ease of use, attentiveness, credibility and security. Another example can be seen with Yang et al.’s (2003) approach to develop service quality dimensions for internet business (i.e., responsiveness, ease of use, reliability and convenience). In this approach, the literature on service quality contributes to extracting dimensions tested by content analysis of customer review related to their purchasing experience through the internet. To identify e-tail experience, Wolfinbarger and Gilly (2003) also argue four dimensions relating to service quality which are derived from online and offline focus group interviews and an online-customer-panel survey. The dimensions contain website design, reliability/fulfilment, privacy/security, and customer service.

In addition, various researchers have attempted to measure e-marketing success and identify primary dimensions through a review of previous research on e-service quality (e.g., Barnes and Vidgen, 2002; Evan and Wurster, 1999; Maigman and Lukas, 1997; Zeithaml, 1981; Zeithaml et al., 2002). Although the dimensions derived from the various sources have various labels, they describe aspects which reflect service provided from websites. Accordingly, service quality dimensions are critical to customer satisfaction with websites and e-marketing success.

The above studies offer robust dimensions for measuring e-marketing success and could serve as appropriate sources to develop e-marketing success model for the current research. Four broader concepts are suggested to encompass dimensions which frequently used in the literature and labelled as credibility, contents attractiveness, entertainment and responsiveness.

2.2 E-satisfaction

E-satisfaction which is referred to customer satisfaction with e-business is thought to be a barometer of internet firm success. That is, e-marketing needs to meet the challenge of how to deliver satisfaction via the internet and the literature on e-marketing has been closely associated with studies on the measurement of e-satisfaction. Satisfaction is an ex post evaluation of customers’ experience with the service and is captured as a positive disconfirmation (Anderson, 1973), which influences customer loyalty, which in turn affects profitability (e.g., Anderson et al., 1994; Cronin and Taylor, 1992; Fornell, 1992; Fornell et al., 1996; Kristensen et al., 2000; Rust et al., 1995; Spreng and Chiou, 2002). As such, improvement in e-satisfaction also leads to a positive impact on e-WOM effect and internet firm revenue. Although the internet and related issues might be relatively new in marketing, various studies have sought to uncover e-satisfaction that contributes most significantly to e-marketing success (e.g., Hoque and Lohse, 1999; Lohse, 1993; Szymanski and Hise, 2000; Wolfinbarger and Gilly, 2003).

2.3 E-WOM performance

E-WOM is generally defined as ‘internet WOM’ (Bickart and Schindler, 2001) or electronic WOM (Henning-Thurau et al., 2004). E-WOM performance appears to be a
strong measure in identifying e-marketing success. Janda et al. (2002) revealed in their empirical analysis the positive effects of e-tail service quality linking to e-satisfaction on positive WOM performance. This argues that satisfied customers are likely to conduct positive WOM performance which leads to previous and potential customers’ purchasing intention or behaviour. According to Gelb and Sundram (2002), potential e-customers would exchange the information not only with friends or associates but also through the internet community. This claims that customers make a decision on the basis of such information in the context of online purchase.

2.4 Cross-cultural studies of e-marketing

National culture has been used to refer to a variety of patterns of thinking, feeling, and acting that are rooted in common values and societal conventions (Nakata and Sivakumar, 2001). The most widely accepted theory to classify national cultures is developed by Hofstede (1980) and Hofstede and Bond (1988). They argue for five dimensions of national cultures: individualism, uncertainty avoidance, masculinity, power distance, and long-term orientation. The five dimensions were found to affect human interactions at individual and organisational levels (Holtgraves and Yang, 1992; Moon and Frank, 2000) and have served as the bases of cross-cultural differences in e-marketing communication (Yun et al., 2008).

There is little research investigating e-marketing across cultures but the limited sources on cultural effects suggest that culture differences are expected to influence e-marketing, in particular, between eastern and western cultures. For example, as Evers and Day (1997) revealed, satisfaction with the websites reports significant differences between western and eastern samples (i.e., Australian and Asian samples). Supporting this, Simon’s (2001) findings also showed differences in consumer perceptions of four websites between four cultural groups, in particular, the North American (and European) group and the Asian (and South and Latin American) group. Noticeably, he shows that the Western cultures prefer lighter/brighter colours with more images and have substantially lower levels of trust than the East cultures.

