Cultural Impacts on Web:

An Empirical Comparison of Interactivity
in Websites of South Korea and the United Kingdom

by

INHWA KIM

A dissertation submitted to the

School of Information Systems, Computing and Mathematics

Brunel University

March 2013

For the degree of Doctor of Philosophy

Written under the direction of

Professor Jasna Kuljis

ACKNOWLEDGEMENTS

ABSTRACT

This thesis explores cultural differences on interactive design features used in websites of South Korea and the United Kingdom from the perspective of both: professional website designers and end-users. It also investigates how the use of interactive design features from different cultures change over time. Four interaction types on websites; User to Interface (U2I), User to Content (U2C), User to Provider (U2P), and User to User (U2U) interactivity, and three interaction types on blogs; Blogger to Interface (B2I), Blogger to Content (B2C) and Blogger to Blogger (B2B) interactivity have been identified. Four cultural dimensions were used for the theoretical base of this study based on which four hypotheses were proposed in relation to the interaction types identified above; (a) High versus Low Context cultures for U2I, (b) High versus Low Uncertainty Avoidance for U2C, (c) High versus Low Power Distance for U2P and (d) Individualism versus Collectivism for U2U interactivity, in order to discover the effects of national cultures on interactivity in websites. We derived our own interactivity dimensions and mapped them to the four interaction types for websites and three for blogs. Interactive design features were derived from interactivity dimensions and examined in our studies.

The findings revealed that there have been some changes towards homogeneity in the use of interactive design features on charity websites between South Korea and United Kingdom although there is still evidence of some cultural differences. With regard to end-users' perspective, the result show that the use of interactive design features of blogs may be influenced by culture but this is only within a certain context. The findings also provide a valuable indication that users interacting within the same blog service can be considered as being shared concerns rather than shared national location, thus create a particular type of community in which bloggers are affected by social influence so they adopt a shared set of value, preferences and style that would indicate almost a common social culture. As a result, the cultural differences derived from their country of origin do not have that much impact.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1. INTRODUCTION

1.1 Background

Over the last decade, the number of Internet users has been growing exponentially and the Web has become an important communication channel throughout the world. As of 2011 the estimated number of Internet users was 2,267 million, of which 26.8% were English speaking, 24.2% are Chinese, and 7.8% are Spanish. Even though English is still the primary language on the Web, the non-English-speaking online population has increased dramatically from approximately 820 million in 2005 to 1,534 million in May 2011. At the same time, the English-speaking population increased from 300 to 565 million only (Internet World Stats, June 2012). This statistics also indicate that non-English-speaking Internet users have an increasingly significant impact on the very nature of the Internet.

Although the Internet historically was created by the United States, it has obviously become a truly global asset. It removed geographical location and time boundaries of its end-users. People from different geographical locations can communicate with others, share information, and build personal friendships and relationships with individuals and groups of people across cultures, countries and continents. At the same time websites very often target specific groups of people, which may belong to a particular nation and consequently, a local culture which may be present and even interwoven in website designs, can be introduced across the globe and penetrate various other communities and cultures. We may have websites developed with "a *local culture in mind*", which are exposed to the global audience of the Internet. This audience might not understand, recognise or take into account that a particular website has been created according to cultural preferences of its designer. Furthermore, if the Internet is really and truly a global medium, and if websites may be designed with "*a local culture in mind*", then cultural preferences in websites design can easily be influenced or even overrun by another culture, and websites may stop being culturally specific. This raises the question if culturally specific website design exists or not. If

so, are *cultural preferences* in website design important? Do they exist in the globalised Internet? Do they play any role in Internet globalisation and do they really influence website design?

There are no straightforward answers to these questions.

Furthermore, the Internet changes on a daily basis because of rapid advances in mobile, wireless, communication and software technologies which accompany them. The widespread deployment of Web technologies such as Web 2.0 (O' Reilly, 2005) shifted the Web towards a "platform", which is being defined by its users, because they decide how to use the Web and how they wish to make use of it (Dialogic, 2009). This shift allows end-users to play important roles in contributing to, sharing of, collaborating and consequently co-creating websites and their contents (Berners-Lee et al., 2006; Musser & O'Reilly, 2006, Blanka, G. & Reisdorf, B. C., 2012). Web 2.0 is seen as "a more mature, distinctive medium characterized by user participation, openness, and network effects" (Musser & O'Reilly, 2006). Compared to the early Web, which was organised as a repository of individual websites (Lee, 2007), Web 2.0 offers services such as wikis, blogs, podcasts, micro-blogs (Twitter), RSS feeds, social networking sites (Facebook, MySpace) which enable end-users to *interact* with each other, *create their own content* on the Web, define their personalised needs and share knowledge with other Internet users globally. Web 2.0 brought a new era of interactions on the Internet which has been accompanied by end-user's strong participation in the creating the web content. Consequently, although website designers initially create their websites with a certain purpose and intention, end-users are in the position to define which kind of information they want to be displayed on or retrieved from the website and which services they want the website to provide and *how they wish to interact* on the Internet. We have questioned earlier the existence of cultural preferences in website designs; therefore the same may apply to end-users, their interactions on the Internet and the way they contribute towards the Web content. In other words we have to ask whether cultural preferences of end-users would impact the way they interact on the Internet. If so, would websites in general enable end-users' preferred interactions on the Internet or not?

Whatever answer to these questions are, interactivity on the Internet is growing rapidly and tools, which enable it, are becoming widespread. Discussion groups, e-forums, emails and chat rooms are inseparable part of our everyday interactions on the Internet, which has removed our local and national borders. More and more people from different environments, cultures, people with different interests and roles in their local communities, can easily participate in and contribute to the content of the Internet, which makes its websites more engaging across communities and countries.

1.2   Research Problems

There are a few research problems highlighted in the previous section.

Firstly, the impact of culture and cultural preferences in website design is something, which cannot be ignored because most of websites on the Internet have been designed locally, i.e. in a particular community, culture or country. However, they can be accessed and used across the globe and therefore potential cultural preferences interwoven in the website design, can be exposed to different cultures and communities. However, it is not certain whether websites always reflect cultural values of the country where they originate. It is also not sure whether website designers take into account when designing websites that they can be accessed globally by people from different cultures.

Secondly, given the impact of Web 2.0 technology and proliferation of end-users' participation in the creation of the content of websites, we are now witnessing situations where website design can be managed by both: their professional designers and website end-users. This complicates further the issue of culture in website design. For example, what happens when website designers and their end-users belong to two different cultures? Do they both influence website design? Do we then have a mixture of cultures in such websites? Do these website designs exhibit homogeneity and no cultural influence exists?

Thirdly, if the high level of interactions across the Internet has removed the boundaries between communities and countries, it may have also resulted in changes in website design. Human interactions reflect different cultural attitudes and values (Wierzbicka, 2003) and therefore it is expected that humans embrace these values while interacting on the Internet. However, the Internet and its website design may not take these values into account and may dictate types of interactions which are not culturally specific. For example, websites may enable communications through e-mails and leave no other options to end-users. In such cases no interactions based on cultural attitudes and values might exist. However, websites may give a choice of interaction types, such as interactions through chat rooms and bulletin boards, and creations of tweets and blogs. It is up to the end-user to decide which one of these interactions will be taken and favoured by them, which in turn might be influenced by their cultures.

In the next three subsections we elaborate on all these three research problems. We look at the cultural impact on website design in general in subsection 1.2.1. In subsection 1.2.2 we focus on the role of end-users in website design, which in turn may challenge website design decisions made by professional designers. In subsection 1.2.3 we focus on cultural influences on interactivity on websites where both website designer and end-users may exercise their own cultural attitudes and values.

1.2.1   Cultural Impacts on Website Design

The study of culture has a long history and its importance has been recognised in many disciplines such as anthropology, sociology, psychology, communication, education, management and business to name but a few. It is known that the communicative behaviours, beliefs, attitudes, feelings, and emotion of the people may vary across cultures (Geertz, 1973; Gudykunst & Nishida, 1986; Mesquita et al., 1997). Therefore, the studies of cultural experience across cultural variations are expected to help reducing risks of misunderstanding or miscommunications (Adler, 1991; Hall & Hall, 1990; Hofstede, 1984, 1991). Other research demonstrated that the credibility and trust of a speaker can be improved when intercultural awareness and competences are expressed in the communication (Hofstede, 2001; House et al., 2004). Similarly, the positive attitude towards the speaker can be fostered by supporting cultural practices of

communication and traditional customs, and by using cultural references (Hofstede, 2001).

