GLOCALIZATION OF WEB VISUAL: A CONTENT ANALYSIS OF VISUALS ON THE LOCAL WEB SITES OF GLOBAL BRANDS

By

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To my father, Sun Dong Kim; and my mother, Hyun Sook Ahn—
All this was possible with their support and love.

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As a result of literature review, the study have found that although studies have discovered the differences between countries in terms of the development of locally appealing Web sites by applying theories of cultural dimension, few researchers have focused on similarities. Such focus on site differences results in having a limited scope of observed countries. Additionally, the comparison between cultural clusters is highly weighted toward Eastern versus Western cultures. This calls for studies that explore how the top global brands accommodate to local cultures across all continents. In an effort to fill these gaps this research attempts to explore the visual factors used in the local Web site communication of global brands, the study examines whether particular brands employ similar visual communication strategies across different countries. The study also attempts to identify if common visual factors are exhibited on local Web sites within the same cultural clusters.

A Web site content analysis was adopted as methodology to examine the level of standardization existing in the global brands' Web sites for local markets. The sample brands, Yahoo, Citi, Ford, and Coca-Cola, were selected from the 2007 *BusinessWeek* world's top 100 global brands. The series of data analysis, including calculating the National Similarity Index, factor analysis, and cluster analysis, were conducted.

The study results showed that the level of visual similarity between each local Web site to the parent U.S. Web site varies across tested brands. The research also has discovered clusters of nations in which a great degree of commonality in their Web site visuals can be found. At the same time, cluster analysis identified those countries for which the local Web site clearly differs from others.

CHAPTER 1
INTRODUCTION

In more recent times the communication voice of organizations can easily be heard in a variety of new environments, such as the Internet and over wireless telephones. The increase in the use of the Web has been phenomenal, making it an indisputable communication medium for global communication (ZenithOptmedia, 2005). With the given luxury of time and space that this new communication medium inherently provides, target-specific communication efforts have been made by organizations seeking to target consumers located all over the globe.

Although considerable emphasis has been placed on the need for studies that focus on cultural similarities (Gupta et al., 2002; Javidan & House, 2002), researchers have primarily been exploring the differences in communication style among countries. In addition, while some authors put great emphasis on highly localized online communication, there appears to be a void in empirical research investigating global-local mix strategies in Web communication. Specifically, the field of visual components may indeed call for greater research attention because visual messages on the Web are more easily and quickly processed (Wurtz, 2006). They are also more effective in getting attention and stimulating interest than are verbal messages (Wells et al., 2003). However, current research on cross-cultural comparisons of visual communication on the Web is quite limited and fails to address differences in global communication across a broader range of countries.

The purpose of this study is to fill this identified research gap by examining the visual factors used at the local level in Web site communication of global brands. The study examined whether particular brands utilize similar visual communication strategies across different countries. The study also attempted to determine if, and identify where possible, common visual factors which are exhibited on local Web sites in the same cultural clusters.

The objective of this study is important for several reasons:

1. Brand sites provide an excellent platform to foster genuine relationships with potential and actual customers based on a continuous dialogue around the globe (Chirstodoulides and Chernatony, 2004)

2. Visual elements play a very important role in delivering global brand identity on brand web sites (Kernan & Domzal, 1993; Ryan & Theodore, 2004).

3. Culturally appealing Web site visual presentation is essential in order to engage target audiences in the local market and to create positive information exchange experience (Fogg et al, 2002; Nielsen, 2000).

Through the empirical research of brands which enjoy global popularity, this study attempts to observe if any similarities or differences between, and within, clusters appear in the visual presentation of their local Web sites.

CHAPTER 2
LITERATURE REVIEW

Communication and Cultures

The study of culture is one of the disciplines strongly related to communications. It is also the interdisciplinary area that is intensively researched in a conceptual or empirical manner by communications scholars (Sriramesh & Vercic, 2003). Although all communication fields contain a cultural aspect (Donal, 1990), public relations distinctively pertain to a cultural activity. Banks (2000) furthers that the reason public relations distinguishes itself from others is because it "proposes identities of both the organizations it speaks for and the audiences it addresses" (p.30). Culture, as one of the environmental factors which public relations practitioners consider when designing public relations campaigns, has been investigated by scholars in the public relations field for more than a decade (e.g., Huang, 2000; Rhee, 1999, 2002; Sriramesh, 1992, 1996; Sriramesh, J.E. Grunig, & Dozier, 1996; Sriramesh, Kim, & Takasaki, 1996). Therefore, it is necessary, particularly for this study which attempts to conduct a cross-cultural analysis, to inspect the key concepts of culture.

A Note on Cultural Framework

In spite of centuries of numerous studies conducted on culture, there still exists no unanimously accepted definition of the term. Kroeber and Kluckhohn (1952) presented a list of 164 definitions of culture and 300 other variations of the listed definition. The reason why numerous different definitions of the term are proposed is because the concept of culture contains a wide range of sub concepts, such as values, faith, belief, ideology, customs, language, religion, knowledge, habits, ethics, and laws (Tylor, 1981; Linton, 1945). A more recent definition of culture is presented by Geert Hofstede (2001). He defines culture as "a collective mental programming: it is part of our conditioning that we share with other members of our

nation, region, or group but not with members of other nations or groups." (p. 9) Although he admits that his definition is not comprehensive, many communication researchers adopted his notion of culture because they agree that it covers what they wanted to measure (Sriramesh, J.E. Grunig, & Dozier, 1996).

Many scholars have made efforts to identify categories of cultural dimensions that differentiate one country from another (e.g., Kluckhohn & Strodtbeck, 1973; Hall, 1976; Hofstede, 1980, 1984; Hofstede & Bond, 1988, Riddle, 1986, Gudykust and Ting-Toomey, 1988; Schwartz, 1992; Keiller et al., 1996; Trompenaars & Hampden-Turner, 1997; Triandis & Gelfand, 1998; Steenkamp, 2001). Cultural dimensions refer to aspects of a culture that can be "measured relative to other cultures" (Hofsted, G. & Hofstede, G.J., 2005, p. 23). Among various findings concerning these dimensions, Hofstede's and Hall's cultural dimensions are most frequently incorporated by studies in the marketing and communication field (Zhang, Beatty, & Walsh, 2008).

Utilizing a series of surveys, Hofstede (1980, 1984) collected 160,000 questionnaires from IBM employees in more than 70 countries. His data analysis yielded four cultural dimensions in which work styles differ. These are power distance, uncertainty avoidance, individualism/ collectivism, and masculinity/femininity. Another popular cultural framework was proposed by Edward Hall (1976, 2000), in which he classified culture into high-context cultures and low-context cultures. Descriptions of these cultural dimensions are summarized in Table 1.

Cultural Clusters

In addition to cultural dimensions, more than a half century of effort has been directed at identifying intercultural similarities and dissimilarities by historians, sociologists, and scholars in the marketing field. (e.g., Toynebee, 1947; Cattell, 1950; Haire, Ghiselli, and Porter, 1966; Sirota and Greenwood, 1971; Ronen and Kraut, 1977; Hofstede, 1980; Furnham, Kirkcaldy, and Lynn,

1994; Smith, Dugan, and Trompenaars, 1996; Brodbeck, Frese, Ackerblom, Audia, Bakacsi, and Bendova, 2000; Gupta, Hanges, and Dorfman, 2002). These scholarly explorers discovered clusters of nations based on linguistic and religious commonality, ethnicity, geographical proximity, and psychological or social characteristics, or variables. (Furnham, Kirkcaldy, & Lynn, 1994; Cattell, 1950). Such psychological and social variables include attitudes, values, and work goals (Haire, Ghiselli, & Porter, 1966; Ronen & Shenkar, 1985).

Depending on different psychological and sociological measures employed, several variations of country clusters presented have been identified. For example, as a result of the survey of IBM managers, Hofstede (1980) classified countries into six clusters: Anglo cluster, Nordic cluster, German cluster, Latin cluster, Asian cluster, and Japan. Gupta, Hanges, and Dorfman (2002) found 10 cultural clusters – South Asia, Anglo, Arab, Germanic Europe, Latin Europe, Eastern Europe, Confucian Asia, Latin America, Sub-Sahara Africa, and Nordic Europe – as a result of their study conducted with international-level data from 61 nations. Table 2 presents a summary of various groupings of cultural clusters identified in past studies.

The common characteristic of these classifications is that the countries in the same cultural cluster are geographically adjacent to each other. At the same time these studies have also discovered countries which do not share a significant similarity in values and cultural characteristics with other neighboring countries. For instance, Hofstede (1980)'s study result left out Japan because its culture and development is not similar to any other neighboring nation. In another study, Gupta et al. (2002)'s assessment of societal clusters revealed that two countries, Costa Rica and Guatemala, among 61 nations, were found to have a greater resemblance with countries in the Latin European cluster although they were hypothesized to be positioned in the Latin American cluster according to their geographical proximity.

Clusters provide valuable information regarding cultural variations to both organizations and researchers. Clusters may provide a valid guide for designing a sampling strategy for cross-cultural studies by ensuring that a sufficient sampling of cultural variability is included. Clusters also help researchers to examine if empirical findings obtained in one culture are applicable in other cultures (Gupta et al., 2002). Clustering of cultures is also beneficial from a practical point of view. By using information (e.g., the extent, nature, and dynamics of cultural differences and similarities) that clusters provide, multinational corporations can govern their local branch more efficiently (Javidan & House, 2002) and communicate with audiences in foreign markets more effectively (Robbins & Stylianou, 2003). For example, by understanding the unique cultural traits of Japan which differentiates from other Asian countries, a director in an Asia-Pacific regional headquarter can better perform leadership, negotiations, or assignments. Because studies of cultural clusters provide information about cultural similarities as well as differences, it is also useful for global corporations to decide the level of standardization or globalization in their communication strategies. As stated in the Introduction to this paper, this study therefore attempts to observe if any similarities or differences exist between and within clusters appearing on global brands' local Web sites. This is accomplished through an empirical research of brands which have obtained global popularity.

Global Communication and WWW

According to the Information and Economy Report presented by UNCTAD (United Nations Conference on Trade and Development) in 2008, more than fifteen percent of the world's population uses the Internet. This almost constitutes a increase in growth two fold compared to the Internet population in 2002. As Internet popularity increased, the World Wide Web acquired a powerful position as a viable means for bringing the world together. For-profit

organizations in particular, as opposed to the non-profit sector, rapidly adopted the Internet as an ideal tool to reach those publics located beyond domestic boundaries (Gerber, 1993).

During the past decade, there has been growing interest by corporations in utilizing the on -line medium for building and extending their brands. A corporate Web site is a popular vehicle for building and maintaining public relations, and for image building (Liu, Arnett, Capella, & Beatty, 1997). Other functions that corporate Web sites serve include electronic commerce, information disclosure, control of information flow, and reduced communication expenses (Sullivan, 1999). As Hwang, McMillan, and Lee (2003) asserts, a corporate Web site is "central to Web-based communication (¶ 41)" because no other medium takes on more variations of roles.

