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# Cross-Cultural Analysis of Social Networking Services in Japan, Korea, and the USA

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## Abstract

The techniques of cross-cultural analysis of Websites based on culture models are used to examine user-interface components (the metaphors, mental models, navigation, interaction, and appearance) of social networking sites in three countries. The authors note and evaluate patterns of similarity and difference in the Website designs that seem to link social networking sites by culture dimensions.

## 1 Introduction

Social Networking Services (SNSs) are online communities that focus on bringing together people with similar interests or who are interested in exploring the interests and activities of others. SNSs have come a long way since the initial efforts of computer-mediated social networking such as USENET, LISTSERV and Bulletin Board Services. The first Social Networking Service to combine different features such as user-created profiles, messaging services, and members search-by-interest was SixDegrees.com in 1997. Today, there are numerous Social Networking Services that cater to a variety of audiences around the globe. Examples include MySpace and Facebook from the USA, CyWorld from South Korea, and Mixi from Japan. SNSs are fast becoming a staple of online consumer activity, with at least one SNS appearing on Alexa's (a Web-information

company that does site ranking) Top 10 Websites list for the USA, the UK, Japan, and South Korea. What is interesting to note, however, is that none of these sites are equally popular across cultures. The fact that MySpace is very popular in the USA, with about 74% of the market share [3] despite its famously cluttered layout but only captures 2.9% of the Japanese market share [15] could be attributed to differences in American and Japanese culture. In essence, there may be features in MySpace that are so appealing to Americans as to forgive its bad design while the same may not hold true for Japanese users.

Using previous work by one of the authors as a guide, [8] and [7], this paper seeks to analyze differences and similarities of user-interface (UI) design for SNSs from Japan, South Korea, and the USA in order to understand to what extent the designs seem to exhibit patterns of difference and similarities that relate to corresponding cultural differences and similarities.

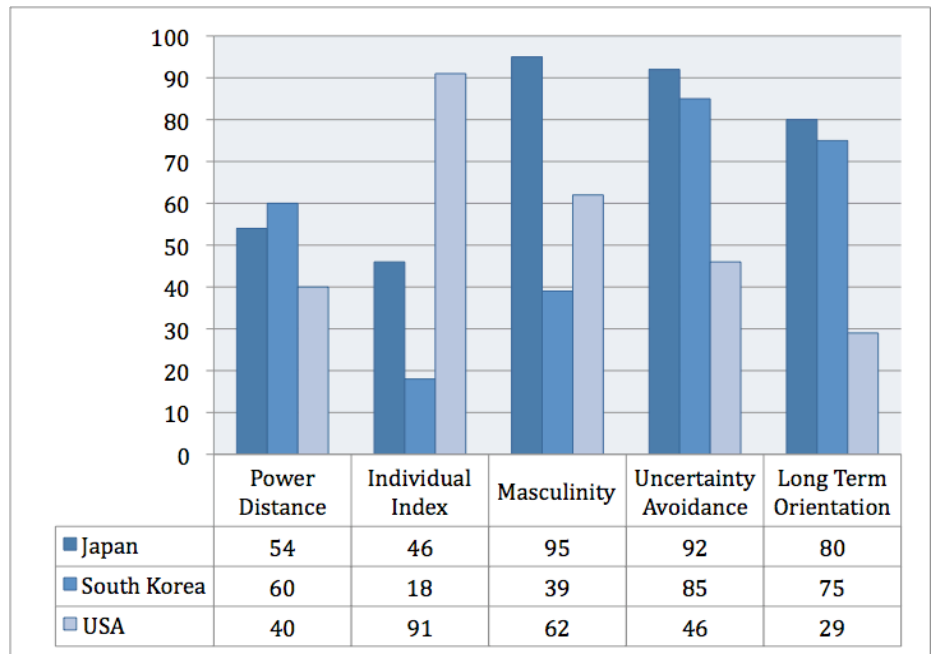


Figure 1: Comparison of 5 typical cultural dimensions as explained by Geert Hofstede [4]. Each dimension derives from a study of participants in 74 countries.