The cultural awareness has also become important in the fields of Information Technology (IT) and Human Computer Interaction (HCI). Over the last decade much research has been conducted in the field of HCI and web interface with regards to cultural factors and awareness (Kersten et al., 2002; Marcus et al., 2003; Marcus & Gould, 2000; Smith et al., 2004; Yeo, 1996, Zhang, G., & Herring, S. C., 2012, Cyr, D., 2013). Cultural differences are often explored based on various cultural studies (e.g. Hofstede and Hall etc.) through which interface design guidelines and methodologies are provided.

There are many studies of cultural impact on website design (Barber & Badre, 1998; Dormann & Chisalita, 2002; Evers, 2001; Khashman & Large, 2011; Kim et al., 2009; Singh et al., 2005; Sun, 2001). The studies attempt to find out whether or what website design features are culturally specific (Barber & Badre, 1998; Hu et al., 2004; Khashman & Large, 2011; Okazaki, 2004) or how users from different culture differ in their perception, attitudes and behaviour towards websites (Chau et al., 2002; Cyr et al., 2004, Søruma. et al., 2012). Prior research has acknowledged the importance of cultural awareness in cross cultural website design (Barber & Badre, 1998) in the rationale of helping visitors to easily understand or find information according to their cultural values and expectations (Luna et al., 2002; Simon, 2001; Singh et al., 2005, Cyr, D., 2013).

However, cultural preferences in websites may become questionable because of the increasing globalisation of Web environment. In particular, the exponential Web 2.0 technology in recent years allows more and more end-users to participate in the creation of content of websites. Many websites have opportunities for end-users to create their own content, such as uploading their videos on YouTube, and have links to various Social Networking (SN) websites such as Twitter and Facebook. This in turn dramatically increases communications through SN. In addition, end-users' local cultural values and preferences may be influenced or diminished by today's global Web environment where they share contents, exchange knowledge and collaborate with community employed in websites from different cultures.

Therefore, it is important to understand whether today's increasing globalisation of the Web have an effect on cultural preferences in website design. If so, do website designers pay attention to localised and cultural expectations of end-users, or concentrate on globally acceptable website design values?

1.2.2   The Role of End-Users in Website Design

Global adoption of and advances in technologies such as Web 2.0 helped to convert the Web into a much more open and sociable environment, where end-users are able to contribute to and collaborate with websites easily and effectively. Websites attempt to build up communities by allowing end-users to post comments, upload images and videos and generally interact with each other and with the website. For example, Bloggers are motivated by their personal desire to express themselves, share their ideas and communicate with others in their blogs (Viégas, 2005). SN websites such as Facebook and MySpace give opportunities to end-users to represent themselves, build relationships with other users, and explore new ways to communicate, collaborate and construct knowledge.

Since Tim O'Reilly (2005) published a white paper entitled *What is Web 2.0? Design Patterns and Business Models for Next Generation of Software* in 2005, the notion of a "Web 2.0" has gained momentum, which has heralded substantial opportunities for changing the way people communicate, work and learn (O' Reilly, 2005). The advent of UGC and SN websites has placed end-users, who are not necessarily the very technically skilled, in control of the content of websites in various ways of which they create, organise, use and annotate. Therefore, this can often lead to the "Cult of the Amateur" where popular content is produced by non-professionals (Keen, 2007). Consequently, end-users can act as both 'designers' and 'consumers' of contents of websites. However, website designers at the same time have entered a difficult period of disruptive change in which their conventional assumptions about website design may be tested and transformed by end-users. Website designers have faced new challenges because they must know whether their website will be used by end-users

according to their initial intention and which kind of website design would be relevant to end-users and would it be satisfy end-user's needs and preferences.

Therefore, it is important to understand the role of end-users in website design. We have already mentioned that there have been many studies attempting to address website design elements and performance with regards to cultural differences (Barber & Badre, 1998; Marcus & Gould, 2000; Singh et al., 2005, Cyr, D., 2013). However, these studies have limitations because most of them do not focus on identifying end-users' preferences, behaviours and attitudes. In other words, looking for website design elements with regards to cultural differences, by paying attention to website designers' decisions only, and ignoring cultural preferences of end-users, might not give a clear picture when looking at cultural impact on website design. Furthermore, end-user perspectives on the design of websites in particular Web 2.0 services such as blogs and wikis are as yet largely unknown (Peters, 2008).

1.2.3   Cultural Influences on Interactivity in Websites

Considering numerous benefits brought by the Internet, interactivity should be considered as one of the main reasons that make websites substantially different from traditional media (Ko et al., 2006; Morris & Ogan, 1996; Pavlik, 1996). The Internet has enabled new forms of human interactions synchronously or asynchronously through emailing, posting comments, instant messaging, blogging and social networking, to name just a few. The interactivity of the Web provides website designers with opportunities to understand end-user behaviour to help them offer information and services according to end-users' need and wants (Arnott & Bridgewater, 2002). At the same time, it provides end-users with a great possibility to express their opinions, deliver their personalised information and services, and enable customisation.

There are numerous studies which attempt to identify the relationship between interactivity and Internet (Fortin & Dholakia, 2005; Lombard & Snyder-Duch, 2001; Morris & Ogan, 1996; Rafaeli & Sudweeks, 1997, Sarkar, T. D., 2012). They are often focused on the fields of marketing, advertisement and communication and are

also present in information systems (Heeter, 1989; Jensen, 1998; Morris & Ogan, 1996; Rafaeli & Sudweeks, 1997; Robb et al., 1997; Steuer, 1992, Sarkar, T. D., 2012). However, the understanding the interactivity in websites in terms of cultural differences has not been fully addressed. Only a few studies have examined the use of interactive design features and cultural differences in website (Cho & Cheon, 2005; Hong et al., 2008; Ko et al., 2006). In addition, there is little research on how culture influences interactivity in website design and how cultural differences influence its usage by end-users in the context of creating UGC and communicating though SN.

Therefore, it is important to understand interactivity in website design because the embodied interactive features available in websites have a great potential for realising cultural preferred interaction behaviour (Cho & Cheon, 2005; Hong et al., 2008; Ko et al., 2006). It also helps in interpreting behaviour of others that are considered acceptable in a given cultural group and thus may strongly influences the end-user's interaction.

1.3   Research Aim and Objectives

The discussion in the previous three subsections of this chapter has impelled the main aim and objectives of this research. Therefore this thesis should primarily **aim to discover whether the increasing globalisation and expansion of the Internet have had any impact on cultural preferences in website design.** Any investigation which should help to achieve this aim should go back to discussions in subsections 1.2.1-1.2.3 in order to define research objectives, which can help us to achieve the aims of the thesis.

> In OBJECTIVE 1 the research focuses on the debate from subsection 1.2.1 and starts with a simple investigation, which can tell us *if cultural differences in website design exist*. If so, the research should identify exactly how these cultural differences are manifested. Obviously, website designers are expected to be responsible for incorporating their own cultural values in website designs.

However, subsections 1.2.2 and 1.2.3 have highlighted that the changing nature of the Internet and its technologies have brought forward INTERACTIONS in website design, as one of the most important design futures. If the preferred cultural behavior of Internet users is *embedded in interactive features* in websites, then this research has to focus on the website INTERACTIVITY features, instead of looking at website design in general. In other words, modern Internet has a great potential for realizing cultural preferred interaction behavior and this research must embrace it.

> Therefore OBJECTIVE 2 of this research requires investigating if cultural differences in the use of INTERACTIVITY in websites <u>by web designers</u> exist or not.

However, the globalization of the Internet can affect the results of all the above investigations. Even if the outcome of Objective 2 is positive, then this research should be enhanced by looking if all these cultural influences may have changed over time.

> Therefore OBJECTIVE 3 of this research requires investigating if cultural differences in the use of INTERACTIVITY in websites change over time.

Finally, one of the most important outcomes from the discussions in section 1.2 is that the role of end-users in website design cannot be ignored. Therefore, by focusing solely on website designers when looking at cultural differences in using interactivity on the Web, this research might not provide comprehensive results. End-users on the Web have multiple roles: they affect the content of the Web and influence its interactivity.

> Therefore OBJECTIVE 4 of this research requires investigating if cultural differences in the use of INTERACTIVITY in websites by end-users exist or not.

If the main aim of this research is to find out whether the increasing globalisation of the internet has had impact on cultural preferences in website design, then one may argue that *"Internet homogeneity effect"* might have led to cultural convergence (Adorno, 1991; Bagdikian, 2004; Singh et al., 2009). Consequently Objectives 1, 2

and 4 might highlight that there are NO cultural preferences in website design/interactivity at all. Even if it is assumed that cultural preferences had affected website design in the past, before the widespread globalization of the Internet, the research which was conducted in the early days of the Internet cannot provide insight into whether cultural convergence in websites is evident today or not (Robbins & Stylianou, 2010). The Internet has severely matured since its birth, which may have affected and changed the way of designing websites across cultures. Therefore without going back and looking at changes in website design, which may have happened over certain period of years, as required in Objective 3, this research will not be able to make conclusions if globalisation has had impact on cultural preferences in website design or not.