As the Internet penetrates the global population to a still greater degree, interesting utilization changes in the global population map on the World Wide Web were exhibited. As a fragment of the changing landscape, America yielded the top post of the Internet population to Asia. According to information and communication technology statistics database presented by the United Nations agency, International Telecommunication Union (ITU), Asia overtook America from 2002 to 2003. The most recent report of ITU (2008) reveals that the gap between the first place region (Asia) and the second (America) in terms of the number of Internet users is now more than three billion.

In parallel with this change, another report shows that English is no longer the dominant language on the Web. In 1999, the majority of the Internet population was reported to be English-speaking users (60% of all users) (Global Reach, 2004). However, the percentage of English-speaking users dropped to half (30.4% of all users) in 2008, while the percentage of non-English-speaking Internet users has steadily increased, led by Chinese (16.6% of all users),

Spanish (8.7% of all users), and Japanese (6.7% of all users), (Miniwatts Marketing Group, 2008). Thus, cultural diversity remains in virtual reality as well.

In other words, with the trend of increased popularity of this globalized communication channel, the Internet, means neither the diminishing of cultural differences nor the homogenizing of societal characteristics. As Javidan and House (2001) point out, "When cultures come into contact, they may converge on some aspects, but their idiosyncrasies will likely amplify" (p. 291). This remark reveals the challenge that the global corporations are facing when communicating with local publics in a foreign market. Later discussion will focus on issues regarding organizations' effort to find balance between globalized and localized communication strategies.

Standardization vs. Localization of Web sites

Scholars in the 80s emphasized standardized systems for the global market. Levitt (1983), for instance, suggests that corporations can ignore the "superficial regional and national differences," and should employ the same strategy across countries "as if the world were one large market" (p.92). Allio (1989) also offers that global corporations adopt global strategies by focusing on the similarities rather than the differences between countries. Their argument is largely supported by those social scientists who argue that the growing global mass culture is sculpted by Western societies and that such global mass culture "is centered in the West and it always speaks English" (Hall, 1991, p.28).

However, as previous comments on the recent phenomena of the Internet population uncovered, the global mass culture is more diverse than some scholars in the early days of the new media age had predicted. Recently, researchers assert that local market differences have rather been widening, and that communication messages should be customized to reflect culture, media availability, and industry structures (Taylor & Johnson, 2002). Similarly, Hamilton (1994)

argues that a global economic development does not result in an increasing level of homogenization of cultures across the world; it instead leads to the continuous development of cultural diversity.

A compromising view has emerged between these two extremes: "glocalization." Glocalization strategies preserve the consistency of underlying global themes and organizational vision. At the same time there exists tailored execution and performance, depending on environmental and cultural factors (Okazaki, 2003). Applying this glocalization strategy in organizations' Web site communication, however, is not a simple task.

One of the major advantages that Web site standardization strategies generate is related to enhancing global brand. Using identical logos, symbol, colors, and design template with the same look and feel across local Web site promotes "universal branding," as audiences around the globe share the same brand experience (Becker, 2002). At the same time, organizations should also consider the differences in each foreign market. This is the complication that global corporations are facing: developing local Web sites that are culturally accommodating while maintaining cohesive brand identity across different markets.

Visual Persuasion on Web sites

Across all media types visual appeal is an important part of the communication process. Visual appeals are used to draw attention and stimulate curiosity (Lester, 2006; Moriarty, 1997). Various visual cues play a role in strengthening or enhancing the communication message (Petty & Cacioppo, 1996). A Web site, in particular, may contain more variations of the visual element. Therefore, more careful attention to visual presentation is required.

A Web site is "a collection of Web pages, images, videos and other digital assets and hosted on a particular domain or sub domain on the World Wide Web" (Guild, 2007, p.31). As

this definition explains a Web site to be a conglomeration of texts, images, interactive features, animated graphics, and multimedia, the development of such digital assets that are now crucial parts of a Web site naturally place great emphasis on the visual presentation. Würtz (2006) emphasizes the importance of developing culturally appealing visual presentations of Web sites. As she points out, the localization of organizations' Web site goes beyond the minimal effort of translation of verbal messages: localization of a corporate Web site also involves adjustment of aesthetic and functional design by use of cultural-specific color, images, animation, culturally-preferred layout, images, color, and communication patterns (Sun, 2001; Wurtz, 2006). The following includes a review of past cross-cultural studies on Web site visuals.

Cross-cultural Studies on Web Site Visual Presentation

Visual cues that determine the atmosphere of a Web site are overall color scheme, typeface, icons, graphics, and layout (Eroglu et al., 2001; Cyr & Trevor-Smith, 2004). Web sites located in different cultures show distinctive uses of these visual elements (e.g., An, 2007; Barber & Badre, 2001; Fletcher, 2006; Juric et al., 2003; Marcus and Gould, 2000; Würtz, 2006; Yu & Roh, 2002).

Graphics

The pattern of graphics use on Web sites differs depending on cultural values. A dominant value in collectivist cultures is the quality time spent with family and friends, whereas the concept of freedom and personal time is more valued in individualist societies. Accordingly, studies show that images of group participation in activities are predominant on collectivist or high-context culture Web sites, while images of individuals enjoying themselves tend to be portrayed more often in individualist or low-context culture Web sites (Würtz, 2006) In addition to the use of human images, some other distinguishing features were found between high-context and low-context cultures. An (2007)'s cultural comparison on Web site visuals revealed that

Web sites for high-context (Eastern or Oriental) countries tend to use more symbolic visuals, photographs of celebrity endorsers, mix of photographs and illustrations, and less product images, whereas Web sites for low-context (Western or Occidental) countries on the other hand, portray more literal visuals such as photographs, as opposed to illustrations, and more product images.

Colors

Several examples of color uses and preferences related to culture can be found in the researched literature. Different countries attribute different meanings to the same color (Fletcher, 2006; Boor & Russo, 1993). Grey, for example, conveys inexpensiveness in China, but expensiveness, and high quality, in the United States (Fletcher, 2006). Juric et al.'s (2003) research found that most of the observed Korean Web sites used white as background color for their Web pages, whereas a variety of background colors, including blue, red, green, orange, and black, was used on British Web sites.

Layout

Appropriate design layout facilitates the understanding and assessing of information for Web site visitors, and also provides a communication "bridge" between the site and the users (Yu & Roh, 2002). In this study, layout refers to menu placement, overall size of the page, and the proportion of graphics versus textual content on the page.

Differences in page placement and specific orientations between different cultures are observed by researchers (e.g., Barber & Badre, 2001). Juric et al. (2003) developed a checklist of "cultural markers" that appears in the design elements and applied it to 40 Web sites in South Korea and the United Kingdom. The results show that while Korean Web sites are "horizontally placed," meaning the bottom scroll bar is used, UK web sites are more "vertically aligned", requiring use of the side scroll bar. Marcus and Gould (2000) suggest that Web sites in those

countries with the highest level of uncertainty avoidance – the extent of anxiety that people feel about uncertain or unknown matters– show a very simple and clear layout with limited choices of menus. In contrast, the British Airways Web site located in the United Kingdom, a country with a relatively low uncertainty avoidance score, shows more complexity of menu choices with pop-up windows and multiple layers of interface controls.

In addition, a significant disparity in menu and link placement exists between Eastern and Western countries. Cyr and Trevor-Smith (2004) discovered that links in Japanese Web sites were mostly located on the top and left of the Web page, as opposed to U.S. and German Web sites which place menus on the bottom and left side. Table 3 summarizes past cross-cultural studies covering visual factors on Web sites. Included in the table are lists of observation items, selected countries, and conceptual or theoretical background.

Summary and Research Questions

Based on the literature review, several gaps can be found in past research directed at cross-cultural communication on Web sites. First of all, although studies have discovered the differences between countries in terms of the development of locally appealing Web sites by applying theories of cultural dimension, few researchers have focused on similarities. Such focus on site differences results in having a limited scope of observed countries. For example, in those studies that examine culturally distinctive patterns on Web sites, only one or two countries are usually selected as representative sample countries for each cultural dimension. While this type of sampling methodology enables one to make a comparison between the few selected countries, similarities within the same clusters can hardly be tested.

In addition, the comparison between cultural clusters is highly weighted toward Eastern versus Western cultures. This calls for studies that explore how the top global brands accommodate to local cultures across all continents. Segev et al. analyzed content and design

characteristics of all local web sites of *MSN* and *Yahoo* in an attempt to map diversities and similarities across cultural clusters. His research achieved a pioneering position in that his cluster analysis presented a new method to explore a wide spectrum of diversity of Web sites in a large number of countries. However, this study sample was confined to portal sites only, where the web sites serve both as product and communication medium. Thus, it is uncertain if the findings are applicable to other industry Web sites. Finally, there exists much more ground to be explored concerning visual communication strategies on organizations' local Web sites.

In an effort to fill the gaps that are identified in the previous discussion, two primary research questions are addressed:

RQ1: How similar to, or different from, are local Web sites to the same parent Web site in terms of visual presentation?

RQ2: What common visual factors, if any, are displayed across cultural clusters?

As this research attempts to explore the visual factors used in the local Web site communication of global brands, the study examines whether particular brands employ similar visual communication strategies across different countries. The study also attempts to identify if common visual factors are exhibited on local Web sites within the same cultural clusters.

Table 2-1. Hofstede's and Hall's dimensions of cultural differences

Dimensions		Description
Hofstede	Power Distance	Vertical stratification of a society where individuals are accorded different levels of importance and status. The caste system of India is one widely identified example of considerable power distance that occurs in Asian cultures.
	Individualism/ Collectivism	The relationships individuals have in each culture. In individualistic society, individuals look after themselves and their immediate family only whereas I collectivistic cultures, individuals belong to groups that look after them in exchange for loyalty.
	Masculinity/ Femininity	The roles of men and women in a society and their behavior.
	Uncertainty avoidance	The extent to which a society can tolerate and cope with uncertainty and ambiguity.
Hall	High-context/ Low-context	In high-context cultures, the information is already shared by people, and thus very little information is in the coded, explicit, transmitted part of the message. In low-context cultures, the information is vested in the message and detailed background information is needed in the interaction with others.