A fundamental basis of this paper and several others cited is Geert Hofstede’s model of five cultural dimensions [4], in which culture is exhibited by behaviors, heroes/heroines, signs, and values, and each country is assumed to have a dominant culture. Hofstede’s dimensions (and ranges) are the following: power-distance (PD) (high vs. low) focuses on the degree of equality among people in the country's society; collectivism vs. individualism (IDV) focuses on the degree to which the society reinforces individual or collective, achievement or interpersonal, relationships; gender role differences (femininity vs. masculinity) (MAS) focuses on the degree to which the society reinforces, or does not reinforce, the traditional distinctions

of the masculine work role model of male achievement, control, and power (as opposed to feminine cultures in which the roles are more closely related); uncertainty avoidance (UA) (high vs. low) focuses on the extent to which the members of a society feel threatened by uncertain or unknown situations; time orientation (long vs. short) (LTO) focuses on the degree to which a society embraces, or does not embrace, long-term devotion to traditional values (strongly related to Confucian societies). See Figure 1 for a comparison of the cultures/countries studied in this paper.

Another important aspect considered is the concept of user-interface components [7]. The five primary user-interface components are these:

- **Metaphors:** Essential concepts conveyed through words and images, or through acoustic or tactile means. Metaphors concern both over-arching concepts as well as individual items, such as the "trashcan" standing for "deletion" within the "desktop" metaphor.
- **Mental models:** Organization of data, functions, tasks, roles, and people in groups at work or play. The term, similar to, but distinct from cognitive models, task models, user models, etc., is intended to convey the organization observed in the user interface itself, which is presumably learned and understood by users and which reflects the content to be conveyed as well as users' tasks.
- **Navigation:** Movement through mental models afforded by windows, menus, dialogue areas, control panels, etc. The term implies process, as opposed to structure, i.e., sequences of content potentially accessed by users, as opposed to the static structure of that content.
- **Interaction:** The means by which users input changes to the system and the feedback supplied by the system. The term implies all aspects of command-control devices, e.g., keyboards, mice, joysticks, microphones, as well as sensory feedback, e.g., changes of state of graphical buttons, auditory displays, and tactile surfaces.
- **Appearance:** Verbal, visual, acoustic, and tactile perceptual characteristics of the displays. The term implies all aspects of visual, acoustic, and haptic languages, e.g., typography or color; musical timbre or cultural accent within a spoken language; and surface texture or resistance to force.

Combining Hofstede's cultural dimensions with the five user-interface components, a paper by Marcus and Baumgartner [7] analyzed 25 possible areas to evaluate how a company's corporate Website seems localized to a specific culture and found several observable patterns that were typical to certain cultures. For example, it was observed that corporate Websites in cultures with a high Power-Distance value tend to use images of leaders; as well as national, corporate, and government themes, slogans, insignia, logos, symbols, typefaces, layouts, and colors; official music or anthems; and formal speech as part of their appearance. On the other hand, corporate Websites in countries with a low Power Distance value use "more typical"

people or groups; show daily activities; use popular music, symbols, typefaces, layouts, and colors; and employ informal speech.

Another work with the same principles as [7] is a tutorial presentation by the authors' firm [7], which analyzed the cultural differences between mobile platforms developed for Western cultures such as the United States and Europe and those developed for Eastern cultures such as Japan, South Korea and Taiwan. Some of the presentation's observations include those regarding the use of color for navigation. Platforms developed in South Korea had fewer colors used in icons and backgrounds when compared to their American counterparts. This difference could be attributed to the fact that South Korea is a country that rates high on Hofstede's Uncertainty Avoidance index and the minimal use of icons and colors is a way to not confuse the user with too varied or complicated visual input.