Furthermore, cultural differences are expected to influence perception of e-marketing between Korea and the USA of interest in the current research although it is true that empirical research on cross-cultural comparisons of e-marketing between the two cultures is limited. Cho and Cheon (2005) compared western commercial websites (USA and UK) and Northeastern Asian corporate websites (Japan and Korea) on the interactive features. In their result, western corporate websites showed more interactivity between consumers and managers (and marketers) while Northeastern Asian corporate websites provided more interactivity between consumers. As well, Yun et al.’s (2008) study on online consumer communications with leading e-tailers in South Korea and the USA showed that in comparison with the American websites, Korean websites exhibited high levels of interactivity on many aspects. According to Jin et al. (2008), an e-tailer’s reputation which is based on consumers’ evaluation contributes to customer loyalty and more importantly, this effect is stronger in Korea than the USA.

The differences between the USA and Korea are supported by Hofstede’s (2001) study also which shows the two cultures represents opposites for all of the five cultural dimensions described in the above. In his research, Korea has ranked higher on power
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distance, uncertainty avoidance, collectivism, femininity, and long-term orientation than the USA. As well, Korea has been characterised by high context communication in comparison to the USA (Hall, 1976) and in terms of the level of trust that accumulates in the social capital, the USA is high-trust society while Korea is low-trust society (Fukuyama, 1995).

The above studies show differences between Western and Eastern cultures in particular, Korea and the USA. They are very valuable in that they provide empirical evidence of differences in e-marketing between the two countries in the limited cross-cultural research on e-marketing. More importantly, both countries are high consumption societies in e-business. Many Koreans are considered as people with technology readiness in comparison with people in other countries. As well, Korea’s e-commerce grows at the fast place and its online transactions amounted to 166.3 trillion won during the fourth quarter of 2008 which was up 11% from the fourth quarter of 2007. The USA also represents the biggest single domestic online retail market (Ha and Ganahl, 2004). This means that the comparison between the two cultures is very valuable in the online context and the limited cross-cultural studies. The potential differences between the two cultures were examined by the current research.

2.5 GI vs. LR aspects

In e-marketing, the traditional marketplace interaction is replaced by a market-space transaction (Rayport and Sviokla, 1995). The latter means “a virtual realm where products and services exist as digital information and can be delivered through information based channels” (Meuter et al., 2000). In the different market environment (i.e., via the internet), characteristics of customers (i.e., internet users) may affect satisfaction and service quality which they perceive unlike those in traditional business. In other words, globally-spread the internet cultural aspect which is derived from the internet user characteristics may reduce (or nullify) the local-specific cultural differences between Korean and the US portal site users. For example, credibility associated with e-satisfaction may be more influenced by LR aspect than by GI aspect. Vice versa, contents attractiveness and entertainment seem to be more affected by GI aspect than LR aspect.

It is supported by several studies that satisfaction and perception differences exist between individual characteristic groups (e.g., Choi and Choi, 2003; Simon, 2001). Logically, cultural characteristics as internet users influencing customers’ perceptions should be reviewed to better understand e-marketing since e-satisfaction and perceptions of e-service quality can be modified by the impact of internet user characteristics. Internet cultural characteristics are more recently found according to constructs such as technology acceptance and readiness (e.g., Parasuraman, 2000). Although there is very little empirical research on how e-marketing success is determined by internet cultural characteristics, they need to be examined for cross-cultural research in the online market environment. In Figure 1, we describe the conceptual framework of this study with its relation with GI and LR aspects.
Figure 1   Antecedents, barometer and output of e-marketing success

3 Research model and hypotheses development

The literature in the previous section forms the basis of the research model and hypotheses as well as the objectives of the current research. The proposed research model (Figure 2) includes four dimensions influencing e-satisfaction and one consequence of e-satisfaction. Various hypotheses are developed relating not only to the four dimensions and one consequence but also to cultural differences in the context of e-marketing.

First, as discussed in the previous section, e-service quality dimensions are related to e-satisfaction and e-marketing. Thus the dimensions are derived from the literature on the e-service quality and are summarised in the four dimensions, credibility, contents attractiveness, entertainment, responsiveness. In the online context, customers are very likely to consider the degree of accuracy, dependability, and consistency of the information at a site (McKinney et al., 2002). According to Gwinner et al. (1998), it is more important to provide customers with psychological reliability and trustiness than other benefits at a website. Supporting this, Wolfinbarger and Gilly’s (2003) research suggests that reliability/fulfillment ratings were the strongest predictor of customer satisfaction and quality at a site. Therefore we hypothesised the following by using the term, credibility, as a broader concept in this research.