Table 2-2. Cultural clusters by past studies

	Haire, Ghiselli, & Porter (1966)	Sirota & Greenwood (1971)	Ronen & Kraut (1977)	Griffeth, Hom, Denisi, & Kirchner (1980)	Hofstede (1980)	Gupta et al. (2002)
Anglo	U.K. U.S.	U.K. U.S. Australia Canada India New Zealand South Africa Austria Switzerland	U.K. U.S. Australia Canada India New Zealand South Africa	U.K. Canada	U.K. U.S. Australia Canada Ireland New Zealand South Africa	U.K. U.S. Australia South Africa (White Sample) Canada New Zealand Ireland
Arabic						Qatar Morocco Turkey Egypt Kuwait
Sub-Sahara Africa						Namibia Zambia Zimbabwe South Africa (Black Sample) Nigeria
Germanic			Austria Germany Switzerland	Austria Denmark Finland Germany Norway Sweden Switzerland	Austria Germany Israel Switzerland	Austria Switzerland Netherlands Germany
Nordic	Denmark Germany Norway Sweden	Denmark Finland Norway	Denmark Finland Norway		Denmark Finland Netherlands Norway Sweden	Finland Sweden Denmark
Eastern Europe						Hungary Russia Kazakhstan Albania Poland Greece Slovenia Georgia

Table 2-2. Continued

	Haire, Ghiselli, & Porter (1966)	Sirota & Greenwood (1971)	Ronen & Kraut (1977)	Griffeth, Hom, Denisi, & Kirchner (1980)	Hofstede (1980)	Gupta et al. (2002)
Latin European	Belgium France Italy Spain	Belgium France	Belgium France	Belgium Greece Italy Netherlands Portugal Spain	Argentina Belgium Brazil France Italy Spain	Costa Rica Guatemala Israel Italy Portugal Spain France Switzerland (French Speaking)
Latin American	Argentina Chile India	Argentina Chile Colombia Mexico Peru	Argentina Chile Colombia Mexico Peru Venezuela		Chile Colombia Mexico Peru Portugal Venezuela	Venezuela Ecuador Mexico El Salvador Colombia Bolivia Brazil Argentina
Near East					Greece Iran Turkey Yugoslavia	
Far East					Hong Kong India Pakistan Philippines Singapore Taiwan Thailand	
Confucian Asia						Taiwan Singapore Hong Kong South Korea China Japan
South Asia						India Indonesia Philippines Malaysia Thailand Iran
Independents	Japan	Brazil Germany Israel Japan Sweden Venezuela	Brazil Israel Japan Sweden		Japan	

Table 2-3. List of cross-cultural studies about visual presentation on the Web

	Visual factors	Conceptual background	Countries in comparison
Okazaki (2005)	Layout, color, photographs, illustrations, charts, graphs, and interactive images	Standardization, brand communication, and relationship building (marketing)	US (Home country), UK, France, Germany, and Spain (Host country) (5)
Wurtz (2006)	Images, photographs, and animation	Hall's High-context vs. low-context cultures and Hofstede's collectivist vs. individualist cultures	Japan, China, Korea, Germany, Denmark, Sweden, Norway, Finland, US (9)
An (2007)	Literal or symbolic visuals, use of celebrity models, photographs, illustrations, product portrayal	Hall's High-context and low-context cultures	Korea, China, Japan, Germany, UK, and US (6)
Robbins & Stylianou (2003)	Presentation (animation, frames, graphics sound, and video) and navigation features (hyperlinks, search engine, and sitemap)	Hofstede's cultural cluster	UK, US, Finland, The Netherlands, Norway, Sweden, France, Italy, Venezuela, Germany, Switzerland, India, Korea, Malaysia, Taiwan, and Japan (16)
Segev et al. (2007)	Frames, banners, background colors, photos, links, menus, pop up windows	Hofstede's cultural dimensions	US, Canada, Germany, Brazil, Malaysia, France, UK, Italy, Latin America, Korea, Belgium, Norway, Arabia, Japan, Netherlands, Singapore, India, Hong Kong, Spain, Taiwan, Australia, Sweden, Israel, Denmark, Czech Republic, New Zealand, Mexico, Switzerland, China, Finland, South Africa, Austria, Germany, Argentina, Spain, and Catalan (37)
Cyr, D. & Trevor-Smith, H. (2003)	Symbols, graphics, color preferences, links, maps, search functions, and page layout	Hofstede's cultural dimensions	Germany, Japan, and US (3)

Table 2-3. Continued

	Visual factors	Conceptual background	Countries in comparison
Marcus, A., & Gould, E.W. (2000)	Symbols, graphics, animation, navigation scheme, color, typography	Hofstede's cultural dimensions	Malaysia, the Netherlands, Germany, Costa Rica, Japan, US, Sweden, Belgium, UK, China (10)
Juric, R., Kim, I., & Kuljis, J. (2003)	Graphics, color, typography, layout, animation, 3D	Barber and Badre's cultural markers	Korea and UK (2)
Singh & Matsuo (2004)	Graphics, symbols, color	Hall's High-context and low-context cultures, Hofstede's cultural dimensions	Japan and US (2)

Note. Numbers in parentheses under the column with a heading as "counties in comparison" refer to the total number of countries studied.

CHAPTER 3
METHODOLOGY

Research design and sampling procedure

This study adopts Web site content analysis as methodology to examine the level of standardization existing in the global brands' Web sites for local markets. Content analysis is "a method of studying and analyzing communication in a systemic, objective, and quantitative manner for the purpose of measuring variables" (Wimmer and Dominick, 2006, p.150). It is a suitable method for investigating communication messages and mode of message presentation, as opposed to those studies undertaken to examine attitudes and responses of the audience (Kassarjian, 1997). Visual content analysis, in particular, enables the breaking down of visual presentation into its constituent elements to describe aggregation (Leeuwen and Jewitt, 2001).

This study conducts stratified sampling in an effort to obtain representative samples in each industry sector. A stratified sample is "the approach used to get adequate representation of a subsample" (Wimmer and Dominick, 2006, p. 96). As Babbie (2005) notes, stratified sampling enhances the representation of other variables related to the research objectives by ensuring "the proper representation of the stratification variables (p. 206)." When taken into consideration the fact that significant differences are found in Web site content and design across various industries (Huizingh, 2000), stratified sampling is appropriate methodology for this study.

The sample Web sites in this study are selected from the 2007 *BusinessWeek* world's top 100 global brands. Most studies of Internet content have difficulty in attaining a reasonable sampling framework of Web sites. It can be assumed that successful global brands have invested extensive amounts of resources to develop locally and globally effective Web sites, and consequently customized each local Web site to the target country. It would be reasonable, to assume, therefore, that such global corporations provide leadership in the use of their corporate

Web sites (An, 2003; An, 2007; Maynard and Tian, 2004; Okazaki, 2005). It is on the basis of this assumption that top global brands were chosen as suitable subjects for this study.

Sampling for this study was conducted using four industry sectors as strata. The four industry sectors were derived from *Nielsen Online*'s report of leading industry advertisers. This report provides a list of the ten industry sectors that spend the most amount of money for online advertising. According to this report's chart, ninety percent of online adverting is comprised of seven industries - Web media, financial services, telecommunications, retail goods and services, entertainment, consumer goods and the automotive sector. Industry sectors mentioned above were chosen due to their high expenditure on online communication. Four industry sectors –Web media, financial services, consumer goods and automotive– were chosen for this study. The rest of the industry sectors were excluded because:

- No global brands were found in the mentioned industry, or
- Web sites were predominantly used for electronic commerce, in which major activities consist of the buying and selling of products or services rather than communicating or r building relationships with audiences.

The sampling procedure is as follows:

1. For global brand Web sites, a list of the top 100 global brands is obtained from the 2008 *BusinessWeek* (2007) Web site.
2. By comparing *BusinessWeek*'s list of top global brands with *Nielsen Online*'s list of leading industry online advertisers, four industries are selected as strata.
3. One global brand that topped *BuinessWeek*'s ranking in each stratum (industry sector) was selected. If the brand is headquartered outside of the United State, the next U.S.-based brand in the ranking is selected. Accordingly, *Yahoo* in Web media, *Citi* in financial services, *Coca-cola* in consumer goods and *Ford* in automotive are selected as sample brands.
4. Local Web sites for each brand are searched using the brand's global corporate Web site as a guide.

This above procedure resulted in 120 local Web sites for *Coca-cola*, 36 local Web sites for *Yahoo*, 68 local Web sites for *Citi*, and 50 local Web sites for *Ford*. See Table 1 which provides the full listing of local Web sites in the sample brands.

Measurement

The unit of analysis

The unit of analysis is limited to the first or main page of local Web sites. This is done because the front page of corporate Web sites operates as a 'front door' to the whole Web site (Ha & James, 1998; An, 2007). In the case of introductory Flash animation occurring, the next available page, where the actual navigation by the visitor begins, is treated as the front page.

An observation item list with detailed operational definitions is developed and is designed to capture the visual components of different local Web sites. The measure for this study is partially adapted from coding schemes suggested by Segev et al. (2007), who conducted a comprehensive examination of local Web sites relating their level of content and format similarity to a parent Web site. In addition, specific visual components of these three concepts are derived from a comprehensive review of past studies of cross-cultural content analysis of Web site visuals (Segev et al., 2007; Wurtz, 2006; An, 2007; Okazaki, 2005; Cyr and Trevor-Smith, 2004; Juric, Kim and Juljis, 2003). In a large scale representation of concept, graphics, color, and Web page layout, these were identified in previous studies as remarkably different across countries (Fletcher, 2006; Marcus and Gould, 2000).

This study focuses on three formats of graphics: photographs, illustrations, and active images. The category "photograph" is further divided into four variations based on subjects: human individual photographs, human group photographs, product photographs, and non-human object photographs. Active images include animated graphics and flash-formatted files that contain multiple slides of graphics. The number of colors used for text, page background, and

menu box background are measured. Layouts of local Web sites are examined by measuring location of menus and graphics, and the percentage of area that graphics occupy. The location for each element was further operationalized in detail; for example, coders were instructed to draw vertical and horizontal lines in the center of a Web site and judge on which side the specified item is positioned. Most of the components are measured on a numerical scale as to the number of occurrences of each visual component. (See Appendix A and B for the full list of observation items)

Coding and inter-coder reliability

All coders use a standard coding sheet to reduce the risk of equivalency threats to internal validity. Prior to performing the main coding task, the coders will be trained by using instructions designed to familiarize them with the definitions and operationalisations of the coding categories and variables. Additionally, tutorial session on using the Cool Ruler application tool will be provided. Taking into account the rapidly changing nature of the Web, on which contents can be updated and changed constantly, all sample Web sites are simultaneously downloaded and saved to the coders' computers between June 1 and June 10, in order to uniformly serve without bias as subjects for this study.

Two coders in total, including the author, are conducting the coding task. They are all Korean graduate students with a major in mass communications. It would be ideal to appoint native speakers to enter Web site data of each different country to minimize cultural bias and misinterpretation. However, it is almost impossible to recruit such a large number of coders given the limited resources and within the required time frame. For this reason, visual components that are associated with culture-specific symbolism and metaphors have been excluded in the measurements for this study.

To assess inter-coder reliability, twenty seven Web sites (10% of the total Web sites) were coded by two independent coders. After each coding set, coders exchanged feedback and repeat the coding process until they achieve an acceptable rate of inter-coder reliability using Holsti's method. In the initial calculation the chance agreement of some items such as the number of menus on left, right, bottom, and top, and the number of graphics in each position were around .50, showing some disagreement for coding variables. Then, the coding book was revised for more clarification. After having additional training session with a coder using the revised coding book, a new reliability check was conducted. The new score for the inter-coder reliability reached 0.838 on average, which is an acceptable level.