This initial analysis attempts to use the methods proposed by Marcus and Baumgartner [7] to observe and analyze patterns that may be distinguished by culture. This document is divided into sections as follows:

- The methodology section of this paper discusses how the authors' firm made observations of visible elements in SNSs from Japan, South Korea, and the USA.
- The analysis section uses the 25 possible areas mentioned previously to evaluate noticeable patterns that seem distinct to cultures as categorized by Hofstede.
- The discussion section is used to present an analysis of the usability issues, pattern similarities and differences, as well as the success rate of some SNSs that have ventured out of their home country. Finally, a brief conclusion summarizes accomplishments thus far and objectives for future work.

## 2 Methodology

To analyze the cultural differences in SNSs, the authors' firm compiled a list of 39 seemingly well-known SNSs from Japan, South Korea, and the USA (one project assistant collecting sample sites was from Japan, and one was from South Korea). The team divided the SNSs into four categories based on the site's apparent main objective: fostering business relationships, sharing music and videos, sharing photos, and appealing to a youth market. In order to keep to the modest effort and time available for this project, the team considered only a select number of pages to visit for each SNS:

- **First Page:** Typically an introduction to the services provided to members and non-members by the SNS. On some sites, the first page is also where the user signs into his or her account.
- **Sign-up Page:** The sign-up page allows a user to join the SNS. Usually, the user enters some amount of private information and creates a unique

identification (ID) that will be used to identify him/herself on the site. This page is also where the user creates a personal password to ensure that access to his/her membership remains secure.

- **Sign-in Page:** On SNSs that do not integrate the sign-in dialogue into the first page, there is a unique page that allows users to enter his/her site ID and password to enter the members-only area of the SNS.
- **Home Page:** The homepage is the first page the user sees after signing in. On the home page, the user can access all the main elements of the SNS such as chat, messaging, blogging, photo sharing, search, etc.

The details examined on each page were restricted to items that were readily observable. Table 1 summarizes such elements.

Some features on the table may not be straightforward. On many SNSs, the user may customize the homepage (the user is allowed to change the layout, colors and content of the page), and the system may personalize the SNS (e.g., with a welcome message that mentions the user's first name). An example appears in Figure 2. Also, some SNSs implement the CAPTCHA [2] test during sign-up to ensure that only human beings can complete the sign-up process and therefore reducing the possibility of the site being infiltrated by automatic Internet searching algorithms, or "bots."



*Figure 2: Example of SNS personalization captured from the homepage of Ning (USA)*

Combining the five cultural dimensions as discussed by Hofstede with the five design components results in a 5-by-5 matrix as shown below in Table 2.

For each component in the matrix, SNSs from several different countries were compared and contrasted to evaluate the possible influence of culture on their designs. (Websites primarily from Japan, Korea, and the USA are used.) The observations are discussed in the next section.

### **3 Analysis of Cultural Dimensions and UI Components**

The following sections discuss Hofstede's cultural dimensions and the user-interface components within them. Examples cite specific SNSs. To clarify some descriptions, visual examples appear from the sites being compared.

First Page	Home Page	Sign-up Page	Sign-in Page
Cuteness in design	Cuteness in design	Display of site benefits	Location of sign-in link/box on first page
Number of advertisements	Number of advertisements	User identity authentication	Prominent sign-in link/box on first page
Symmetrical layout	Symmetrical layout	CAPTCHA test [2]	Use of separate page for sign-in
Simplicity in design	Simplicity in design	Type of privacy statement	Use of icons
Use of icons	Use of icons	Use of icons	
Public display of private member photos	Display of other members		
Public display of member directory	Display of friends		
Number of links	Number of links		
Type of colors used	Type of colors used		
Slogan uncertainty	Customization		
Selling explanation	Personalization		

Table 1: Summary of features analyzed on selected SNS pages. Note: CAPTCHA test cited in the table stands for “Completely Automated Public Turing test to tell Computers and Humans Apart”

Components	Power Distance	Individuality Index	Masculinity vs. Femininity	Uncertainty Avoidance	Long Term Orientation
Dimensions					
Metaphor					
Mental Model					
Navigation					
Interaction					
Appearance					

Table 2: Matrix of design components vs. cultural dimensions.