However concise the aim of this thesis is, and however clear connections between it and research objectives are, it would be difficult to predict if the results of all the investigations will secure a straight forward answer to the question if "the increasing globalisation and expansion of the Internet have had any impact on cultural preferences in website design". However, these research objectives would definitively bring an insight into the complexity of website design in the modern Internet, if cultural differences exist and are interwoven in this highly interactive media.

Aim of Thesis:
To discover whether the increasing globalisation and expansion of the Internet have had any impact on cultural preferences in website design.

OBJECTIVE 1	**OBJECTIVE 2**	**OBJECTIVE 3**	**OBJECTIVE 4**
To investigate if cultural differences in website design exist.	To investigate if cultural differences in the use of interactivity in websites by website designers exist.	To investigate if cultural differences in the use of interactivity in websites change over time.	To investigate if cultural differences in the use of interactivity in websites by end-users exist.

Figure 1. The Aim and objectives of the thesis

1.4   Overview of Studies

Table 1 gives an overview of our research objectives and studies which were carried out in order to achieve the aim of the research.

The *Pilot Study* addresses the Objective 1 and compares the use of website design features in the websites of two broadcasting corporations: one from SK and another from the UK, in order to find out if cultural differences in website design exist or not.

The *Charity 06 Study* addresses Objective 2 and compares 20 Charity websites in SK with 20 charity websites in the UK in 2006, in order to find out if cultural differences in the use of interactivity in websites by web designer exist or not.

In order to achieve Objective 3, two studies were carried out. If the objective requires the investigation on whether cultural differences in the use of interactivity change over time, then the first study, related to Objective 3, should be very similar to the study carried out in 2006, but with the time difference of at least a few years. Therefore, the *Charity 12 Study* deals with identifying cultural differences in the use of interactivity in websites by web designers, in 2012. Consequently, the second study for achieving Objective 3, *Analysis 06 & 12* takes the results of *Charity 06 Study* and *Charity 12 Study* and analyses them.

The Objective 4 triggers two separate studies and both of them compare the use of interactive design features on blogging platforms between SK and the UK. The *Study of International Blogs* is based solely on the Blogger.com, but the *Study of SK and UK blogs* includes blog.Naver.com and Blogger.com. In both cases Objective 4 has been achieved: 200 blogs were examined in the *Study of International Blogs* (100 in each country) and 100 in each: blog.Naver.com and Blogger.com for the *Study of SK and UK blogs*.

Table 1. Overview of research objectives and studies carried out

Research Objective	Study	Purpose of Study	Material examined	Focusing on
OBJECTIVE 1: To investigate if cultural differences in website design exist.	Pilot Study	Compare the use of website design features between (KBS) and (BBC).	Websites of broadcasting corporation (KBS) from SK and BBC from UK	Website designers
OBJECTIVE 2: To investigate if cultural differences in the use of interactivity in websites by web designers exist.	Charity 06 Study	Compare the use of interactive design features in charity websites between SK and UK in 2006.	20 charity websites from SK and 20 charity websites from UK in 2006	Website designers
OBJECTIVE 3: To investigate if cultural differences in the use of interactivity in websites change over time.	Charity 12 Study	Compare the use of interactive design features in charity websites between SK and UK in 2012.	20 charity websites from SK and 20 charity websites from UK in 2012	Website designers
	Analysis of 06 & 12	Analyse differences in the use of interactive design features between 2006 and 2012.	Tables which show comparison of SK/UK in 2006 and tables which show comparison of SK/UK in 2012	
OBJECTIVE 4: To investigate if cultural differences in the use of interactivity in websites by end-users exist.	Study of International Blogs	Compare the use of interactive design features on the international blogging platform Blogger.com between SK and UK.	100 SK blogs and 100 UK blogs on the international blogging platform (Blogger.com)	End-users (Bloggers)
	Study of SK and UK Blogs	Compare the use of interactive design features of SK blogs on SK blogging platform blog.Naver.com and UK blogs on the international blogging platform Blogger.com.	100 UK Blogs from International blogging platform Blogger.com and 100 SK Blogs from the SK blogging platform Naver (blog.naver.com)	End-users (Bloggers)

The Table 1 also outlines a few important aspects of our studies:

• The *Pilot Study* deals with "any" website design feature, but all others are focused solely on *interactivity* in website design;

- The purpose of all studies is to "COMPARE" either design features or the use of interactive design features in website design. Therefore, all these studies examine websites except the *Analysis 06 & 12* study, which examines the interpreted results of previous studies.

- Objective 3 can be achieved only if the *Analysis 06 & 12* is carried out. This means that the *Charity 12 Study* is not sufficient to answer the question from Objective 3.

- The studies which are related to Objective 4 are solely focusing on end-users and do not take into account website designer's decision. Therefore, both studies for Objective 4 give their own specific results, which might not be related to each other, but may help in their interpretations.

1.5   Research Methods

As indicated in the previous section our research method, apart from reading the literature and analysing related works, it consists of a set of studies, which were carried out in order to meet the objectives of the research.

Figure 2 shows the *Pilot Study*, which is relatively simple, but it has drawn our attention to the following two of its outcomes:

a) Cultural differences in website do exist, i.e. we have found unique website design features in chosen websites which can be influenced by the culture;

b) Interactivity in website design is one of the most important design features which could be influenced by culture and therefore this research should focus on them when trying to achieve the aim of the thesis.

Outcome a) gave a green light to carry on with main studies, and outcome b) changed the focus towards interactivity in web design features.
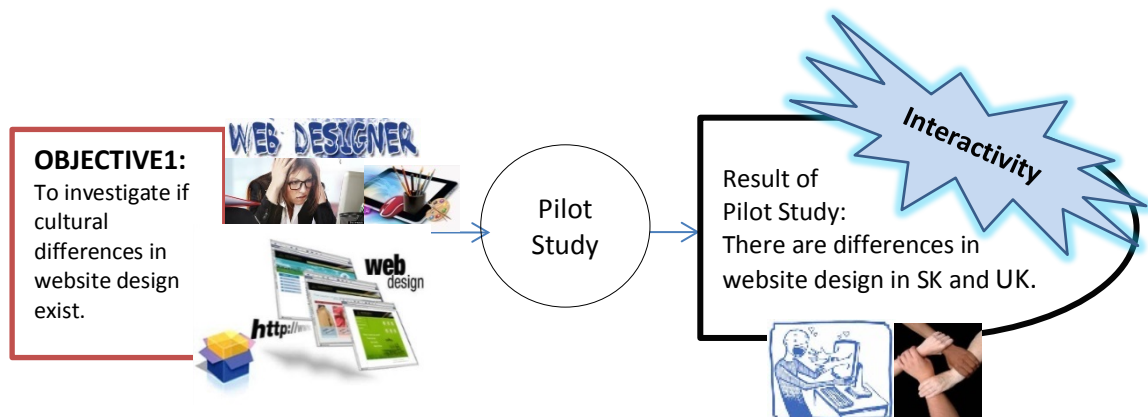
Figure 2. The Pilot Study

Figure 3 illustrate the excerpt from the research method, which explains how the Objective 2- 4 have been achieved. It is important to re-iterate that (i) all studies from Figure 3 deal with the interactivity design features and no other are considered and (ii) Figure 3 should be read in conjunction with Table 1.

Therefore, the upper part of Figure 3 is self-explanatory. It illustrates that Objective 2 has been achieved by running the *Charity 06 Study* in which the comparison of 20

charity websites from each country was carried out. Its results (amber shaded boarders), i.e. the content of tables T$_1$-T$_4$, have been generated by using the content analysis of the chosen websites and $\aleph^2$ and ANOVA tests.

The middle part of Figure 3 is more complex; it involves more than one study. The *Charity 12 Study* is very similar to the previous study run in year 2006 and its results have the same tabular format generated through the content analysis of the websites and $\aleph^2$ and ANOVA tests in 2012. . However, these results do not meet Objective 3 because the objective requires (hence blue thick arrow) to analyse differences between studies carried out in 2006 and 2012. Therefore for the *Analysis 06 & 12 study* we need two inputs, i.e. results from 2006 and 2012 (hence green thick arrows) and its results, generated through $\aleph^2$ and ANOVA tests to meet Objective 3 (hence amber shaded boarder of the results of *Analysis 06 & 12*).

The lowest part of Figure 3 shows a different rationale in running the studies in order to achieve Objective 4. Firstly, the *Study of International Blogs* addressed Objective 4, but its results were inconclusive. They triggered (hence blue thick arrow) the *Study of SK and UK blogs*, which added more light to the previous inconclusive results and better address the question from Objective 4. Therefore, the results of both studies help to achieve Objective 4 in spite of not having a clear cut in between the two.