Data analysis

The data analysis begins with calculating the *National Similarity Index (NSI)*. This calculation is taken from Segev et al. (2007)'s work, in which they explored the diversity of content and form of local Web sites of two leading portals. The NSI "indicates the level of similarity of each local homepage to the parent U.S. homepage" (Segev et al., 2007, p. 1276). The calculation process is described by Segev et al. (2007) as follows:

1. Compute the ratio between each local homepage and the U.S. homepage for each observation.
2. If the ratio is greater than 1, use the reciprocal value (absolute ratio), so that it will be possible to intersect the ratio's average per each local homepage.
3. The NSI is derived from the average of those ratios among all independent variables for each local homepage. (p.1276)

The result value of this calculation ranges from 0 to 1− a value of 0 meaning the highest level of dissimilarity and 1 the highest level of similarity.

In addition to the NSI, further statistical analysis is conducted to explore factors behind the diversities shown in the index and investigate in detail the clusters of local Web sites.. The statistical analysis is executed in four steps. First, factor analysis is performed to extract

correlated variables so that they can be grouped into fewer numbers of variables that describe visuals. Second, cluster analysis is used to identify groupings of local Web sites according to the level of similarity in their visual characteristics. Third, with the groupings obtained by cluster analysis, this study then compares the groupings obtained by cluster analysis with Hofstede (1980)'s cultural clusters to see if any commonality of grouping can be observed. Lastly, the study traces the common factor in each cluster. This study will be able to present the common visual factors of local Web sites in the same cluster because the clusters are generated based on the new variables which are the results of factor analysis.

Content analysis of this study contains 25 variables sampled over 265 Web sites (35 Yahoo! + 61 Citi + 119 Coca-Cola + 50 Ford). In total, 6,625 observations will be collected.

Table 3-1. Full list of local Web sites in *Citi*, *Yahoo*, *Coca-Cola* and *Ford*

Coca-Cola			Yahoo
Algeria	Great Britain	Qatar	Argentina
Angola	Greece	Republic of Congo	Australia
Argentina	Guatemala	Romania	Austria
Australia	Guinea	Russia	Brazil
Austria	Guinea Bissau	Rwanda	Canada
Bahrain	Honduras	Saudi Arabia	Chile
Belgium	HongKong	Saudi Arabia	China
Benin	Hungary	Senegal	Colombia
Bolivia	Iceland	Serbia	Denmark
Botswania	India	Seychelle	Finland
Brazil	Iraq	Singapore	France
Bulgaria	Ireland	Slovakia	Germany
Burkina Faso	Isreal	South Africa	Hong Kong
Burundi	Italy	Spain	India
Canada	Ivory Coast	Swaziland	Indonesia
Cape Verde	Japan	Sweden	Italy
Chad	Jordan	Switzerland	Japan
Chile	Keyna	Syria	Korea
China	Korea	Taiwan	Malaysia
Colombia	Kuwait	Tanzania	Mexico
Comoros	Latvia	Tunisia	Netherland
Costa Rica	Lebanon	Turkey	New Zealand
Cyprus	Lesotho	Uganda	Norway
Czech Republic	Lithuania	Ukraine	Peru
Democratic Republic of	Luxembourg	United Arab Emirates	Philippines
Denmark	Madagascar	Uruguay	Russia
Djibouti	Malawi	USA	Singapore
Dominican Republic	Malaysia	Venezuela	Spain
Ecuador	Mali	Yemen	Sweden
Egypt	Mauritania	Zambia	Switzerland
El Salvador	Mauritius	Zimbabwe	Taiwan
Equatorial Guinea	Nigeria		Thailand
Eritea	Norway		UK
Estonia	Oman		USA
Ethiopia	Palestine		Venezuela
Finland	Panama		Vietnam
France	Paraguay		
Gabon	Peru		
Gambia	Philippines		
Germany	Poland		
Ghana	Portugal		

Table 3-1. continued

Citi		Ford	
Australia	Spain	Argentina	Mexico
China	Sweden	Australia	Netherlands
Guam	United Kingdom	Austria	New Zealand
Hong Kong	United States	Begium	Norway
India	Canada	Belarus	Philippines
Indonesia	Costa Rica	Brazil	Poland
Japan	Dominican Republic	Canada	Portugal
Korea	El Salvador	Chile	Puerto Rico
Malaysia	Guatemala	China	Russian Federation
Philippines	Haiti	Croatia	Slovakia
Singapore	Honduras	Cyprus	Spain
Taiwan	Jamaica	Czech Republic	Sweden
Thailand	Panama	Denmark	Switzerland
Algeria	Puerto Rico	Estonia	Taiwan
Kenya	Trinidad	Finland	Thailand
Tanzania	Argentina	France	Turkey
Uganda	Brazil	Germany	UK
Zambia	Chile	Greece	Ukrain
Belgium	Colombia	Hong Kong	United States
Bulgaria	Ecuador	Hungary	Venezuela
Czech Republic	Paraguay	India	Vietnam
Germany	Peru	Indonesia	
Greece	Uruguay	Ireland	
Hungary	Venezuela	Israel	
Ireland	Bahrain	Italy	
Italy	Egypt	Japan	
Norway	Jordan	Korea	
Poland	Kazakhstan	Latvia	
Portugal	Pakistan	Lithuania	
Romania	Turkey	Luxembourg	
Russia	United Arab Emirates	Malaysia	
Slovakia			

CHAPTER 4
RESULTS

Analysis of National Similarity Index (NSI)

The National Similarity Index provides information about the similarity of local Web sites to the parent Web site (U.S. in this study) in the pattern of visual presentation. Table 5 summarizes the similarity for Yahoo, Citi, Ford, and Coca-Cola. Values closer to 0 indicate a greater difference from the U.S. Web site and values closer to 1 indicate a greater similarity. It was difficult to find a similar ranking pattern between sampled global brands. In Yahoo, the local Web site in China was quite different from its U.S. parent Web site, while the China Web site for Ford yielded the highest NSI value, which means greater similarity to the U.S. Web site. In addition, in Coca-Cola, those Web sites that share a greater similarity to the U.S. Web site are mostly African countries (e.g., Kenya, South Africa, Uganda, Egypt, Algeria, and Angola). On the other hand, local Web sites that scored higher level of similarity to Ford's U.S. Web sites are those countries in the Asia- Pacific region (e.g., China, Indonesia, Vietnam, Taiwan, New Zealand, Malaysia, India, Australia, Thailand, and Philippines)

Another interesting result provided by the NSI analysis is that the range of similarity varies between the sampled global brands. The range of the NSI values of the local Web sites for Yahoo, Citi, and Coca-Cola is relatively wider than that for Ford (NSI range in Yahoo, .53; Citi, .61; Coca-Cola, .67; Ford, .40). The NSI value of the Web site in the Ukraine, which scored the minimum NSI value among the local Web sites for Ford, is the same as the median of NSI for Citi. Because the NSI only portrays how similar each local Web site is to the U.S. parent Web site, it is impossible to examine the similarity or diversity of visual factors between local Web sites. A further statistical study and analysis could reveal such similarity and/or diversity of local Web sites.

Results of the Factor Analysis

In addition to the NSI, statistical analyses were conducted to further explore the visual factors behind the observed diversity of the global brands' local Web sites. First of all, a factor analysis was conducted by using principal component methods to extract the correlated variables. The result of this factor analysis, however, did not reveal very logical relationships. Table 6 presents the percentage of explained variation accounted for by the new components. The matrix revealed seven new components extracted with the eigen values over 1 as a set limit. The number of extracted components is more than the study allowed. Furthermore, this correlation matrix showed somewhat unreasonable relationships among the 20 variables. Therefore, another set of factor analysis was conducted in an effort to extract components with more reasonable relationships.

In the second session of factor analysis, the number of factors to be extracted was determined before conducting the analysis. The results of this second factor analysis are displayed in Table 7 and 8. Again, any new component with a reasonable relationship was not extracted. Not all communalities, which estimates "the proportion of a variable's variance explained by a factor structure (Pohlmann, n.d.)," are above the commonly accepted value of .30. Additionally, both factor analyses of visual variables in the sampled global brands created different groups of variables. Therefore, a cluster analysis was further conducted using the originally coded 20 independent variables as input.

Results of the Cluster Analysis

The cluster analysis groups together local Web sites with similar patterns of visual elements. Ward's linkage method was used to cluster groups in the given data. This method is found to be most optimal for this kind of study because it generates a small number of groups encompassing relatively more Web sites (Ward, 1963; Segeve, et al., 2007).

Figures 1 to 4 present the results of a cluster analysis in Yahoo, Citi, Ford, and Coca-Cola. It was decided to focus on clusters in this study, which are distanced between 3 and 8 units from each other. Accordingly, six main clusters in Yahoo, seven clusters in Citi, four clusters in Ford, and six clusters in Coca-Cola were entailed.

Figure 1 shows that the U.S. Web site was located within the biggest cluster (no. 4) and that Yahoo Japan and Yahoo China were located in separate clusters (no. 5 and no. 6). This means that the visual factors of Yahoo Japan and Yahoo China are significantly different from the visual patterns of other local Web sites in Yahoo. The first cluster (no.1) consists of local Web sites of European countries, such as Austria, Switzerland, Finland, Norway, Sweden, the Netherlands, Denmark, and Russia. The second cluster (no. 2) includes local Web sites of the Asia-Pacific region mostly (e.g., New Zealand, Singapore, Philippines, Indonesia, and Thailand).

Figure 2 displays clusters of local Web sites for Citi. Unlike Yahoo, the U.S. Web site in Citi does not belong to the biggest cluster. While the two largest clusters (no.4 and no. 7) include local Web sites of various regions, there are some clusters which contain countries from only one continent. A number of local Web sites from the African region, for example, are located in cluster number 1. The fifth cluster (no. 5) contains only Asian countries (e.g., Singapore, Thailand, Philippines, China, Taiwan, Hong Kong, Malaysia, Korea, and Indonesia).

Compared to the other global brands in the data sets, Ford yields a relatively smaller number of clusters. A unique observation of the Ford clusters is that the U.S. Web site is grouped together with only one local Web site, Ford Canada. The cluster number 1 (in Figure 3) mostly consists of the local Web sites of the Asia-Pacific region (e.g., Malaysia, New Zealand, Australia, India, Indonesia, Vietnam, and China), while most of the local Web sites in the European countries are located in the cluster number 3 (no. 3).

Lastly, the results of the cluster analysis of Web sites f or Coca-Cola, which has the greatest number of local Web sites, are depicted in Figure 4. The U.S. Web site was located in the biggest cluster (no. 1) and Coca-Cola Spain Web site was separated as an independent cluster. One of the interesting results revealed in the analysis of Figure 4 is that there is a cluster (no. 4) which only includes the Coca-Cola Web sites of Latin American countries (e.g., Panama, Venezuela, Costa Rica, Dominican Republic, Colombia, and Ecuador).

The cluster analysis of local Web sites of four global brands yielded a number of common results. Firstly, there exist clusters that included the local Web sites of only one specific region that share proximity of geographical location or cultural values. The cluster analysis of Yahoo Web sites, for example, reveals two clusters that contain Asia-Pacific countries and European countries respectively. Similarly, one cluster in Citi only consists of local Web sites of African countries. Most of the Latin American Web sites of Coca-Cola were located in the same cluster. Figure 5 displays screenshots of six local Web sites in Coca-Cola from three different clusters. These screenshots clearly indicate that the local Web sites of Coca-Cola located in the same cluster have very similar layouts regarding the number of text and background colors as well as the graphics used.