### 3.1 Power Distance: High vs. Low

#### 3.1.1 Navigation: User-identity authentication

Following Hofstede’s definition of Power Distance, we assume that low power-distance countries prefer open access, multiple options, and sharable paths. On the other hand, high power-distance countries have a higher use of authentication and passwords, and they prefer prescribed routes and restricted choices. A clear example of this difference can be seen in the sign-up pages of Cyworld, a youth orientated SNS, in the USA and South Korea. Figure 1 shows that the power distance value for the USA (40) is lower than that of South Korea (60). To register on Cyworld USA (Figure 3, top), one only needs to enter basic credentials and create a password. None of the information entered is verified, so it is easy for one to impersonate someone else. On the other hand, Cyworld South Korea (Figure 3, bottom) verifies identity using a credit card and then requests for authorization by sending a text message to the user’s cell phone. Unless both of these steps are completed, an account cannot be created.

Figure 3: Registration pages of Cyworld USA (top) and Cyworld South Korea (bottom)

### 3.2 Collectivism vs. Individualism

#### 3.2.1 Metaphors: Public display of members' private pictures

Applying Hofstede's theory, we assume metaphors used in collectivist countries might be relationship-oriented and content-oriented, whereas those in individualist countries might be action- or tool-oriented. Given this understanding, it is reasonable to see members' pictures viewable by non-members on the first page of MySpace in the USA (individualist, with a individuality index of 91 on Figure 1), because the members typically want to have as many friends as possible on their "friends list". Contrasting this action-oriented objective with that of Mixi in Japan (collectivist, with an individuality index of 46 on Figure 1), one can see that no member information is accessible by non-members. An example of the display of members' pictures on MySpace appears in Figure 4, in which the members are labeled as "Cool New People".

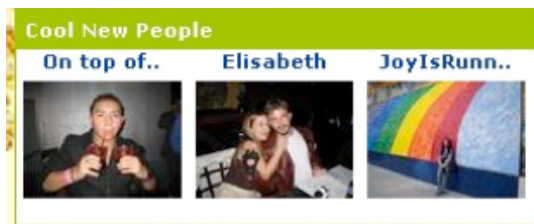


Figure 4: Display of members' pictures on the front page of MySpace in the USA.

#### 3.2.2 Mental Model: Display of benefits

When considering the mental model of individualist countries, we assume that they might use very product- or task-oriented mental models in which individual personal achievement is maximized (such as naming a SNS *MySpace* instead of *OurSpace*), whereas collectivist countries might emphasize group-oriented, role-oriented models underplaying specific personal achievement. On most American (high individuality index of 91 as shown in Figure 1) SNSs such as Gather, the *individualistic* goal-orientated benefits of joining the SNS are prominently displayed. Figure 5 shows the list of benefits displayed in the middle of Gather's front page. These benefits allow a potential member to evaluate the amount of *individual, personal* achievement that he/she can accomplish by signing up for Gather.

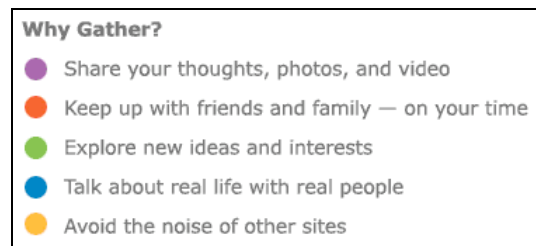


Figure 5: Display of individualistic benefits on Gather from the USA.



On the other hand, IDtail from South Korea (low individuality index of 18, as shown in Figure 1) shows the benefits of joining in an entirely different manner. As Figure 6 indicates, the text display also uses a cartoon banner. More importantly, the cartoon depicts people interacting with one another, *i.e.* in a community.



Figure 6: Display of collectivistic benefits on IDtail from South Korea.