It is important to note that within each of the studies we introduced hypotheses which helped us achieve the objectives of the research. These hypotheses were tested through a mechanism which used *Interaction Types* and *Cultural Dimensions*, both of them specifically created and defined for this research. A special selection of numerous and mostly unstructured interactive design features, available from the literature, were placed within Interaction types and strengthen further the way the hypotheses were tested.
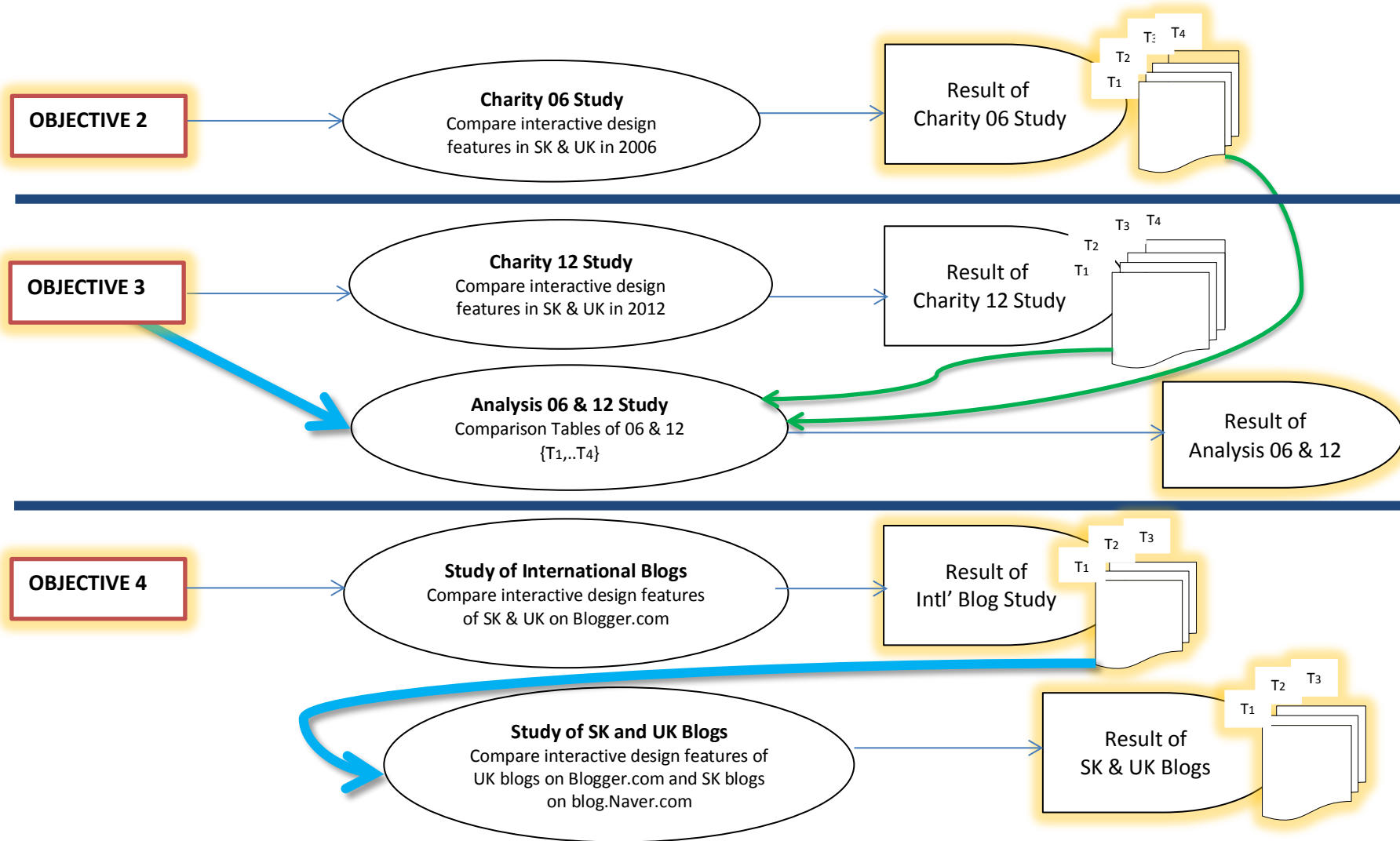
Figure 3. Methods for achieving Objectives 2, 3 and 4

1.6   Outline of Thesis

This thesis will be divided into seven chapters. Following the first introductory chapter, the second chapter provides literature and theories, which relate to the issue of culture and its impact on website design. Therefore, we review related works in the areas of cultural theories, Human Computer Interaction (HCI) and cultural issues and approaches to interactivity in website design.

In the third chapter, we describe the *Pilot Study* in which we compared website designs of the SK and UK broadcasting corporations attempting to examine any specific website design features which can be recognised as culturally explicit or specific for either of these two countries.

The fourth chapter describes the framework of studies applied. It also includes hypotheses of our studies, which derive interactive design features in websites and blogs.

The fifth chapter describes extensive summaries of our four main studies which include the aim of each of the studies, methods, data analysis and results. The chapter also discusses the overview of content analysis which was applied while undertaking our studies presented here.

The sixth chapter provides an evaluation of our studies by focusing on research objectives, findings and framework, which guided our studies.

The final chapter seven finishes up with a discussion of contributions to the field, limitation and possible future research.

CHAPTER 2. LITERATURE REVIEW

Subsection 2.1 overviews definitions of culture and reviews existing cultural theories, models and cultural variables, which are in principle used for measuring and comparing similarities and differences between cultures. In subsection 2.2 we discuss about HCI research, because its design approaches, which may include website design, may be required to address users' cultural diversity. It is desirable to understand why users from different cultural backgrounds may differ in their understanding of human computer interfaces and websites, as this may also affect website interactivity. In subsection 2.3, we look directly at website design and culture by summarising cultural implications on website design and approaches to addressing cultural issues within it. We also discuss the way of 'measuring culture' and finding/extracting website design features, which may be related to cultures. In subsection 2.4, we focus on interactivity and its role in different fields, including different definitions and types of interactivities and their role in website design. In subsection 2.5, we discuss our choice of the SK and the UK, as countries where their cultural characteristics have been described and could serve as a test-bed for our research.

2.1   Culture

2.1.1   Definition of Culture

We use the term 'culture' in everyday life and discussions. However, it becomes difficult when we need to describe it, determine its constituent parts and provide its exact or proper definition. Furthermore, cultural notions and terminologies vary from one discipline to another. The word 'culture' has been derived from the Latin word 'colere', which could be translated as 'to build', 'to plant' or 'to cultivate'. Therefore, culture referred to something that is a derivation of, or produced by intervention of humans (Dahl, 1998).

The early studies of culture were different from those of modern approaches, which aimed to identify culture as a form of developed civilisation in contrast to barbarianism, which can only be understood in the historical context (Kralisch, 2005). The current conception of culture was introduced in 1959 when Edward T. Hall's book "The silent language" was published (Hall, 1976). It was seen as an attempt to distinguish from the previous cultural studies, because culture was seen in different types of civilisation in the past as 'superiority' in societies. From the late '50s many comparative cross-cultural research studies became popular in order to understand cultural gaps. However, it is well known that culture is a difficult concept to identify, and there is no concrete agreement on a specific definition of culture (Ford & Gelderblom, 2003; Hoft, 1996). On top of that the term culture is used in different ways among various professions. It is often used to describe the concept of chosen, valuable and cultivated artefacts of a society such as 'organisational culture' and 'arts and culture' (Dahl, 1998). It is sometimes used as 'traditional culture' and 'contemporary culture'. Del Galdo (1996) argues that culture can be affected by nationality, language, history, and level of technical development.

Culture is elusive and constantly changing so it is difficult to capture it. It is obtained by each human being during the early years of life and then remodelled by the adaptation of socio-cultural elements such as norms, values, languages, symbols. Therefore culture can be described as both inherited and acquired throughout lifetime of each of us, which can be unique to each individual (Steinwachs, 1999). When it comes to the unit of culture, the smallest one is probably the family (Goode, 1964) because each family creates its own culture which differentiates it from another. Other cultural units can be described at the level of institution (e.g. school, workplace), region (e.g. city, borough), gender, religion, generation, and nation, to name just a few. Culture is sometimes identified according to geographical locations (e.g. Asian, European, African, American etc.), historic or religious beliefs (e.g. Buddhist, Christian, Muslim, and Atheist), race, ethnicity (e.g. Asian, Caucasian, and African) or socially prevailing values (e.g. collectivist vs. individualist; conservative vs. modern). Some of the classifications of cultures are combined in order to study more unified groups of people belonging to different cultures, such as Asian-American, Asian-British and African-American. Nonetheless nations are perhaps the most frequently used cultural classification (Hofstede, 2001; House et al., 2004).