Another interesting result is that those clusters that contain mostly European local Web sites were the most distanced from those clusters containing Asian local Web sites. For instance, the distance between the cluster (no. 1 in Figure 1), which only includes European local Web sites, and the independent clusters of Yahoo Japan and Yahoo China is greater than 20 units. Figure 6 shows the screenshots of the representative local Web sites in the European cluster, Yahoo Japan, and Yahoo China. The figure clearly illustrates how different these groups of Web sites are. Yahoo Finland and Yahoo Netherland have much more simple layouts and a much smaller number of graphics, menus, and colors.

Table 4-1. NSI in Yahoo, Citi, Coca-Cola, Ford

Ranking Diversity (Yahoo)				Mean: 0.71, Median: 0.74			
1.00	USA	0.78	Vietnam	0.74	Brazil	0.65	Norway
0.87	Spain	0.77	Germany	0.73	Philippines	0.63	Netherland
0.85	Mexico	0.77	New Zealand	0.72	Japan	0.59	Denmark
0.85	France	0.76	Indonesia	0.71	Taiwan	0.58	Russia
0.81	Argentina	0.76	Thailand	0.69	Peru	0.56	Switzerland
0.80	Korea	0.76	Hong Kong	0.69	Singapore	0.56	Finland
0.79	Italy	0.75	India	0.69	Australia	0.56	Austria
0.78	Canada	0.75	Chile	0.66	Colombia	0.47	China
0.78	Malaysia	0.75	Venezuela	0.65	Sweden		

Ranking Diversity (Citi)				Mean: 0.60, Median: 0.60			
1.00	US	0.65	Uruguay	0.60	Malaysia	0.54	Ecuador
0.82	Denmark	0.65	Thailand	0.60	Philippines	0.54	Indonesia
0.78	Germany	0.64	Czech Republic	0.60	Hungary	0.53	Slovakia
0.73	Peru	0.64	Egypt	0.60	Panama	0.53	Ireland
0.72	Portugal	0.64	UK	0.59	Taiwan	0.53	Norway
0.71	Spain	0.64	Colombia	0.58	Costa Rica	0.52	South Africa
0.70	Greece	0.64	Russia	0.58	China	0.47	Dominican Republic
0.70	Brazil	0.63	India	0.58	Jamaica	0.47	Romania
0.69	Canada	0.63	Australia	0.58	Japan	0.47	Kazakhstan
0.69	UAE	0.63	Zambia	0.57	Tanzania	0.46	Sweden
0.68	Puerto Rico	0.62	Italy	0.57	Haiti	0.45	Jordan
0.68	Singapore	0.62	Korea	0.57	Hong Kong	0.44	Argentina
0.67	Belgium	0.62	Turkey	0.56	Poland	0.39	Nigeria
0.66	El Salvador	0.61	Paraguay	0.56	Kenya		
0.66	Venezuela	0.60	Guatemala	0.55	Uganda		
0.65	Bahrain	0.60	Honduras	0.55	Algeria		

Ranking Diversity (Ford)				Mean: 0.74, Median: 0.75			
1.00	United States	0.80	Portugal	0.74	Luxembourg	0.67	Denmark
0.86	China	0.80	Turkey	0.74	Japan	0.67	Hungary
0.86	Indonesia	0.79	Ireland	0.73	Chile	0.65	Russian Federation
0.85	Vietnam	0.79	Croatia	0.73	Sweden	0.65	Spain
0.84	Taiwan	0.79	Puerto Rico	0.72	Israel	0.65	Italy
0.83	New Zealand	0.78	Canada	0.72	Norway	0.64	Korea
0.83	Malaysia	0.77	Estonia	0.69	Poland	0.64	Greece
0.83	India	0.77	Latvia	0.69	Netherlands	0.63	Germany
0.83	Australia	0.77	Argentina	0.69	UK	0.63	Czech Republic
0.82	Thailand	0.77	Cyprus	0.68	Belarus	0.61	Brazil
0.82	Philippines	0.76	Hong Kong	0.68	Mexico	0.60	Ukraine
0.81	Austria	0.76	Belgium	0.67	Finland		
0.81	Lithuania	0.75	Venezuela	0.67	France		

Table 4-1. Continued

Ranking Diversity (Coca-Cola)				Mean: 0.78, Median: 0.89			
1.00	USA	0.90	Lesotho	0.89	Chile	0.62	Honduras
0.91	Ireland	0.90	Luxembourg	0.89	France	0.61	New Zealand
0.91	Kenya	0.90	Madagascar	0.89	Peru	0.61	Costa Rica
0.91	Philippines	0.90	Malawi	0.89	Switzerland	0.61	Nicaragua
0.91	South Africa	0.90	Mali	0.87	Ukraine	0.61	Panama
0.91	Uganda	0.90	Mauritania	0.86	Uruguay	0.61	Venezuela
0.91	Egypt	0.90	Mauritius	0.85	Bahrain	0.59	Ecuador
0.91	Serbia	0.90	Mayotte	0.85	India	0.59	El Salvador
0.90	Algeria	0.90	Morocco	0.85	Jordan	0.59	Dominican Republic
0.90	Angola	0.90	Mozambique	0.85	UAE	0.58	Russia
0.90	Belgium	0.90	Niger	0.84	Kuwait	0.58	Malaysia
0.90	Benin	0.90	Nigeria	0.84	Palestine	0.58	Portugal
0.90	Botswana	0.90	Paraguay	0.84	Saudi Arabia	0.57	Japan
0.90	Burkina Faso	0.90	Republic of Congo	0.84	Yemen	0.56	Netherlands
0.90	Burundi	0.90	Rwanda	0.80	Great Britain	0.56	HongKong
0.90	Cape Verde	0.90	Senegal	0.77	Poland	0.53	Slovakia
0.90	Chad	0.90	Seychelle	0.76	Argentina	0.53	Czech Republic
0.90	Comoros	0.90	Swaziland	0.75	Cyprus	0.53	Taiwan
0.90	Democratic Republic of Congo	0.90	Tanzania	0.70	Bulgaria	0.51	Denmark
0.90	Djibouti	0.90	Tunisia	0.68	Isreal	0.51	Finland
0.90	Equatorial Guinea	0.90	Zambia	0.68	Canada	0.51	Norway
0.90	Eritrea	0.90	Zimbabwe	0.67	Brazil	0.51	Sweden
0.90	Ethiopia	0.90	Iraq	0.67	Mexico	0.49	Lithuania
0.90	Gabon	0.90	Lebanon	0.65	Germany	0.47	Estonia
0.90	Gambia	0.90	Oman	0.65	China	0.47	Latvia
0.90	Ghana	0.90	Qatar	0.64	Australia	0.46	Italy
0.90	Greece	0.90	Syria	0.64	Korea	0.42	Singapore
0.90	Guinea	0.89	Turkey	0.64	Colombia	0.41	Romania
0.90	Guinea Bissau	0.89	Austria	0.63	Spain	0.33	Iceland
0.90	Ivory Coast	0.89	Bolivia	0.62	Guatemala		

Table 4-2. First new visual components−Citi

Rotated Component Matrix							
	Component						
	1	2	3	4	5	6	7
Number of brand logo images	.175	-.077	-.127	-.014	.005	.835	-.013
Number of human individual photographs	-.081	-.177	.845	-.050	-.018	-.029	-.034
Number of human group photographs	.144	.373	.195	-.506	.048	.201	-.063
Number of product images	.723	.112	-.063	.055	-.060	.326	.047
Number of non-human object photographs	.216	.022	.118	.846	-.112	-.110	-.041
Number of illustrations	.208	.756	-.018	-.116	.083	-.242	.097
Number of interactive images	.739	-.039	.049	.255	-.153	-.069	.196
Number of text colors	.625	.388	.036	-.143	.247	.067	-.093
Number of background colors	.041	.106	.037	.003	.001	-.032	.953
Number of menu box colors	-.180	.378	.410	-.205	-.225	.503	-.087
Number of menus on left side of the Web page	.096	.793	-.055	-.009	-.105	.041	.381
Number of menus on right side of the Web page	.624	-.131	.049	.084	.399	-.076	-.056
Number of menus on bottom of the Web page	.624	.414	-.074	-.167	.215	-.005	-.114
Number of menus on top of the Web page	.348	-.204	-.215	-.112	.627	.198	.122
Number of drop-down menus	.745	.133	.091	-.105	.149	.040	.066
Number of graphics on left side of the Web page	.057	.753	.037	.317	.085	.184	-.181
Number of graphics on right side of the Web page	-.221	.235	.057	.602	.256	.264	.026
Number of graphics on bottom of the Web page	.033	.221	.146	.045	.709	-.152	-.077
Number of graphics on top of the Web page	.241	.181	.717	.216	.178	-.057	.154
Number of graphics in the middle of the Web page	.595	.056	.525	-.053	-.381	-.103	-.127

Note. Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 10 iterations.

Table 4-3. Second new visual components−Citi

Rotated Component Matrix

	Component			
	1	2	3	4
Number of brand logo images	.188	-.022	-.145	.310
Number of human individual photographs	-.095	-.198	.723	-.044
Number of human group photographs	.120	.258	.162	.575
Number of product images	.678	.143	.083	.157
Number of non-human object photographs	.171	.181	.239	-.757
Number of illustrations	.181	.709	.028	.096
Number of interactive images	.675	.024	.237	-.193
Number of text colors	.630	.353	.058	.323
Number of background colors	.046	.256	.000	-.077
Number of menu box colors	-.271	.296	.422	.450
Number of menus on left side of the Web page	.024	.787	.053	.228
Number of menus on right side of the Web page	.662	-.040	-.071	-.302
Number of menus on bottom of the Web page	.631	.378	-.020	.262
Number of menus on top of the Web page	.537	-.079	-.448	.042
Number of drop-down menus	.749	.146	.136	.147
Number of graphics on left side of the Web page	.025	.776	.075	-.028
Number of graphics on right side of the Web page	-.142	.416	-.078	-.509
Number of graphics on bottom of the Web page	.205	.303	-.116	-.109
Number of graphics on top of the Web page	.256	.246	.634	-.134
Number of graphics in the middle of the Web page	.438	-.037	.726	.084

Note. Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 7 iterations.

Table 4-4. Communalities estimates prior to the second factor analysis−Citi

Communalities	
	Extraction
Number of brand logo images	.153
Number of human individual photographs	.572
Number of human group photographs	.438
Number of product images	.512
Number of non-human object photographs	.692
Number of illustrations	.546
Number of interactive images	.549
Number of text colors	.630
Number of background colors	.074
Number of menu box colors	.542
Number of menus on left side of the Web page	.675
Number of menus on right side of the Web page	.536
Number of menus on bottom of the Web page	.610
Number of menus on top of the Web page	.497
Number of drop-down menus	.623
Number of graphics on left side of the Web page	.609
Number of graphics on right side of the Web page	.459
Number of graphics on bottom of the Web page	.159
Number of graphics on top of the Web page	.547
Number of graphics in the middle of the Web page	.728

Note. Extraction Method: Principal Component Analysis.