Hypothesis 1   In the case of Korean and American portal sites (e.g., Naver and Google), credibility will have a positive impact on e-satisfaction.
Various researchers have suggested that e-marketers should provide online customers with satisfactory experiences of multiple and useful contents such as e-mail and searching board video system (e.g., Evan and Wurster, 1999; Kynama and Black, 2000; Zeithaml et al., 2002). Therefore:

Hypothesis 2 In the case of Korean and American portal sites (e.g., Naver and Google), contents attractiveness will have a positive impact on e-satisfaction.

Having a pleasant experience enhances customer preference for the website and increases the intention regarding future purchases using the same site (Maigman and Lukas, 1997). Therefore:

Hypothesis 3 In the case of Korean and American portal sites (e.g., Naver and Google), entertainment will have a positive impact on e-satisfaction.

The importance of responsiveness to customers can be seen from many studies related to satisfaction (e.g., Bitner et al., 1990; Song and Shin, 1999) which argue for dimensions corresponding to interaction, communication, etc. This implies that responsiveness may have a major impact on e-satisfaction. Responsiveness is significant since interacting customers with the website means mutual understanding between the firm and its customers (Song and Shin, 1999). As well, such activity creates greater interest in the website than just receiving information (Peppers and Rogers, 1997). Accordingly, the literature suggests that responsiveness is a possible dimension of e-satisfaction and its improvement may significantly lead to e-marketing success, and therefore:

Hypothesis 4 In the case of Korean and American portal sites (e.g., Naver and Google), responsiveness will have a positive impact on e-satisfaction.

E-satisfaction as a barometer of e-marketing success has a positive impact on e-WOM performance as an output of e-marketing success. A positive impact of customer satisfaction on e-WOM performance has been proved by a series of previous studies as shown in the literature review section. Therefore:

Hypothesis 5 In the case of Korean and American portal sites (e.g., Naver and Google), e-satisfaction will have a positive impact on e-WOM performance.

As reviewed in the previous section, the limited sources (e.g., Cho and Cheon, 2005; Yun et al., 2008) suggest that different cultures, in particular, Eastern and Western cultures (i.e., Korean and the USA), are expected to lead to differences in customers’ perceptions of e-service quality, e-satisfaction and e-WOM performance. This is because differences are likely to exist in perceptions of the proposed dimensions and post-purchase (use) behaviour depending on culture. Therefore:

Hypothesis 6 In the case of Korean and American portal sites (e.g., Naver and Google), interrelationships between e-service quality dimensions and e-satisfaction and e-WOM performance will be different between Korean and US portal sites customers.
4 Method

4.1 Questionnaire

The questionnaire consisted of several sections which include items allowing for the seven-point Likert scales anchored on ‘strongly disagree’ (1) and ‘strongly agree’ (7). Items employed to measure the various constructs of interest are presented in the Appendix. The questionnaire is developed following a series of evaluations as well as pretests to improve individual items and their sequence, and also based on the research model.

First, all the items were modified from the supporting literature and worded as questions applying to portal sites. Measures for the dimension of credibility were taken from Wolfinbarger and Gilly (2003) and concerned about how well Naver and Google convey trustable and reliable service to their customers. The contents attractiveness measures were derived from Evan and Wurster (1999) and Zeithaml et al. (2002). These studies suggest three items which measure how customers favourably feel towards contents of Naver and Google. The dimension of entertainment consists of three items relevant to the context of the current research which were modified from Maigman and Lukas (1997). These items reflected psychological attachment to the enjoyment of the website. The dimension of responsiveness was measured using three items that have been employed in Zeithaml’s (1981) work.

E-satisfaction, as a barometer of e-marketing success, was measured using three items that were derived from Reichheld and Schefter (2000). The e-WOM performance, as an output of the e-marketing success, was measured with three items modified from Brown (2000). They included willingness to tell people positive comments about the website and recommend people to use the site.
The established items were first developed in English and the initial version of the questionnaire was assessed by researchers who were familiar with both Korean and the US cultures and languages. This was to assess whether or not all questions were conceptually equivalent in both cultures. Minor modifications were then made to ensure that all items can apply to both cultures. The research instrument was then translated and back-translated independently by professionals for linguistic and conceptual equivalence. Pretests were then conducted to examine whether or not respondents understood meanings of the questions as intended. The final questionnaire was produced in both English and Korean.