Judging certain behaviour and actions in certain situations can help to make culture visible in our everyday life. According to Hofstede (1991), culture can be identified at different layers, as we can see them in 'the skins of an onion'. This is also called the onion model.

- **Symbols** consist of the most apparent layer of cultural expression such as gestures, objects and pictures. They are changed most swiftly and new symbols are produced easily.

- **Heroes** are people who hold a great influence over the members of a certain culture. They can be either alive or dead and can be served as models for behaviour.

- **Rituals** have a symbolic rather than a practical meaning, serving as collective activities.

- **Values** are abstract ideas representing a person's belief about models of conduct and ideal terminal mode (Rokeach, 1968). As its position at the heart of the 'onion', it influences the way people judge behaviour or circumstances.

Although there is a great deal of knowledge that explains and defines culture as introduced above, we will not discuss cultural theory in details, because it is beyond the scope of this thesis. However, this research has to be governed by several concepts of culture and cultural models that have been identified by scholars in cross-cultural research fields. They will allow us to have our own working definition of culture, essential for understanding our research aims and questions. Even though having one, unique definition of culture for all possible situations is not possible, anthropologists traditionally have addressed the concept of culture as *a group of people who have common aspects of life and their values are passed down from one generation to another* (Barnouw, 1985; Geertz, 1973; Hall, 1973). Some other definitions are discussed below.

Kroeber & Parsons (1958) defined culture as "transmitted and created content and patterns of values, ideas, and other symbolic-meaningful systems as factors in shaping of human behaviour and the artefacts produced through behaviour" (p. 582).

They argue that culture has an important impact on human behaviour, i.e. the production of artefacts like websites may be influenced by culture. Feather (1995) also focused on behaviour when defining culture, by stating that culture provides a wide range of guidelines that dictate human behaviour in specific circumstances.

According to Tse et al. (1989) culture strongly influences our motivations, lifestyles and product selections. Cultural schemas are developed and shared within our living environment, through which we categorise, process and interpret culturally adapted communication (D'Andrade, 1992). However, one of the most interesting definitions comes from traditional anthropologists. Geertz (1973) defined culture as "an historically transmitted pattern of meanings embodied in symbols, a system of inherited conceptions expressed in symbolic forms by means of which men communicate, perpetuate, and develop their knowledge about and their attitudes toward life" (p.89). His quote suggests that culture refers to the way of life of members of a group or society that shares the socially learned beliefs, behaviours, and values. He argued that culture has a strong link to the society in which it is embedded.

However, according to Hall (1973), culture stands for the way of life of groups of people, for the sum of their learned behaviour patterns, attitudes and material things. This definition suggests that people from the same group form a set of values based on the way they were educated and brought up. Similarly, anthropologist Barnouw (1985) defines culture as a way of life of a group of people and the shared concepts and learned behaviours that are transmitted from one generation to the next. According to Hofstede (1980), culture is "the collective programming of the mind which distinguishes the members of one human group from another and includes systems and values" (p.260). Because values are generally determined early in life, humans tend to be "programmed" into individuals, resulting in behaviour patterns consistent with the cultural context and enduring over time (Hofstede, 1980). This definition suggests that people from one group will be formed by mostly the same values and norms as their compatriots. Therefore, culture needs to be understood by studying not one individual but a shared characteristic within a group of people that affects their behaviours, thoughts and values.

Our own definition of culture is based on the compilation of definitions above.

Culture forms the way people believe, behave and express themselves. The values, thinking patterns and behaviour that are shared within a group, distinctive from others, are handed down from one generation to another.

This definition will be useful in addressing cross-cultural differences in this thesis. With the rapid development of technology, access to Internet and websites has been increasing in recent years. They have become so prevalent in our daily lives. Experiences from the online world have started influencing the ways in which people communicate, learn, business and so on. The traditional values and custom can be influenced and changed when contemporary culture evolves across countries. Therefore, having the working definition of culture above will help us to measure cultural units, which will be discussed in later subsection 2.3.5.

2.1.2 Review of Existing Cultural Models

Culture may have various levels and consists of cultural values. This has been demonstrated in various models (Hoft, 1996) such as: objective and subjective cultural model (Stewart & Bennett, 1991), the iceberg model (French & Bell, 1995) and the onion model (Hofstede, 1991).

The two layers of culture, namely objective and subjective culture were introduced by Stewart & Bennett (1991). Objective culture, which is tangible and easy to examine is described as "the institutions and artefacts of a culture, such as its economic system, social customs, political structures and processes, arts, crafts and literature" (p.43). In contrast, subjective culture, difficult to grasp and invisible, is described as "the psychological features of a culture including assumptions, values, and patterns of thinking" (p.43).

The popular 'iceberg model' (French & Bell, 1995) identifies culture as a level of values, i.e. an invisible and visible level of behaviour or artefacts. The iceberg metaphor of culture shown in Figure 4 illustrates that only a small part of culture is visible at the surface level, i.e. above the triple wave lines. The bigger parts of the

iceberg are hidden below the 'sea level' which encompasses invisible values. The visible level can be derived by paying attention to the noticeable parts of culture like architecture, language, music etc. In contrast, the hidden layer of culture which comprises the social norms, values, relation with nature and similar, is a powerful dimension of culture, but not immediately visible. It therefore, highlights the difficulty of understanding people from different cultural backgrounds because the visible parts we may see do not fully represent the possible hidden remaining part of cultural values.
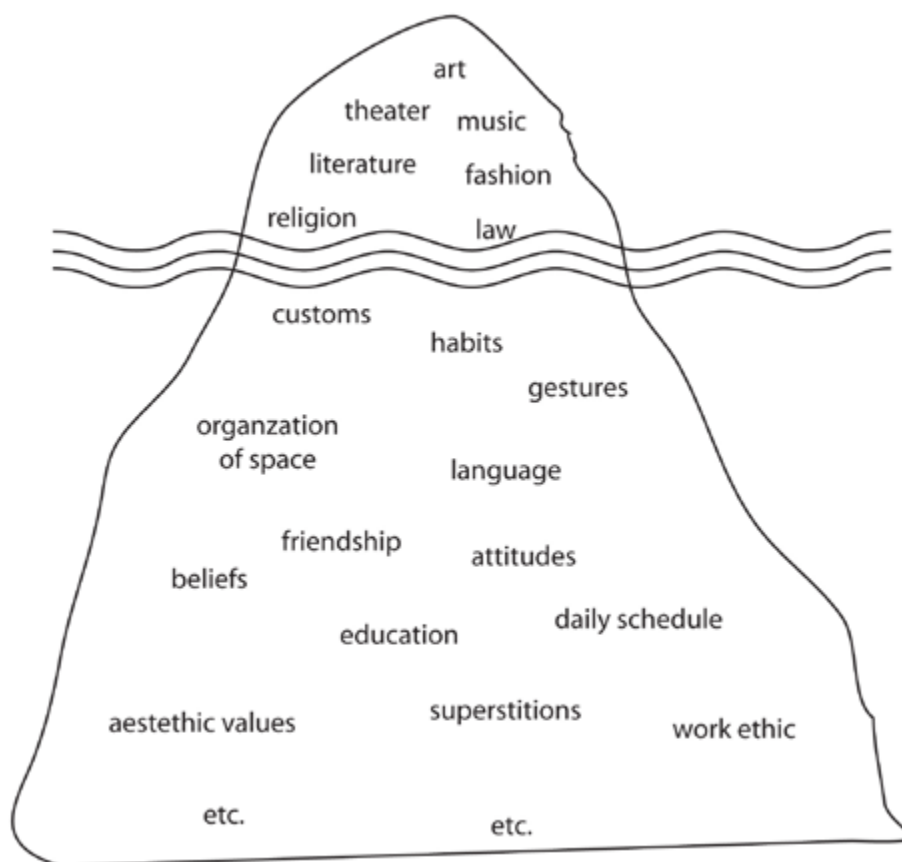
Figure 4. Iceberg model of culture from French and Bell (1995)

Culture is often demonstrated through various cultural models as they provide meaningful international variables for understanding culture. Cultural values influence how people interact and socialise with other members of society (Rokeach,

1973). Feather (1995) argues that cultural values provide wide guidelines of agreeable levels of behaving and acting in particular circumstances.

In the field of anthropology many researchers have conducted studies and have determined patterns of thinking and behaviour of a people from different cultures. Throughout the years, some of them have organised cultural data and developed these patterns into cultural models by using cultural variables (Hoft, 1996). Each cultural model employs its own variable and scale in order to distinguish cultural characteristics. People from the same culture share distinct cognitions and uniqueness that can be characterised by different cultural dimensions. The brief overview of each cultural study is presented in Table 2 below.