3.2.3 Appearance: Use of cartoons to replace member pictures

People from individualistic countries are typically more independent and strive to be unique individuals. In contrast, people from collectivistic countries prefer not to stand out and are more discreet. This difference in the expression of individuality is apparent when comparing user-profile pictures in Cyworld USA (individuality index of 91) with those of Cyworld Japan (individuality index of 46), as in Figure 7. As can be seen, the user-profile pictures from the USA are of the individuals themselves. However, this treatment is different for Cyworld Japan, in which pictures of animals, toys, or even celebrities are used in a user’s profile in place of her/his photo.



Figure 7: User profile pictures in Cyworld USA (top) and in Cyworld Japan (bottom)

3.3 Femininity vs. Masculinity

3.3.1 Navigation:

Hofstede’s theory on femininity vs. masculinity asserts that more feminine countries would prefer multiple-choices, multi-tasking and polychronic

approaches, whereas more masculine countries would prefer limited choices and synchronic approaches. We compare Mixi from Japan (high masculinity rating, with a value of 95) with MySpace from the USA (lower masculinity rating, with a value of 62). Mixi provides its users with a limited amount of options and customizability. The user's homepage features, layout and colors are not changeable. MySpace takes a different approach, where almost every aspect of the user's homepage is customizable. As determined by the user, features such as music, YouTube clips, photos and others can be added or removed from the homepage.

### 3.4 Uncertainty Avoidance

#### 3.4.1 Metaphors: Use of icons

Applying Hofstede's theory about uncertainty avoidance to the UI component of metaphors, we assume countries with lower uncertainty avoidance would not shun, and might even prefer, novel, unusual, vague, or abstract references, whereas cultures with a higher amount of uncertainty avoidance might prefer familiar, stable, and clear references to daily life and be more comfortable with representation instead of abstraction. This difference in uncertainty avoidance can be seen by comparing the use of icons by Mixi in Japan (higher uncertainty avoidance, with a value of 92) with that of Fotolog in the USA (lower uncertainty avoidance, with a value of 46) as shown in Figure 8. Notice that Mixi has an icon for every link, whereas Fotolog has none.



Figure 8: Use of icons in Mixi (Japan) and Fotolog (USA).

#### 3.4.2 Mental Model: Display of strangers

Considering the mental model, we expect tolerance for ambiguousness in countries with low uncertainty avoidance. Conversely, we expect simple, explicit, clear articulation in countries with high uncertainty avoidance. Therefore, it is not surprising to see a pane in the user's home page in Facebook (USA, low in uncertainty avoidance) dedicated to "People You May Know" as in Figure 9. Such a feature creates uncertainty as one begins to wonder if they actually know the members featured on this pane. To the authors' knowledge, no Japanese or South Korean SNS implements a similar feature.



Figure 9 : “People You May Know” feature in Facebook (USA)

### 3.4.3 Navigation: Unique sign-in page

It is expected that countries with higher uncertainty avoidance tend to prefer clear, explicit articulation and limited choices; whereas countries with lower uncertainty avoidance are more tolerant of implicit structures and complexity. A simple example of this distinction can be seen by comparing the sign-in pages of two business SNSs, Ning in the USA and Linknow in South Korea, as shown in Figure 10. On the first page of Ning, the user is directed to another page to sign in. This link is text-based, small, and on the upper-right-hand corner of the screen. On the other hand, there is a prominent sign-in box on the first page of Linknow, a design that clearly reduces ambiguity of navigation.



Figure 10: Sign-in link on Ning (USA) and sign-in box on Linknow (South Korea).