4.2 Sample and survey administration

Having designed the questionnaire, the next step is to collect data relevant to the objectives of the current research. For the first and second quarters of 2008, usable responses were collected by two commercial research institutes in Korea and the USA, respectively. For the survey, we needed to select large portal sites which retain most customers in the USA or Korea: the portals which customers can encounter easily in the online environment and use at least once every week or more frequently. Therefore, a pretest was carried out with 100 Korean and 150 American internet users. As a result, ‘Naver’ was suggested as the largest portal site in that nearly three quarters of the respondents in Korea chosen the site. This is supported by a nation-wide survey of Korean Ministry of Information and Communication, a top governmental organisation to regulate the internet business in Korea, which identified ‘Naver’ as the representative portal site which is used by most online customers in Korea (2007). On the same procedure, ‘Google’ was chosen as a representative portal site in the USA since over 80% out of 150 American respondents used Google. As well, according to National Telecommunications and Information Administration (NTIA), a bureau of the US Department of Commerce and the President’s principal adviser on internet policy issues, Google is a representative portal site which most of internet users use in the USA (2007). In other words, Naver and Google dominate over 80% market shares of portals business in, respectively, Korea and the USA. ‘Naver’ and ‘Google’ are then selected for the survey in this research.

The questionnaires were introduced to cross-culture (the Korean vs. the USA) samples aged 19-59 years. To collect answers to the questionnaire, 250 Koreans and 300 Americans were interviewed in, respectively, Korea and the USA. A total of 465 usable questionnaires were received (Korean vs. the USA: 211 vs. 254).

5 Results

5.1 Demography

The demography of respondents is composed by three parts: gender, age and average internet usage (see Table 1). In the Korean sample, 45.5% of the respondents were female, whereas, in the US sample, 38.6% of the respondents were female. 61.1% of
Korean respondents were 21 through 40 years old, whereas 78.0% of American respondents were 21 through 40 years old. Nearly over 80% of Korean and American respondents used the internet more than one hour per day. In addition, all the Korean respondents were ethnic Koreans, whereas American respondents were mixed – specifically, Caucasian (72.8%), African (10.2%), Hispanic (11.3%), and Asian (5.7%) Americans.

Table 1  Respondent profile

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Naver (Korean sample)</th>
<th>Google (US sample)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>115</td>
<td>54.5</td>
</tr>
<tr>
<td>Female</td>
<td>96</td>
<td>45.5</td>
</tr>
<tr>
<td>Total</td>
<td>211</td>
<td>100</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 20 years old</td>
<td>57</td>
<td>27.0</td>
</tr>
<tr>
<td>21 – 40 years old</td>
<td>129</td>
<td>61.1</td>
</tr>
<tr>
<td>&gt; 40 years old</td>
<td>25</td>
<td>11.8</td>
</tr>
<tr>
<td>Total</td>
<td>211</td>
<td>100</td>
</tr>
<tr>
<td>Average internet usage per day</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 1 hour</td>
<td>43</td>
<td>20.4</td>
</tr>
<tr>
<td>1 – 3 hours</td>
<td>118</td>
<td>55.9</td>
</tr>
<tr>
<td>&gt; 3 hours</td>
<td>50</td>
<td>23.7</td>
</tr>
<tr>
<td>Total</td>
<td>211</td>
<td>100</td>
</tr>
</tbody>
</table>

5.2 Measurement model

The confirmatory factor analysis (CFA) was used with maximum likelihood estimation to test the measurement model. The model offered an acceptable fit to the data. As shown in Table 2, the items were submitted to reliability analysis using Cronbach $\alpha$. All the Cronbach $\alpha$ values suggested high reliability by showing that they were greater than 0.80.

Table 2 also presented the results for the CFA and Cronbach $\alpha$ values of Naver and Google samples. The coefficient alpha values ranged from 0.81 to 0.95 for Naver and 0.84 to 0.92 for Google, exceeding the conventional minimum of 0.7 (Nunnally and Bernstein, 1994) and demonstrating high internal consistency and therefore reliability of each dimension. These values and great loadings of the items corresponding to the factors in CFA supported the convergent validity of the scale. The various fit indices for the CFA were also as expected. Collectively, these findings suggested the soundness of the proposed factor structure for both samples.