Table 2 indicates the use of term "cultural dimensions" has increased over the years. Hofstede's work, in particular, showed a new attempt in cross-cultural research where culture was approached from a quantitative point of view. By expressing cultural characteristics through numbers (*"cultural index scores"*), Hofstede (1991) made the concept of culture largely quantifiable and provided the necessary basis for conducting quantitative empirical research within the field of cultural research. The introduction of cultural dimensions has enabled researchers to compare different cultures to a certain extent (Kralisch, 2005). We will discuss four models of culture, which are mostly acknowledged in cultural studies.

Table 2. Brief overview of cultural dimensions taken from available studies

Author	Dimension	Source	Year
Hall, E. T.	Time: Monochromic vs. Polychromic Space: Social use of space Context dependency: High vs. Low-context	The Silent Language, The Hidden Dimension, Beyond Culture	1959, 1966, 1976
Kluckhorn & Strodtbeck	5 dimensions: Relationship to Nature, Time, Character of Human Nature, Human Action, and Relationship to Others	Variations in Value Orientations	1961
Stewart, E. C. &Bennett, M. J.	2 fundamental aspects: Objective vs. Subjective culture	American Cultural Patterns: A Cross-Cultural Perspective	1972
Condon, C. &Yousef, S.	25 value orientations under the inter-relationship of Self, Family, Society, Human Nature, Nature, The Supernatural	An introduction to intercultural communication	1975
Hofstede, G	5 dimensions: Power Distance, Collectivism vs. Individualism, Femininity vs. Masculinity, Uncertainty Avoidance, Lon-Term vs. Short-Term Orientation	Culture's consequences, Culture and Organizations: Software of the Mind	1980, 1991
Gudykunst,B.	Interpersonal (Personal Identity) and intergroup (Social Identity) communication	Cross-cultural comparison	1987
Victor, D.A.	LESCANT model: **L**anguage, **E**nvironment and technology, **S**ocial organisation, **C**ontexting, **A**uthority conception, **N**onverbal communication, **T**emporal conception	International Business Communication	1992
Schwartz, S.H.	Behavioural values focused, 10 distinct value types	Universals in the Content and Structure of Value	1992
Trompenaars, F.	7 dimensions: Universalism vs. Particularim, Individualism vs. Communitarism, Specific vs. Diffuse Relationships, Neutral vs. Expressive Communication, Achievement vs. Ascription, Sequential vs. Synchronic, Internal vs. External Directed	Riding the Waves of Culture: Understanding Cultural Diversity	1993
Nisbett, R.E.	Holistic versus Analytic perception	The geography of thought	2003

Edward T. Hall's Cultural Models

Edward T. Hall (1973), an anthropologist and a cross-cultural researcher, studied communication patterns across countries and conceptualised a set of human behaviour. He sees culture as a 'program of behaviour' (1966) as well as a way that people communicate, understand and relate to each other and the world. Culture controls the way people organise life, thoughts, attitudes, and understanding of family, society and human kind. Although he never created a complete cultural model, cultural studies have significantly been influenced by his cultural variables (1996).

Hall (1966, 1989) described various cultural variables in his books: *Context, Polychronic* or *Monochronic Time, Preferred Message Speed* ('Beyond Culture'), and *Space* ('The hidden dimension'). Hall argued that a certain type of communication dominated in a particular culture is associated directly with a type of culture. It relates to the role of social context that is understood as social expectations that influence an individual's behaviour. Hall (1983) introduced two kinds of context, High Context and Low Context as described below.

"High context or low context refers to the amount of information that is in a given communication as a function of the context in which it occurs. A highly contexted communication is one in which most of the meaning is in the context while very little is in the transmitted message. A low context communication is similar to interacting with a computer- if the information is not explicitly stated, and the program followed religiously, the meaning is distorted. In the Western world, the law is low context, in comparison with daily transactions of an informal nature. People who know each other over a long period of years will tend to use high context communication" (p.229).

High Context cultures are inclined to be more implicit in verbal communications, placing greater confidence in non-verbal aspects of communication than in verbal. In addition, High Context communication focuses on persuasion and harmony and uses indirect, non-confrontational and ambiguous language (Hall, 1976; Hall & Hall, 1990; Würtz, 2005). In contrast, Low Context communication tends to use more direct and precise language, and value individual emotions. High Context cultures are more

likely to be past oriented, slow to change and value tradition. In contrast, Low Context cultures tend to be more willing to change and less troubled with the past and tradition (Hall, 1989).

Cultures are not characterised by all High Context communication or all Low Context communication. It is rather that one type will be more culturally dominant than the other. Hall (1989) claimed that a culture where members participate relatively little with each other (individualism) is related to Low Context communication, while a culture where members are deeply involved with other members (collectivism) are likely to support High Context communication. According to his classification collectivist countries, such as South Korea, Japan, and Arabic nations are considered High Context cultures while individualistic countries such as the United States, Scandinavian countries, and German-speaking countries are characterised as Low Context cultures (Hall & Hall, 1989).

The concepts of High versus Low Context have been applied in HCI and websites to discuss the different communication and design styles, and to investigate the role of communication context on how consumers in Collectivist and Individualist cultures may behave differently (Cho & Cheon, 2005; Park & Jun, 2003).

Geert Hofstede's Cultural Models

Perhaps the most extensively quoted model, by many researchers in cultural studies, is the Hofstede's cultural dimensions (1980). The Dutch anthropologist Hofstede conducted a multinational survey with IBM corporation subsidiaries between 1967 and 1973. In this study he covered 72 national subsidiaries, 38 occupations, 20 languages and approximately 116,000 people. Through factor analysis he initially characterised four universal dimensions of culture; Power Distance, Individualism versus Collectivism, Femininity versus Masculinity, and Uncertainty Avoidance. The survey questions were designed to measure work-related values, i.e. they "dealt mainly with the employees' personal values related to work situation" (Hofstede, 1991). The cultural characteristics were expressed through numbers called *cultural*

index scores in the range of 0 to 100[a]. They made the concept of culture measurable and led to quantitative study in the field of cultural research. For example, according to the index score for individualism (IND), South Korea (IND=18) is more collectivistic compared to the United Kingdom (IND=89), which is more individualistic.

Each of the cultural dimensions identified by Hofstede (1991) is summarised in Table 3 and discussed below.

Power Distance addresses the degree to which a society accepts unequal power distributions within a culture. In Low Power Distance cultures such as Austria, the United States and the United Kingdom there is a propensity to emphasise egalitarianism and prefer less hierarchical structures and organisations. In these countries, subordinates are more likely to challenge bosses. On the contrary, High Power Distance societies such as Malaysia, Mexico and South Korea tend to expect and accept that power is unequally distributed. They also focus on social status and authority.

The cultural dimension of Individualism versus Collectivism is associated with the way people live together and how closely or loosely their society is interwoven. Individualism is defined as "pertains to societies in which the ties between individuals are loose: everyone is expected to look after him or herself and his or her immediate family" (p.51). Collectivism, as its opposite, refers to "societies in which people from birth onwards are integrated into strong, cohesive groups, which throughout people's lifetime continue to protect them in exchange for unquestioning loyalty" (Hofstede, 1991). A collectivistic society is thought to give priority to group aims, norms and interests over those of individuals; whilst individualistic society focuses on self-reliance, personal freedom and personal achievement over the group's (Hofstede, 1991). Hofstede's index reveals that Western countries, such as the United States and European countries are characterised by strong individualism, whereas Eastern countries, such as South Korea and Japan are characterised by strong collectivism.

---

[a] The only exceptions are the index score for the uncertainty avoidance index score of 101 for Guatemala and Long-term orientation of 118 for China.

Table 3. Summary of cultural dimensions and typical nations from Hofstede (1991)

Dimension	Description	Typical Country
Power Distance (PD)	The manner in which society deals with human inequality. The degree to which less powerful members expect and accept unequal power distribution within a culture. Larger power implies a greater disparity in distribution of wealth and power among members of society	High: Malaysia, Mexico, South Korea Low: Austria, United Kingdom
Individualism/ Collectivism (IC)	Relation between individual and his or her fellow individuals. Self-interest versus interest of group or family. In individualistic societies, ties between individuals are loose. In contrast, collectivist societies tend to be tightly integrated.	Individualistic: United States, Australia, United Kingdom, Canada Collectivistic: Panama, South Korea
Femininity/ Masculinity (MAS)	The division of roles traditionally associated with the different sexes in society. Masculinity society emphasises assertiveness, toughness and material success while feminine society stresses modesty, tenderness and concern for quality of life.	Masculinity: Japan, Austria, Venezuela, United Kingdom Femininity : Netherlands, Norway, Denmark, South Korea
Uncertainty Avoidance (UA)	The extent to which the people of a country can tolerate ambiguous or uncertain situation. People in high uncertainly avoidance cultures see uncertainty as dangerous and show a low tolerance for risk.	High: Greece, Portugal, Japan, South Korea Low: United States., United Kingdom, Sweden, Denmark,
Long/Short-term Orientation	The values associated with Long-term orientation, towards the future, include adapting tradition to modern perspectives, respecting social and status obligations, being thrifty and persevering toward slow results. The aspects associated with short-term orientation, towards the past and present, include respecting tradition, saving face, expecting quick results.	Long-term: China, Hong Kong, Japan, South Korea Short-term: Germany, United States., United Kingdom, Pakistan

The dimension of Femininity versus Masculinity characterises how gender roles are allocated in different cultures. Masculinity cultures put an emphasis on assertiveness, toughness and material success. In contrast, feminine societies value modesty, tenderness and concern for quality of life. Countries such as Japan, Austria and

United Kingdom are examples of masculine cultures, while most of the Nordic countries are examples of feminine cultures.