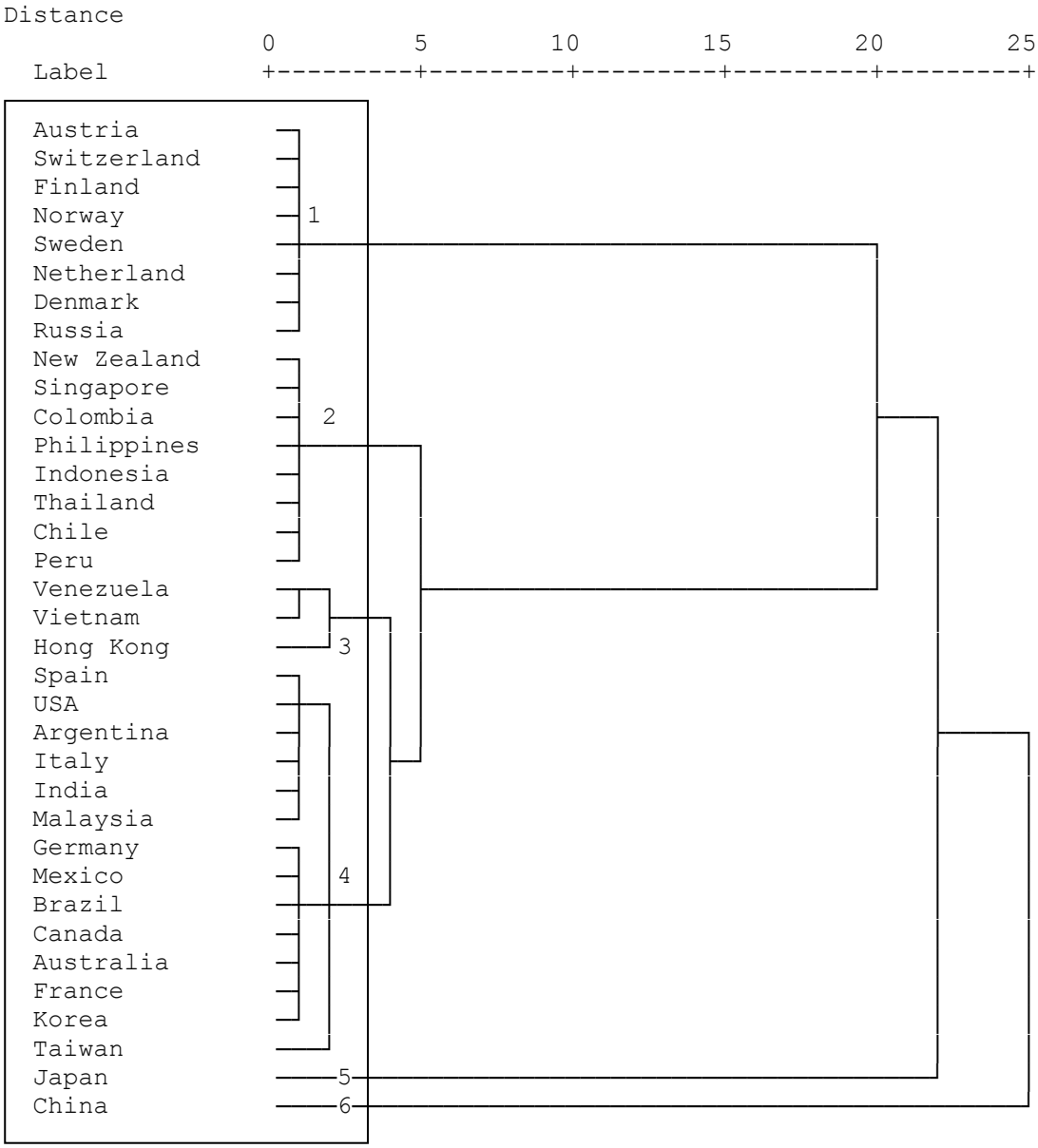


Figure 4-1. Dendrogram from cluster analysis−Yahoo

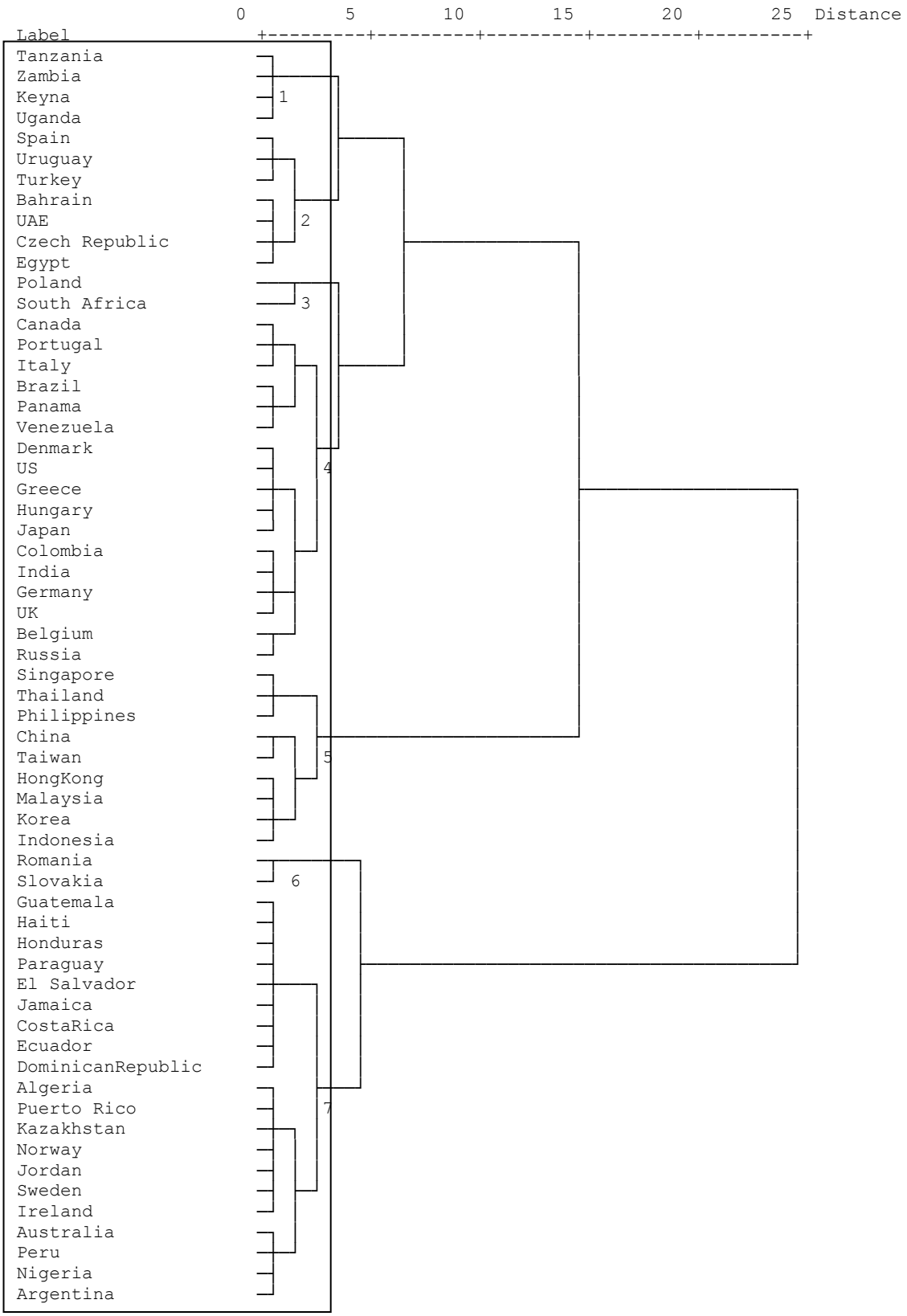


Figure 4-2. Dendrogram from cluster analysis−Citi

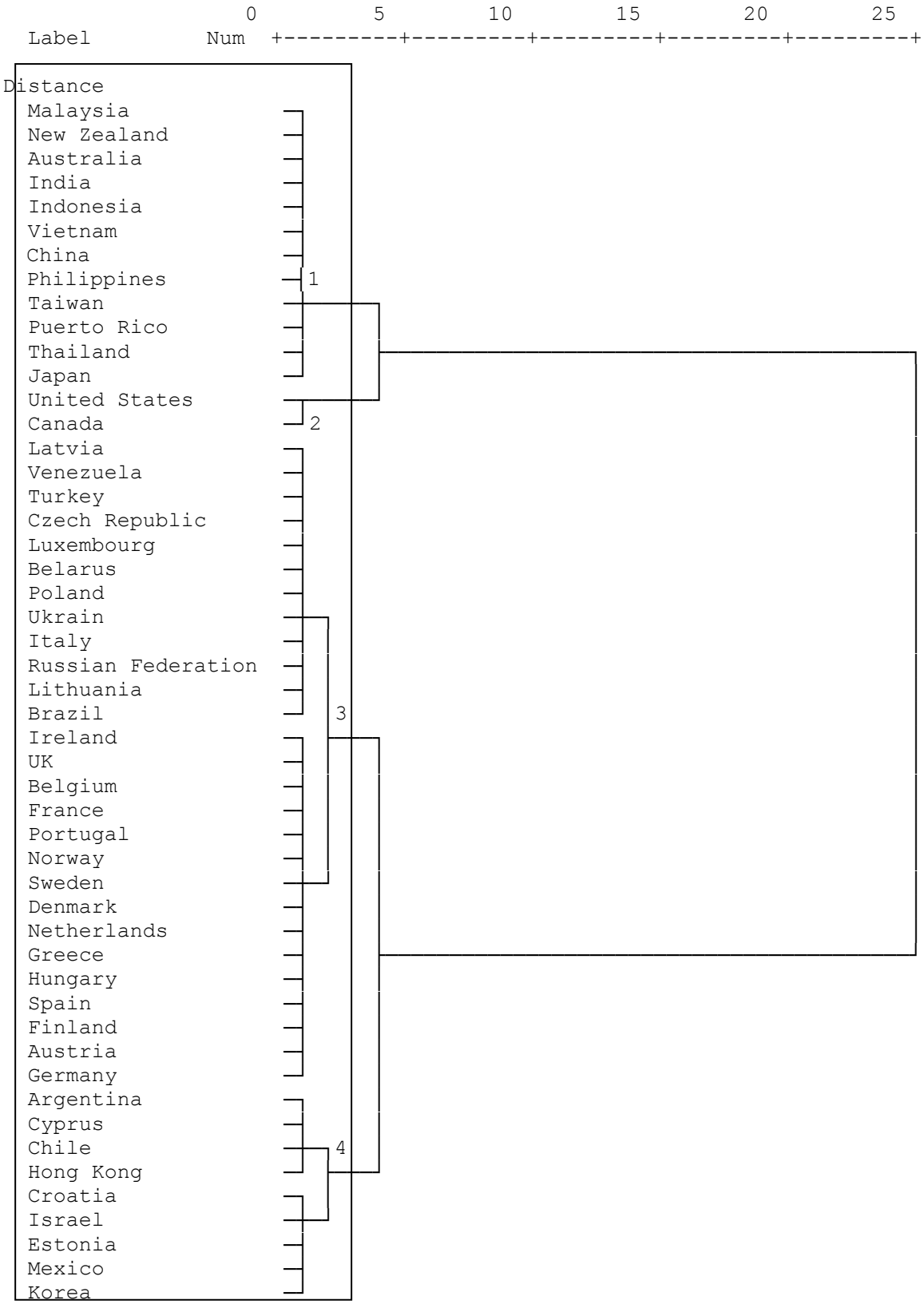


Figure 4-3. Dendrogram from cluster analysis−Ford

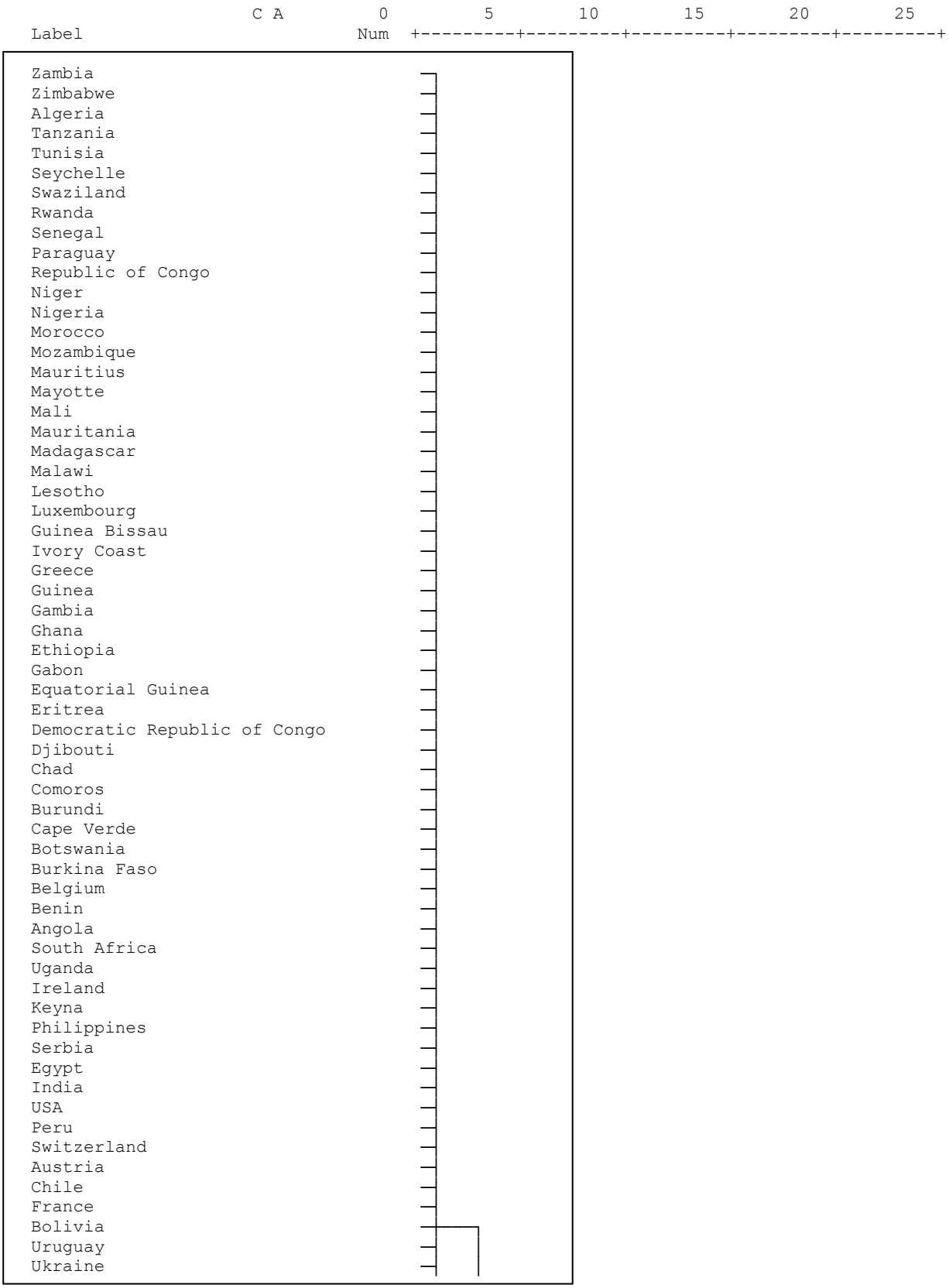


Figure 4-4. Dendrogram from cluster analysis–Coca-Cola

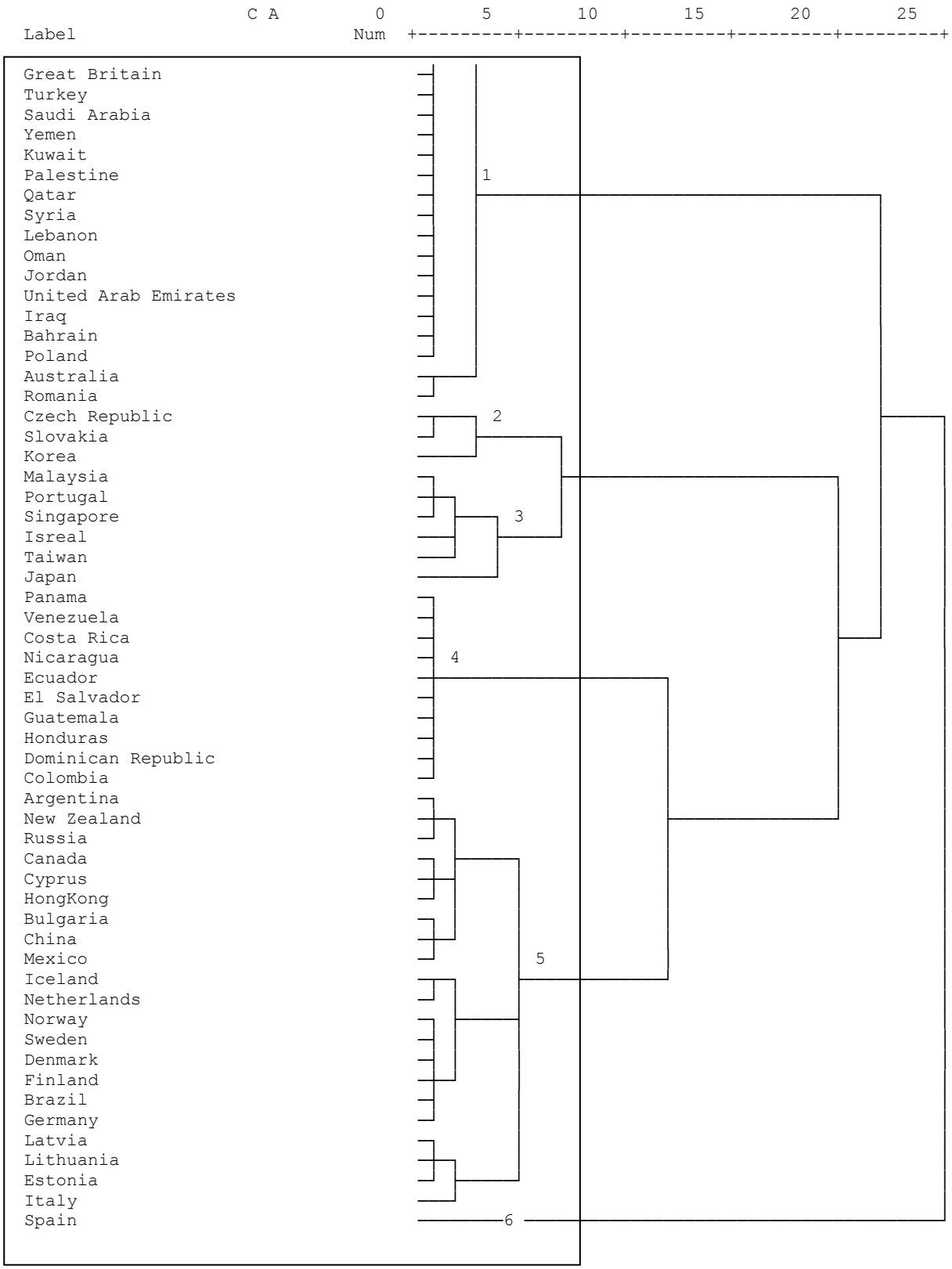
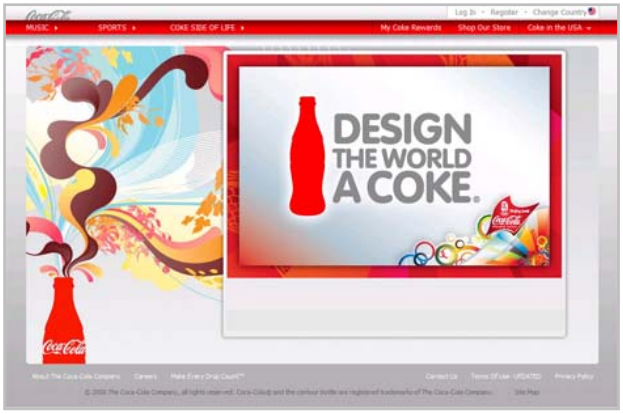


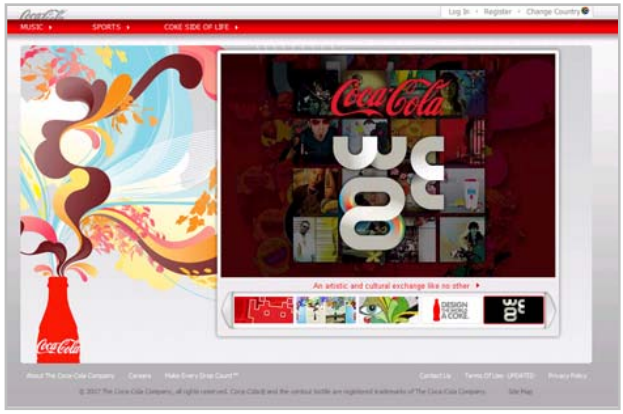
Figure 4-4. Continued

Cluster no. 1

Coca-Cola US



Coca-Cola South Africa



Cluster no. 4

Coca-Cola Costa Rica

Coca-Cola Venezuela

Cluster no. 5

Coca-Cola Norway

Coca-Cola Finland

Figure 4-5. Screenshots of Coca-Cola's local Web sites

Yahoo Finland

Yahoo Netherland

Yahoo China

Yahoo Japan

Figure 4-6. Screenshots of Yahoo's local Web sites

CHAPTER 5
DISCUSSION AND CONCLUSION

Discussion

This research aimed to understand how global brands employ similar or different strategies across different countries. The study also attempted to explore how local Web sites can be grouped together in terms of their visual presentations. The purpose of this research required that a series of tests be conducted to examine the similarity or diversity of the visual elements of the Web sites. Since past cross-cultural studies in the field were limited to the use of cultural dimensions as a theoretical framework, and existed for only a small number of sample countries, this study was designed to present different approaches in exploring the glocalization of visual strategies on larger scale.