Next, a correlation analysis was conducted to test the discriminant validity. According to the result, the confidence interval (i.e., $\phi \pm 2SE$) of the correlation coefficient ($\phi$) did not contain 1.0 and hence the discriminant validity was confirmed. The resulting statistics was presented in Tables 3 and 4.
Table 2: Confirmatory factor analysis and reliability test

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Items</th>
<th>Naver (Korean portal)</th>
<th>Google (US portal)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Items</td>
<td>Factor loading</td>
<td>t-value</td>
</tr>
<tr>
<td>Credibility</td>
<td>I trust and rely on Naver/Google.</td>
<td>0.905</td>
<td>0.952</td>
</tr>
<tr>
<td></td>
<td>I trust the services provided by Naver/Google.</td>
<td>0.943</td>
<td>23.469</td>
</tr>
<tr>
<td></td>
<td>Overall, I trust Naver/Google.</td>
<td>0.948</td>
<td>23.802</td>
</tr>
<tr>
<td>Contents</td>
<td>Naver/Google provides me with useful services.</td>
<td>0.877</td>
<td></td>
</tr>
<tr>
<td>attractiveness</td>
<td>Naver/Google provides me with valuable services.</td>
<td>0.872</td>
<td>16.485</td>
</tr>
<tr>
<td></td>
<td>Naver/Google provides me various services.</td>
<td>0.818</td>
<td>14.866</td>
</tr>
<tr>
<td>Entertainment</td>
<td>When I use Naver/Google, I have the time of my life.</td>
<td>0.655</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Menu of Naver/Google is so interesting that I want to use it.</td>
<td>0.892</td>
<td>10.207</td>
</tr>
<tr>
<td></td>
<td>Information provided by Naver/Google is interesting.</td>
<td>0.799</td>
<td>9.669</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>At Naver/Google, interaction between community members is always active.</td>
<td>0.838</td>
<td>0.920</td>
</tr>
<tr>
<td></td>
<td>At Naver/Google, the exchanges of information between community members are active.</td>
<td>0.976</td>
<td>18.276</td>
</tr>
<tr>
<td></td>
<td>At Naver/Google, the speed of responses to questions between community members is fast.</td>
<td>0.860</td>
<td>16.063</td>
</tr>
<tr>
<td>E-satisfaction</td>
<td>Overall, I am satisfied with my experience with Naver/Google.</td>
<td>0.804</td>
<td>0.831</td>
</tr>
<tr>
<td></td>
<td>Overall, I am satisfied with the e-service quality of Naver/Google.</td>
<td>0.784</td>
<td>12.199</td>
</tr>
<tr>
<td></td>
<td>Naver/Google gives me satisfactory contents.</td>
<td>0.786</td>
<td>12.204</td>
</tr>
<tr>
<td>e-WOM performance</td>
<td>I made positive comments to people around me about my experience with Naver/Google.</td>
<td>0.895</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I intend to recommend people around me to use Naver/Google.</td>
<td>0.915</td>
<td>10.141</td>
</tr>
<tr>
<td></td>
<td>I like to let my friends know new information from Naver/Google.</td>
<td>0.626</td>
<td>10.226</td>
</tr>
</tbody>
</table>

Notes: \(\chi^2 = 229.300 (df = 120, \ p = 0.000)\), \(\chi^2/df = 1.911\), GFI = 0.892, AGFI = 0.847, PGFI = 0.626, RMR = 0.074, NFI = 0.925, IFI = 0.963, TLI = 0.952, CFI = 0.962, RMSEA = 0.066.

Notes: \(\chi^2 = 292.982 (df = 120, \ p = 0.000)\), \(\chi^2/df = 1.853\), GFI = 0.915, AGFI = 0.878, PGFI = 0.642, RMR = 0.055, NFI = 0.945, IFI = 0.974, TLI = 0.967, CFI = 0.974, RMSEA = 0.058.
Table 3  
Descriptive statistics and correlations of the dimensions (Naver: Korean sample)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>s.d.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Credibility</td>
<td>4.23</td>
<td>1.15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Contents attractiveness</td>
<td>4.69</td>
<td>1.02</td>
<td>0.60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Entertainment</td>
<td>4.25</td>
<td>1.18</td>
<td>0.23</td>
<td>0.42</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Responsiveness</td>
<td>4.73</td>
<td>1.32</td>
<td>0.14</td>
<td>0.18</td>
<td>0.27</td>
<td></td>
</tr>
<tr>
<td>5 E-satisfaction</td>
<td>4.59</td>
<td>1.03</td>
<td>0.42</td>
<td>0.69</td>
<td>0.61</td>
<td>0.21</td>
</tr>
<tr>
<td>6 E-WOM performance</td>
<td>4.03</td>
<td>1.17</td>
<td>0.31</td>
<td>0.48</td>
<td>0.59</td>
<td>0.26</td>
</tr>
</tbody>
</table>

Notes: aN = 211. Correlations with absolute value greater than 0.13 are significant at the 0.01% level.