### 3.4.4 Appearance: Symmetrical design

It is assumed that countries with high uncertainty avoidance may prefer simple, clear, and consistent UI layout when compared to countries with low uncertainty avoidance. A simple way to analyze this factor is by comparing the layouts of different SNSs. Figure 11 shows the top of the homepage of LinkedIn in the USA (lower uncertainty avoidance, as shown in Figure 1) with that of Linknow in South Korea (higher uncertainty avoidance, as shown in Figure 1). We observe that Linknow has a more structured and symmetrical design with the page header set as tabs. Furthermore, the header is aligned with the main content of the page. In contrast, LinkedIn has a less symmetrical look, as the page header does not align with the main content. Besides that, difference the components of the page appear to float in the main content area. Refer to Figure 11 for visual example of this difference.



Figure 11: Asymmetrical design of LinkedIn (USA) vs. symmetrical design of Linknow (South Korea).

### 3.5 Long-Term Time Orientation

#### 3.5.1 Mental Model: Purpose / age divide

Hofstede's theory seems to imply that long-term time-oriented countries would more actively pursue the long-term perspective. This is typically evidenced in respect for elders and views of long-term relationships. Given this theory, we can assume that SNSs from long-term time-orientated countries such as Japan and South Korea would cater towards more longer-term relationship building when compared to SNSs from short-term time-orientated countries such as the USA where target audiences are often changing phone services, internet service providers, and brand loyalty has declined. Numerous SNSs from South Korea, a country with high long-term time-orientation, such as Cyworld, IDtail and PlayTalk are promoted to a general audience in which users can establish longer-term relations. In contrast, there is a distinct age divide for SNSs in the United States, a country with relatively lower long-term time-orientation. Disney XD is a SNS designed for preteens, MySpace for teenagers and youths, Facebook for young adults and Eons for baby boomers. Users can be expected to enter and leave these as their ages, interests, social connections, and preferences change. Besides that, there are many SNS that are designed around certain special interests, such as LibraryThing for people interested in books, MyChurch for those interested in connecting with their church friends online as well as OutEverywhere, for gay people who want to make new friends online. Some of these differences arise from the strong individualist orientation as well as the shorter time perspective. Note that a new Chinese SNS site FaceKoo has had some success appealing only to a youth market. This contradiction is explained by the growing shift of culture values in some segments of Chinese society, especially the wealthier, more modernized, more individualistic eastern regions most affected by technology change.

## 4 Discussion

From the analysis above, it becomes obvious that there are numerous cultural artifacts that integrate with the design of SNSs. Further supporting

our idea of cultural influences on SNS is the fact that there are many design elements that are similar for cultures ranking close to each other on Hofstede's cultural dimensions index.

However, it is important to not over-generalize, and assume that all design elements successful in one of these countries is guaranteed to provide the same results in other countries ranking similarly on Hofstede's cultural dimensions. Katayama [5] gives an example of how Cyworld Japan has failed to take-off especially when compared to Cyworld's huge success in its home country of South Korea. In the article, the Public Relations Manager for Cyworld Japan states "The Japanese tend not to talk about personal topics online." Therefore, Cyworld Japan created friend grouping functions and the option of censoring who can see certain information about the user. Related to the uniqueness of Japanese culture is the success of Mixi in Japan. Mixi is the most popular SNS in Japan with 84.8% of the market share. However, the features afforded by Mixi are minimal, with a homepage that cannot be customized and no external applications allowed. Toto of TechCrunch [12] states that one of the important features of Mixi allows Japanese users to maintain a high level of anonymity. This feature, so-called *ashi-ato* (Japanese for footprint) allows the user to retrace every visitor on his or her profile page, thus improving the feeling of personal security.