The study posed two research questions: the first concerns the level of visual diversification of local Web sites to the parent Web site, and the second addresses patterns of visual presentation across clusters. Some of the NSI results presented similar findings as found in past studies, whereas local Web sites in Asian countries are most dissimilar to the local Web sites of Western countries. Consistent with the NSI findings, the cluster analysis of this research revealed the distinctive differentiation of local Web sites by some regions: Scandinavian Europe, Asia, and Latin America. The colorfulness and fully loaded layout of Asian Web sites correspond with the findings of previous studies, which revealed similar patterns in Web site design and the online advertising of global corporations (Becker, 2002; Wurtz, 2005; Segev et al., 2007).

The reason why these three clusters are commonly identified in this study can be found in the previous studies on cultural dimensions. The countries in the Scandinavian/ Nordic, Asian, and Latin American clusters recorded very distinctive scores in cultural dimensions such as

power distance, and individualism/ collectivism. For example, Hofstede (1980)'s study revealed that the Latin American cluster scored very high in power distance and collectivism/ individualism. The Asian cluster achieves a significantly higher long-term orientation ranking. Therefore, it is suspected that the Nordic, Latin American, and Asian clusters contain highly distinguishing cultural characteristics, leaving very little chance of cultural convergence with other clusters.

However, the ranking of diversity for the local Web sites, as shown in the NSI, was not consistent across the global brands and their field of industry. Ford China topped the rank of visual similarity to the U.S. Web site, while Yahoo China scored the lowest in the level of similarity to its parent U.S. Web site. The explanation of such disparity may be found in previous studies, which suggests industry category as a covariate (Cutler, Javalgi, & Erramilli, 1992). Cutler and his colleagues (1992) points out in their study that the visual components of advertising differ by product and service category. Similarly, Willis (2006) asserts that the Western luxury goods execute most standardized communication campaign across local markets. He explains that what consumers want is "the original, authentic, and value-ridden Western product as this was a link to a world of perceived success, glitter, and empowerment (p. 65)." Therefore, the Chinese Web site for Ford may execute relatively less localized visual strategies because the company is selling a product as well as the Western identity that Chinese consumers want to pursue.

Another important finding is that global brands furnish several versions of standardized Web site templates and assign different templates to different regions respectively. In other words, local Web sites in the same regional or cultural cluster often adopt regional design templates, in which layout, color, and graphic schemes are very

similar. Then, further localization of visual strategies is made within the given visual framework of the template. This finding sheds a refreshing light on the stages of glocalization of Web site visuals. The regional boundaries as well as national boundaries are considerably taken into account when balancing the standardized and localized visual strategies.

The study also showed that there still exist some local Web sites that are not similar to any other local Web sites of neighboring nations, thus separating themselves from other clusters. The cluster analysis classified Yahoo Japan as a single- member cluster. This result may explain an aspect of the past cultural cluster studies, where they left out Japan due to its independence from other clusters because Japan projects apparent uniqueness in terms of cultural characteristics.

An alternative explanation on the occurrence of single-member clusters can be found in Ronen and Shenkar (1985)'s meta-analysis of cultural clustering:

> The countries classified as independents allow one to hypothesize that economic development and technology override the traditional dimensions of language, geography, and religions as a basis for cluster membership. Those countries higher on economic development tend to separate from their geographic groupings. (p. 452)

As they address above, other dimensions, such as economic advancement and Internet development may play a stronger role in a designing locally accommodating Web site.

Conclusion

This study attempted to utilize a different approach in exploring the global brands' glocalization of visual strategies for their local Web sites. By calculating the National Similarity Index, the study showed that the level of visual similarity between each local Web site to the

parent U.S. Web site varies across tested brands. Further statistical analyses have discovered clusters of nations in which a great degree of commonality in their Web site visuals can be found. At the same time, cluster analysis identified those countries for which the local Web site clearly differs from others.

Contrary to previous cross-cultural studies that focused primarily on the comparison between nations (e.g., An, 2007; Marcus & Gould, 2000; Robbins & Stylianou, 2003), the clustering of countries has been taken into account for this study. Little has been learned about the similarity and diversity of Web site visual strategies that geographically or culturally neighboring countries share. Overemphasis on site differences only seems to result in studies being confined to the limited selection of countries and theoretical frameworks. Hence, this academic exploration contributes to filling the gap in the area of global Web site communication.

Additionally, the findings of this study will benefit communication professionals as well. The results of this Web site visual analysis of a broad range of countries will help communication practitioners to develop a wider spectrum of understanding about visual strategies taking place around the globe. Those identified clusters and independent counties noted in the study may be useful information for developing effective and efficient visual strategies for organizations' Web sites.

Limitations and Future Research

In spite of its contributions, there are some limitations to this study that should be allowed for in developing future studies. First, the local Web sites in the sample only covered those from four purposively selected brands. Although the study may portray exemplary Web site visual strategies performed by top global brands, a larger sample selection of brands may have provided still more representative results.

Because this Web site content analysis utilized only numeric scales for data analysis, the study may have overlooked some information that numeric values cannot grasp. A qualitative examination about similar or different patterns of Web site visual strategies within or between regions may enrich the understanding of visual communication on the World Wide Web.

Lastly, another shortcoming of this study can be found in the nature of the Internet. As mentioned earlier in discussing methodology, the ephemeral nature of Web sites, meaning that the content and form of the Web sites are constantly changing and being updated, may put the reliability of findings at risk. The findings that the study has discovered may be a mere snap shot of the fluctuating continuum. This limitation of the study suggests a topic for future research: longitudinal cross-cultural studies of changes in Web site visual communication.

APPENDIX A
CODING SHEET FOR CONTENT ANALYSIS

1. General case information

1.1. Case number:

1.2. Coder initials and date:

1.3. Name of global brand:

1.4. Host country of local Web site:

2. Graphics

2.1. Number of brand logo images:

2.2. Number of human individual photographs:

2.3. Number of human group photographs:

2.4. Number of product images:

2.5. Number of non-human object photographs:

2.6. Number of illustrations:

2.7. Number of interactive images:

3. Color

3.1. Number of text colors:

3.2. Number of background colors:

3.3. Number of menu box background colors:

4. Layout

4.1. Menu

4.1.1. Number of menus on left:

4.1.2. Number of menus on right:

4.1.3. Number of menus on bottom:

4.1.4. Number of menus on top:

4.1.5. Number of drop-down menus:

4.2. Graphics

4.2.1. Number of graphics on left:

4.2.2. Number of graphics on right:

4.2.3. Number of graphics on bottom:

4.2.4. Number of graphics on top:

4.2.5. Number of graphics in middle:

APPENDIX B
CODING BOOK FOR CONTENT ANALYSIS

Coder Instructions:

Please code the variables you were given on the sample list according to this codebook. The unit of analysis for this study is limited to the front page of the brands' web sites. If an introductory page in flash format appears, skip that page and start coding the following page. If you have any question as to which variables to code, feel free to contact the coding trainer.

5. General case information

5.1. **Case number**

Assign a unique number identifying each Web site.

5.2. **Coder initials and date**

Coder should include their initials and the date of coding.

5.3. **Name of global brand**

Type in the name of global brand of the coded Web site.

5.4. **Host country of local Web site**

Type in the host country of the coded local Web site.

6. Graphics

Count the number of specified graphics that appear on the front page of the Web site. A graphic used for any format (i.e., background, menu buttons, banners and flash files) should be included. If a flash contains several images count each slide as an individual graphic.

Graphics	Operational Definition
1. Number of brand logo images	Count the number of brand logo images that appear on front page of the Web site.
2. Number of human individual photographs	Count the number of human model photographs that show only one person in one image.
3. Number of human group photographs	Count the number of human group photographs that show a group of people in one image. An image that presents two or more people is considered as a human group photograph.
4. Number of product images	Count the number of product images that appear on front page of the Web site.
5. Number of non-human object photographs	Count the number of photographs that do not contain a human model. Do not take product images into account.
6. Number of illustrations	Count the number of graphics that are not photographed. An image which is either hand drawn or computer generated is considered as an illustration.
7. Number of interactive images	Count the number of interactive images (i.e., flash, animated banners). Although a flash is composed of a collection of slides, if it is posted as a single file, count it as one.

7. Color

Count the number of colors used for the specified elements on the front page of the Web site. Although some of the colors are in the same direction of hue, if the shades are visibly different, consider them as different colors. For example, if navy blue and light blue appear on a Web site, identify them as two different colors.

Color	Operational Definition
1. Number of text colors	Count the number of colors that are used for texts.
2. Number of background colors	Count the number of colors that are used in the background of a Web page.
3. Number of menu box colors	Count the number of colors that are used for menu boxes

8. Layout

8.1. **Menu**

Count the number of dominant menus that are positioned in the specified location on front page of the Web site. Regarding identification of dominant menus, refer to the following description: Dominant menus are usually characterized by the larger text or images compared to any other sub-menus. Dominant menus can also be identified by their location on the page. Among different levels of menus on left, for example, the higher the menus are positioned, the higher they are in rank. When identifying location of menus (left, right, bottom and top), imagine a vertical or horizontal line in the middle of the page and see on which side menus are listed.

Menus	Operational Definition
1. Number of menus on left:	Count the number of menus on left side of the Web page.
2. Number of menus on right:	Count the number of menus on right side of the Web page.
3. Number of menus on bottom	Count the number of menus on bottom of the Web page.
4. Number of menus on top	Count the number of menus on top of the Web page.
5. Number of drop-down menus	Count the number of drop-down menus on front page of the Web site. A menu that contains a string of submenus in a drop-down format should be counted as one.

8.2. **Graphics**

Count the number of graphics positioned in specified areas. When identifying location of graphics (left, right, bottom and top), imagine a vertical or horizontal line in the middle of the page and see on which side graphics are listed. Take any types of graphics (photographs, illustrations and animation) into account.

Graphic location	Operational Definition
1. Number of graphics on left	Count the number of graphics on left side of the Web page.
2. Number of graphics on right	Count the number of graphics on right side of the Web page.
3. Number of graphics on bottom	Count the number of graphics on bottom of the Web page.
4. Number of graphics on top	Count the number of graphics on top of the Web page.
5. Number of graphics in middle	Count the number of graphics in the middle of the Web page.

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BIOGRAPHICAL SKETCH

Minji Kim was born and grew up in Taegu, Korea. She developed her cultural sensitivity since her high school years learning English, Japanese, and Chinese in Taegu Foreign Language High School. She received her B.A. in advertising and public relations from Sookmyung Women's University in 2005. She worked for a public relations agency, Biz Communication and Consulting, Inc., in Seoul, Korea. In fall of 2006, she furthered her academic career with a master's program in the Department of Journalism and Communications at the University of Florida in Gainesville. Upon completion of her master's program, Minji Kim continued her doctoral studies in public relations at the University of Florida for her heart is yet to be quenched of its academic curiosity.