Table 4  
Descriptive statistics and correlations of the dimensions (Google: US sample)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>s.d.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Credibility</td>
<td>4.45</td>
<td>1.16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Contents attractiveness</td>
<td>4.66</td>
<td>1.05</td>
<td>.47</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Entertainment</td>
<td>4.17</td>
<td>1.19</td>
<td>.45</td>
<td>.54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Responsiveness</td>
<td>4.67</td>
<td>1.06</td>
<td>.42</td>
<td>.48</td>
<td>.46</td>
<td></td>
</tr>
<tr>
<td>5 E-satisfaction</td>
<td>4.73</td>
<td>1.05</td>
<td>.67</td>
<td>.44</td>
<td>.41</td>
<td>.56</td>
</tr>
<tr>
<td>6 E-WOM performance</td>
<td>4.11</td>
<td>1.27</td>
<td>.54</td>
<td>.62</td>
<td>.67</td>
<td>.49</td>
</tr>
</tbody>
</table>

Notes: aN = 254. Correlations with absolute value greater than 0.40 are significant at the 0.01% level.

5.3 Tests of measure equivalence and hypotheses tests

We employed structural equation modelling with the maximum likelihood estimation method to test direct effects. All the hypothesised relationships were examined in a single full-information structural equation model. The results exhibited good levels of fit: for the Korean sample, $\chi^2 = 229.300$ (df = 120, $p = 0.000$), $\chi^2$/df = 1.911, GFI = 0.892, AGFI = 0.847; PGFI = 0.626, RMR = 0.074, NFI = 0.925, IFI = 0.963, TLI = 0.952, CFI = 0.962, and RMSEA = 0.074; and for the US sample, $\chi^2 = 526.624$ (df = 120, $p = 0.000$), $\chi^2$/df = 1.853, GFI = 0.915, AGFI = 0.878; PGFI = 0.642, RMR = 0.055, NFI = 0.945; IFI = 0.974, TLI = 0.967, CFI = 0.974, and RMSEA = 0.058. Generally, fit indexes for these structural models yielded appropriate threshold values.

In addition, we adopted Steenkamp and Baumgartner’s (1998) approach for comparing multi-country data and assessing measure invariance. They recommend fitting a sequential set of constrained multi-group structural equation models to demonstrate that data are comparable across countries. The first test for configural invariance involves constraining model specifications to be identical for all countries but allowing the parameters to be uniquely estimated. In other words, the factor structure and the relationships between the constructs are identical but estimates of the loadings and path coefficients differ between countries. Metric invariance was then tested to examine whether or not samples in different countries respond to the scale items in the same way (i.e., this asks whether or not there are differences in the sizes of the factor loadings across countries). For metric invariance, we constrained the loadings between a given indicator and its factor to be equal between two countries (i.e., the loading for Korean
evaluations were the same as that for American evaluation). Next, we tested factor invariance by imposing equality constraints on the structural relationships, factor variances, and factor covariance across countries. As a result, the configural invariance model fitted well the raw data (covariance matrix).

Table 5 shows the estimates of the e-service quality on e-satisfaction and e-WOM performance between the two cultures. Hypothesis 1 assumes a relationship between the credibility and e-satisfaction. In the case of Korean portal (Naver), credibility was positively but insignificantly associated with e-satisfaction ($\beta = .011$); while in the case of US portal (Google), credibility was positively and significantly associated with e-satisfaction ($\beta = .181, p < .05$). Hence, H1 was supported only for Google but not for Naver. Further, the chi-square difference between two countries on this relationship showed that there was difference in the relationship between the Korean and US portals. These findings suggest that credibility does not influence e-satisfaction of the Koreans but, for American satisfaction, credibility is an important factor. The difference of $\chi^2$ proves that, for this relationship, LR effect is stronger than GI effect.