Numerous large SNS sites have taken a step further and ventured into countries with very opposite cultural beliefs, values and norms as when compared to their home country. Such examples include MySpace's and Facebook's foray into Asian countries as well as Cyworld's expansion into the United States. These sites typically retain their original format and features while translating the language used on the site. Facebook takes a unique approach to the translation process whereby volunteers are asked to help translate content on Facebook word-for-word [14]. Both MySpace and Facebook have a global membership database that can be accessed by users, regardless of whether they are using a localized version of the SNS. Cyworld USA, on the other hand, limits membership access to the local country of registration [6]. Unfortunately none of these sites have gained the same popularity overseas as they have in their home country. There are articles giving reason to these failures. Katayama [5] mentions that the interface on the Japanese Facebook site is "mediocre" at best. Although the basic functions of Facebook have been translated into Japanese, most of the applications and user messages are still presented in English. This poses a problem for many Japanese users, as they do not use English on a regular basis. Furthermore, Facebook's failure to localize its site is obvious when, while in Tokyo, Mark Zuckerberg, the founder and CEO of Facebook mentioned that one of the site's unique selling points is the usage of real names and photos in profiles. However, this selling point may be exactly what the Japanese users are trying to avoid, as reasoned in Section 3.2.3. Cyworld USA, while localizing its membership database, still implements features that may be better suited for South Korean culture than American culture. Section 3.2.2 explains that people from individualistic countries tend to be task-orientated. Hence, Cyworld USA's use of acorns to represent

money [6] may be more confusing to users in the United States who may not understand the relationship between acorns and money. The important message to take from these failures is that culture matters. Users will use sites that are more in-tune with their culture. Unfortunately, not many countries have a local or localized SNS available to their population and have to make do with the best available option. The opportunity to capture a sizable share of these unique markets is available to any SNS that makes the first leap into localizing its content to fit the culture of its targeted market.

Naturally, there are many up-and-coming SNSs that are taking advantage of this void. One example is Facekoo, a SNS that was launched in March of 2008 targeting young people in China. The creator, Calvin Pak, clearly states “Chinese and Americans approach the web differently. [1]” He believes that young Chinese people have more time to spare than their American counterparts as they are usually the only child in the family. Using this trait, Pak designed Facekoo to be structured like a game, with imaginary careers and points earned for their experience. Facekoo’s users typically need to dedicate more time to the site than users of its foreign rivals such as Facebook or MySpace. In a testament to its success, Facekoo has already drawn around 350, 000 users in a span of 10 months since its launch.

While this paper provides some insights into apparent cultural differences in SNSs, more research needs to be done to obtain a clearer picture of the cultural artifacts involved in the different SNS sites. One way to move forward in obtaining more information is to complete more cells in the 5 by 5 matrix shown in Table 2. The inclusion of Europe into the study would also help give a clearer picture of how cultural differences affect patterns observed on SNS sites across the world. Europe was not included in this paper due to a lack of time and funding. However, there are numerous SNS sites originating from this continent, including Habbo from Finland and Woophy from the Netherlands. An analysis of SNS sites within Europe itself would provide valuable information as the ratings of European nations on Hofstede’s dimensions differ vastly. For example, France has a Power Distance rating of 68 whereas Sweden only rates 31 [4].

Different types of more focused comparisons can be made as well. For example, the differences and similarities between the different Cyworld sites (South Korea, Japan and the United States) can be analyzed to see if any patterns emerge. Another option would be to narrow the focus of the research to one particular category of SNSs such as youth, photo sharing or music and videos. This analysis may be done for SNSs within a country or across different countries. For multicultural countries such as the United States, one could even consider doing an analysis of the similarities and differences of SNSs that are catered towards different ethnicities. Taking this research a step further, an analysis can also be done on the differences and similarities between SNSs created for a particular ethnicity in the USA and that of an SNS created in the original country of said ethnicity. For example, one might want to compare SNSs created for Chinese Americans with those created for Chinese people in China.

Finally, a more through option to consider is to use the best-of-breed cultural dimensions as proposed by Marcus and Baumgartner [11] to replace Hofstede's cultural dimensions. The best-of-breed dimensions are context, technology, uncertainty avoidance, time perception, and authority conception, in that order. However, more data needs to be obtained from South Korea and Japan if these dimensions are to be used.

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Designer/Analysts at the authors' firm, who carried out the original gathering of SNS Website samples and initial analysis of design characteristics are the following: David Chang, Kaoru Kimura, and Hye-min Kim.

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