According to Hofstede (1991), Uncertainty Avoidance refers to "the extent to which the member of a culture feel threatened by uncertain or unknown situations" (p. 113). It therefore determines the degree to which a culture is risk averse or can tolerate environmental ambiguity or uncertain situations. People from High Uncertainty Avoidance countires such as Greece, Japan, and South Korea are likely to feel uncomfortable towards unknown situations and risks, therefore they try to avoid uncertainty and value security. On the contrary, countries with Low Uncertainty Avoidance, such as the United States, the United Kingdom and Denmark, tend to be more in favour of risk-taking, adventures and novel approaches (Hofstede, 1991).

Later, Hofstede added a fifth cultural dimension called the Confucian dynamic (Hofstede & Bond, 1988) or Long-term versus Short-term orientation (Hofstede, 1991). It is related to the way different cultures show either a future-oriented view or a short-term perspective. The Confucian dynamism (Chinese Culture Connection, 1987) identifies dimensions of culture that go beyond Western cultures. Chinese Culture Connection conducted a study among participants from 23 countries around the world, using a questionnaire created by Chinese social scientists. They found a cultural dimension that did not associate with any of the other four identified by Hofstede. This dimension was strongly correlated with Asian countries, namely the Five Dragons (i.e., Japan, South Korea, Taiwan, Hong Kong and Singapore), all of which had seen fast economic growth in the last four decades. According to Hofstede & Bond (1988), this dimension has both positive and negative values. The positive side reflects the Confucian teachings that are more oriented towards the future, such as saving and persistence. It is also associated with adapting tradition to modern perspectives, respecting social and status obligations and accepting slow results of work. The negative side of Confucian dynamism mirrors Confucian values oriented toward both the past and present. Values such as personal steadiness and stability, respecting tradition, saving ones face and expecting quick results are associated with this side. Countries scoring high on Confucian dynamism consider the positive (Long-term) values to be more important whereas countries which score low on Confucian dynamism consider negative (Short-term) values to be more important.

Although Hofstede's dimensions of culture have been used in various disciplines such as psychology, sociology, communication and management, there was criticism of his study. Some critics argue that a study of the subsidiaries of one company cannot be representative of entire national cultures. His outcomes therefore, can be generalised within the organisational subculture (McSweeney, 2002; Sondergaard, 1994). Some researchers have claimed that Hofstede's conclusions may not be valid in the Long-term (Myers & Tan, 2002; Triandis, 1982). Their concerns are based on the view that cultural and societal values are converging over time. Furthermore, Hofstede's research dates back to the mid '70s and 80s, and most of the stereotypes explained in its categorisation may have changed because of the current internationalisation encouraged by the Internet.

The link between culture and nation was challenged by Baskerville (2003). He argues that Hofstede's indices are a measure of central tendency in a nation, which ignore the large variations in individual responses within a culture, as well as the profound and richer meaning of social factors (McSweeney, 2002; Ratner & Hui, 2003). Hofstede's work was also disproved by McSweeny (2002) because of his arbitrary choice of IBM when analysing culture. McSweeny (2002) argues that the data identified by Hofstede is "not national culture, but an averaging of situationally specific opinions from which dimensions or aspects, of national culture are unjustifiably inferred" (p.108). However, Williamson (2002) defended Hofstede's work by concluding "to reject totally Hofstede's or similar functionalist models of national culture, before more satisfactory models have been developed, would be to throw away valuable insights" (p.1391).

It is acknowledged that today's culture and its changes are characterised by multi-ethnic and modern national societies, i.e. it is not seen as stable and homogeneous as the culture of the past, which was isolated and illiterate. Furthermore, the rapid growth of the Internet and technologies may have accelerated the homogenising effect even more on cultural convergence. Nonetheless, Hofstede's framework stays useful in cross-cultural studies (Sachau, L.L., & Hutchinson, S.R., 2012), and it has been used in many fields such as international business, marketing and management (Sivakumar & Nakata, 2001).

Amongst various levels of culture such as national, regional, ethnic, religious, gender, social class, generation and organisation, the national level is the easiest and most practical to study. A nation may not be entirely homogenous but it is the comprehensive source of the collective "programming" of the people who live in them (Hofstede, 1991).

Richard E. Nisbett's Cultural Theory

Nisbett (2003) and other cognitive psychologists argue that cognition is not universal but strongly influenced by culture. Cultural patterns of thinking and responding are constructed by sharing experiences of groups of people (Berger & Luckmann, 1966). The cultural traits of behavioural diversity are deeply embedded in cognitive processes.

Nisbett's cultural model (2003) provides insight into how East Asian and Western cultures differ with regards to the process of thought, perception, attention, organisation of knowledge, understanding and various other mental processes. Nisbett (2003) conducted a series of comparative studies with students from America, China, Japan, and South Korea. Through analysis of results, he discusses the cognition and perception differences between the Westerners and East Asians. The researchers paid attention to focal objects versus attention to field, causal attribution, field independence versus field dependence, logic versus dialectics, etc. According to Nisbett's cultural theory (Nisbett, 2003; Nisbett, & Masuda, 2003; Nisbett, 2004), these differences are stemmed from two cognitive styles, Analytic versus Holistic cognition and perceptions. Analytic versus Holistic are the two key concepts that explain Nisbett's model. Holistic thought focuses more on perceiving the context and relationship between objects rather than individual parts. In contrast, Analytic thought involves perceiving individual objects on their own outside of context. In the Holistic approach contradiction and multiple views can be accommodated as it is more open-minded to a middle ground. The Analytic approach, on the contrary, relies on rules and avoids contradiction. Nisbett characterises in particular East Asians with holistic and dialectical information processing, whereas Westerners use

analytical and linear thinking style. Westerners tend to be field independent, focus on focal objects and are logic oriented while Easterners are prone to link into a network of relationships and social obligations (Nisbett, 2003; Nisbett et al., 2001).

These different patterns of thoughts are based in history and philosophy over thousands of years, which influence the culture's relationship. People develop different understanding, social practices and contain different aspects of the world which strengthen a different view point of the world (Nisbett, 2003).

Nisbett's model of culture does not offer quantifiable units, as Hofstede (1991) proposed. In other words, the study on which Nisbett focused was not based on national cultures but on the differences that exist generally between Western and Eastern cultures, mostly Chinese and American. He does not include his own definition of culture but he broadly distinguishes those of East Asian descent from those of Northern European descent (Nisbett, 2003), providing greater insight into how Western and East Asian cultures differ in cognitive processes.

2.2   Human Computer Interaction (HCI) and Culture

In international marketing and advertising fields, such cross-cultural understanding has been an imperative issue for years in order to be able to create effective localised advertising that would appeal to or reflect the cultural values and norms of its intended audience (Belk & Pollay, 1985; Munson & McIntyre, 1979). There has been a growing interest in the role of culture within Information System and HCI communities (Heimgärtnera, 2013, Nawaza, A. & Clemmensena, T., 2013). Various studies have described cultural influences and the need for research on the role of culture in interface design. For example, some Middle Eastern and European respondents believed that American images make computers harder to learn (Barber & Badre, 1998). In particular, the data gathered from the 8th GVU (Graphics, Visualisation, and Usability) WWW survey showed that cultural differences are perceived by users and such differences could have an effect on the user's

performance and satisfaction (Barber & Badre, 1998). More than 50% of respondents agreed that providing their native languages will be essential in order to bring new people to the Web. 47% of respondents believed that culturally sensitive websites would bring about greater use of the Web (GVU Center, 1997). The results may be distorted due to the self-selected respondents of the survey, but they suggest that people do perceive cultural differences as important and they signify a need for carrying out more studies (Callahan, 2005).