Table 5 Tests of the e-marketing success model of Korean and US portal sites

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Proposed model paths</th>
<th>Naver (Korea)</th>
<th>Google (USA)</th>
<th>$\chi^2 (1)$ difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Credibility → e-satisfaction</td>
<td>0.011</td>
<td>0.854</td>
<td>0.181*</td>
</tr>
<tr>
<td>H2</td>
<td>Contents attractiveness → e-satisfaction</td>
<td>0.539***</td>
<td>6.474</td>
<td>0.307***</td>
</tr>
<tr>
<td>H3</td>
<td>Entertainment → e-satisfaction</td>
<td>0.502***</td>
<td>6.735</td>
<td>0.370***</td>
</tr>
<tr>
<td>H4</td>
<td>Responsiveness → e-satisfaction</td>
<td>0.012</td>
<td>0.755</td>
<td>0.115**</td>
</tr>
<tr>
<td>H5</td>
<td>E-satisfaction → e-WOM performance</td>
<td>0.942***</td>
<td>10.378</td>
<td>0.999***</td>
</tr>
</tbody>
</table>

Notes: ***p < 0.001, **p < 0.01, *p < 0.05

Hypothesis 2 assumes a relationship between contents attractiveness and e-satisfaction. In the case of both Naver and Google, the dimension was positively and significantly associated with e-satisfaction ($\beta = .539, p < .001; \beta = .307, p < .001$). Hence, Hypothesis 2 was supported for both Naver and Google. Further, there was no $\chi^2$ difference between the Korean and US samples. It implies that GI aspect has a greater impact than LR aspect on the association between contents attractiveness and e-satisfaction.

Hypothesis 3 presents a relationship between entertainment and e-satisfaction. Entertainment was positively and significantly associated with e-satisfaction ($\beta = .502, p < .001; \beta = .370, p < .001$) and therefore Hypothesis 3 was supported for Naver and Google. In addition, there was no $\chi^2$ difference between the two samples, suggesting that GI aspect more influences this relationship than LR in the context of online business.

Hypothesis 4 about a relationship between responsiveness and e-satisfaction was then tested. Unexpectedly, for the Korean samples, responsiveness was positively but insignificantly associated with e-satisfaction ($\beta = .012$); whereas, for the US samples,
responsiveness was positively and significantly associated with e-satisfaction ($\beta = .115$, $p < .01$). Hence, Hypothesis 4 was supported for Google but not supported for Naver. It implies that responsiveness has an important factor of e-satisfaction of the US sample not the Korean sample. The $\chi^2$ difference between Naver and Google as presented in the table means the stronger impact of LR aspect than GI aspect on the relationship between responsiveness and e-satisfaction.

The result that e-satisfaction was positively and significantly related with e-WOM performance ($\beta = .942$, $p < .001$; $\beta = .999$, $p < .001$) in the table supports Hypothesis 5 which assumes a relationship between e-satisfaction and e-WOM performance for both samples. Additionally, $\chi^2$ statistics shows no difference between the Korean and US samples, implying that GI effect is stronger than LR effect.

Prior to the test of Hypothesis 5, correlation analysis was reviewed to identify relationships between the dimensions of Korean and US samples. When reviewing the correlations in Tables 3 and 4 for the Korean respondents, contents attractiveness and credibility were the most highly and positively related (0.60), while for the USA respondents, entertainment and contents attractiveness revealed the highest relationship (0.54). In addition, responsiveness was the least related to e-satisfaction in Korean samples, but entertainment shows the least relationship with e-satisfaction in US samples. That is, the relationships between the dimensions in Korean sample have a different pattern to those in the US sample. We suggest that this result may be related to cultural issues.

Returning to the column of $\chi^2$ in Table 5 to test Hypothesis 6, this study used the analytical method of Singh (1995) in order to examine the existence of the moderating effects on the structural equation model. The $\chi^2$ statistics for the ‘unconstrained’ and the ‘partially constrained’ models were compared herein. The results which suggest moderating effects of portal types along with path coefficients are listed in Table 5.

As shown in Table 5, the $\chi^2$ difference ($\Delta \chi^2$) which was more than 3.84 ($df = 1$) indicates that there are differences in the impacts of credibility and responsiveness on e-satisfaction between the two cultures. According to the path coefficient, both credibility and responsiveness had larger impacts on e-satisfaction. It suggests that GI and LR aspects create these differences. Based on the results, Hypothesis 6 was partially supported, which suggests that the impacts of contents attractiveness and entertainment on e-satisfaction depend on GI aspect more than LR aspect; whereas LR aspect is more influential than GI aspect on the impacts of credibility and responsiveness on e-satisfaction.

6 Discussions and conclusions

Through review of the many studies that have been carried out to define e-marketing success, a conceptual framework was developed to test e-service quality, e-satisfaction and e-WOM performance as measures of e-marketing success in the portals for this research. In particular, with the rapid growth of international marketing using the internet, it is necessary to investigate cultural influences on e-marketing success, which is the additional purpose of this research. The data were analysed using appropriate statistical techniques. The analyses resulted in four dimensions (credibility, contents attractiveness, entertainment, and responsiveness) influencing e-satisfaction and e-WOM performance as consequence of e-satisfaction, although credibility and responsiveness
were not significant for Korean sample. The subsequent analysis was performed to identify whether there were differences in measures of e-marketing success between the Koreans and USA. This found that there were significant differences in credibility and responsiveness between the two cultures.

Despite a few unexpected results, this study provides a significant attempt to extend our knowledge in the e-marketing research field. Although there is little difference in a few (contents attractiveness and entertainment), this research showed cultural differences in the credibility and responsiveness as measures of e-marketing success between the Korean and US customers of the portal sites. It can suggest that the two dimensions are local-specific cultural factors determining international marketing success. According to these results and the local-specific cultural perspectives, credibility and responsiveness have larger impacts on e-satisfaction for the Korean than the US customers in the context of the portals. In particular, the difference in credibility across cultures is supported by the other studies suggesting that while Western managers demonstrate low uncertainty avoidance, Eastern managers show a strong tendency to avoid uncertainty (e.g., Hofstede, 2001; Simon, 2001). This indicates that Korea is a low-trust society but the USA is a high-trust society. Specifically, in the portals which provide various kinds of information not confirmed, Korean customers seem to avoid the risk rather than the US customers. These differences are expected to contribute most to develop robust cross-cultural e-marketing success theories. The dimension of responsiveness also is perceived as important at different levels in the two cultures for global management when considering the differences between the two cultures in the current research.

On the other hand, the research results suggest that the internet user characteristics (internet cultural characteristics) which create globally integrated culture seem to weaken the influences of some local-specific cultural factors in terms of contents attractiveness and entertainment. This is related to the concept of ‘global internet village’, globally spread e-culture makes local-specific cultural factors not to have significant impacts on e-satisfaction and e-marketing.

This research has two important practical implications by answering about the question, “What determines e-marketing success according to cultures?” First, marketers and managers can select and manage factors which are strongly influenced by local-specific cultural aspect according to the research results. This can lead to the improvement of e-satisfaction which is linked to e-marketing success within one culture. Second, our findings on significant differences between Korean and the US customers will inform marketers that they need to improve and focus different dimensions when promoting their sites in both countries. That is, the different dimensions will be clearly significant for internet companies offering services internationally and lead to better understanding of cultural influences in international management. In particular, in considering the uncertainty avoidance issue, Korean online marketers should improve contents and design of their sites by facilitating customer monitoring systems and provide highly trusted sources of information such as reports published from official organisations. This will lead to the improvement of credibility to the portal site.

Several limitations are highlighted in this study and indicate directions for future research. First, the two cultures were compared in this study, which can lead to further research to create a measurement scale that can examine the applicability of other cultures (e.g., a multi-national setting) to the proposed model. A future research involving various other cultures will provide generalisable evidence regarding determinants of
e-marketing success. Second, this study explored the model in the context of the portal sites. For other kinds of websites which, for example, sell and purchase products, the dimensions effects may be different. Therefore, other kinds of websites need to be considered in further research. This would be worthwhile for practitioners who would be able to effectively manage their sites. Finally, additional dimensions such as security, design and convenience which were not included in the context of this research need to be assessed in future study in examining e-satisfaction and e-marketing.

References


An examination of cross-cultural differences


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**Appendix**

**Credibility**

1. I trust and rely on Naver/Google.
2. I trust the services provided by Naver/Google.

**Contents attractiveness**

1. Naver/Google provides me with useful contents.
2. Naver/Google provides me with valuable contents.
3. Naver/Google provides me various contents.

**Entertainment**

1. When I use Naver/Google, I have the time of my life.
2. Menu of Naver/Google is so interesting that I want to use it.
3. Information provided by Naver/Google is interesting.

**Responsiveness**

1. At Naver/Google, interaction between community members is always active.
2. At Naver/Google, the exchanges of information between community members are active.
3. At Naver/Google, the speed of responses to questions between community members is fast.
Q. Fan et al.

E-satisfaction
1 Overall, I am satisfied with my experience with Naver/Google.
2 Overall, I am satisfied with the e-service quality of Naver/Google.
3 Naver/Google gives me satisfactory contents.

e-WOM performance
1 I made positive comments to people around me about my experience with Naver/Google.
2 I intend to recommend people around me to use Naver/Google.
3 I like to let my friends know new information from Naver/Google.