Designing effective user interfaces for an international environment has been practiced long before the website development started. The need for cultural understanding in designing of user interfaces was described by researchers like Russo & Boor (1993) and Nielsen & Del Galdo (1996). They mainly focused on giving guidelines for functionality, usability and comprehension of software products to support international users. In particular, Nielsen & Del Galdo (1996) acknowledged cultural differences in terms of interface design preferences and local user's perception of usability. In their book *International User Interface* they highlight three levels of internationalisation: (a) displaying the native language, character set and notations, (b) translating the user interface and documentation so that it is understandable and usable, (c) matching the user's cultural characteristics, which goes beyond avoiding offensive icons and must accommodate the way business is conducted and the way people communicate.

Evers & Day (1997) have also addressed the role of culture in user interface design. Their research shows that design elements which are appropriate for one culture may not be suitable for another due to different cultural preferences and biases of each nation. Dong & Salvendy (1999) found that Chinese languages written top to bottom, are suitable for vertical menus in websites whereas Western languages written left to right are appropriate for horizontal menus. Regarding the design of icons in websites, American users prefer alphanumeric labels, while Chinese users prefer pictorial icons (Choong & Salvendy, 1998).

Based on whether users' interface factors can be noticeably observable or not, international user interface design has established 'covert' and 'overt' levels of cultural factors (Mahemoff & Johnston, 1998). 'Covert' cultural factors are more

likely to be based on subjective information such as values, behavioural and intellectual systems therefore, they do not map onto user requirements clearly by guidelines. In contrast, 'overt' cultural factors are more likely to be observable such as day and currency formats (Hoft, 1996) and so they can be more easily put into practice.

2.2.1   Internationalisation and localisation

Internationalisation and localisation are often cited concepts in the context of user interface design when developing software products, which are intended for global or local use. The issue of understanding culturally employed user interface design and usability issues have emerged through discussions about the process of internationalisation and localisation. Internationalisation is about eliminating cultural elements such as cultural symbols and religious references from software products while localisation focuses on providing a specific cultural context to those elements (Preece, 1994). This process might be conducted more efficiently by minimizing negative implications of interface designs for specific cultures when we are aware of cross-cultural design issues.   Karat & Karat (1996) see internationalisation as a process for facilitating different national adaptations of the software product. Internationalisation refers to having a single design that can be used worldwide (Nielsen, 2000). It is achieved by removing all cultural assumptions like country or language specific content and removing culturally meaningful symbols and icons from the interface (Aykin, 1999).

Localisation on the other hand, refers to making an adapted version of that design for a specific locale (Nielsen, 2000). According to Taylor (1992), localisation is the process of infusing a specific cultural context into a previously internationalised product.   Internationalisation involves the use of simpler language that can be understood by non-native speakers whereas localisation often involves translation. However, many people insist that localisation involves more than just language translation. Taylor claims "properly localised software applications, just like properly localised automobiles, toasters, beverages, and magazines, reflect the values, ethics, morals and language (or languages) of the nation in question (Taylor, 1992).

Furthermore, some guidelines on how to design independent of culture are provided in the book *Developing International User Information* (Jones et al., 1991), which focuses on user information, user manuals, menu labels, icons, graphical representations, error messages, and sound messages. Shannon (2000) described the goal of localising user interface as a "technologically, linguistically and culturally neutral platform from which to launch global e-commerce initiatives while allowing a framework that incorporates local content and functionality" (p. 68). This can simply mean "enhancing the site to fit the target users at different locals" (Alvarez et al., 1998). In the localisation process, there are two sub-levels to be considered. One is a surface or overt level, which adapts the elements of the software product to the target audience. These are easily noticeable and observable such as translation, punctuation, format conventions (dates, measurements, weights, address, currency etc.). The other is a cultural or covert level, where adapted elements of the product to the target audience are difficult to recognise and observe, such as images, colours, communication patterns, aesthetic appeal etc. Icons can sometimes be confusing. The Apple Macintosh's trash can icon is a well-known examples because in some cultures the trash cans look different. In addition, in some parts of the world the items thrown in a trash can are retrievable, whereas in others they are not, which generated inconsistent user expectations. Other issues such as colour can also easily create unexpected results as different cultures have different psychological associations for colour. For example, the colour red indicates danger or warning in many cultures but is associated with celebration in China. The physical flow of objects on the screen can vary according to the different cultures. For example, Arabic traditionally flows from right to left (Russo & Boor, 1993).

The Internationalisation and localisation process is applicable to designing websites. Localisation of websites therefore, aims to make the site appropriate for target users and goes well beyond simple translation (Tixier, 2005). Internationalisation of websites on the other hand is the process of reducing the potential for exclusion of countries and populations based on accessibility to information.

2.2.2   Cultural models in HCI

Cultural models have been applied to HCI in many different ways. They are often used to examine the differences amongst cultures in existing user interface designs. In addition, the models are employed as a tool in order to evaluate user interface designs or guidelines, and more generally to assess cultural model's applicability. Hoft (1996) suggests a few reasons for using cultural models:

- Identify information that is cross-culturally appropriate.
- Identify cultural bias by applying the models to designer's own culture.
- Identify effective cultural metaphors.
- Assess the degree of localisation that is necessary.
- Avoid cultural mistakes which can cause offence.
- Evaluate how effective an international interface is.

In addition, cultural models are used to generate guidelines or user interface design frameworks. "Cultural User Interfaces" (CUI), were introduced by Yeo (1996) to propose a strategy for making local, culturally appropriate user interfaces. The author suggests that the easily visible cultural elements, such as date, time, units of measure and currency formats and writing direction, are the first step towards localisation. The interface design is then accommodated with the less apparent factors by using appropriate visuals, functionality, mental models and metaphors. Software developer and designers would work together as a team throughout the software development lifecycle to make appropriate decisions on building software localisation requirement and the best interface design for the target population (Yeo, 1996).

Culturally targeted guidelines and design frameworks for the interface of websites have been developed by other HCI researchers. For example, Marcus & Gould (2000) proposed design guidelines by using Hofstede's cultural model. According to them, the design suggestions for cultures which score highly on Power Distance are highly structured in terms of accessing and organising to information. For Individualism cultures, they recommend providing motivation based on personal achievement, using images of success that emphasise materialism and consumerism. Their guidelines are useful for website design to be more culturally appropriate. However, it can be

questioned whether the differences they observed are either real differences based on the culture of website origins, or actual visible differences not related to any culture.

Smith et al. (2004) explored the issue of how cultural differences can be communicated to designers and developers with regards to website usability and acceptability within the website development. They argued that "there is a lack in explicit demonstration that such theories of culture are actually applicable to, and significant within, website usability" (p. 67). In order to gain a profound understanding of website development, they suggested conducting a review of existing websites in each culture in order to collect website design elements that are meaningful and appropriate for the population. Through reviewing of the websites, Smith and his colleagues produced the "meta-level taxonomy" which includes the use of:

- colour and its combinations;
- symbols culturally specific;
- linguistic clues (mixed, dual language and assimilation of one language into another);
- iconography culturally specific (religious, cartoon, geographical);
- trust aspects as instantiated in site branding and signification.

A conceptual framework, provided by Kersten et al. (2002) ensures that we design culturally more appropriate software systems. Employing the models of Hall and Hofstede among others, they argue that cultural concerns should encompass not only the interface of software but also go beyond it. We have to determine which aspects of the software are culturally dependent, and design them separately in order to fit each culture needs (Kersten et al., 2002).

The importance of usability in website design has been demonstrated in various studies. Certain groups of users could find themselves discriminated and excluded if websites exhibit a lack of usability (Recabarren & Nussbaum, 2010). Tan & Wei (2006) examined user behaviour and found that users simply discard the desired task performed on websites before completing it, if they find a website to be difficult to use and if they experience frustration. Main aspects which affect website usability

have been investigated. For example, the importance of the navigational design and structure of a website have been demonstrated (De Troyer, 1998; Larson & Czerwinski, 1998). Palmer (2002) recognised five factors that impact a user's website performance; download delay, navigability, site content, interactivity, and responsiveness. All these factors, except download delay, rely on the individual user. Therefore, we must be familiar with the users readiness to use websites and the user's characteristics, in order to find out how the users will influence their interaction with the website (Fischer, 2001). A number of user characteristics have been analysed in order to discover how they influence website design usability. Table 4 lists a number of them, which influence website design factor and relevant studies. Recabarren and Nussbaum (2010) considered country of origin and culture as a single user characteristic rather than independent measurement of individual user.

Table 4. Studies of website design factors which are influenced by selected user characteristics (adapted from Recabarren and Nussbaum (2010))

User characteristic	Website design factor	Study
Age	Format Content	Cho et al. (2002) Chadwick-Dias et al. (2003) Baumgarten (2003)
Cognitive abilities	Navigation Format Search	Chen Macredie (2004) Evett & Brown (2005) Ford et al. (2005) Tan & Wei (2006)
Country of origin-Culture	Content (language and symbols)	Marcus &Gould (2000) Luna et al. (2002) Kralisch et al. (2005) Ford &Gelderblom (2003) Ford et al. (2005) Shen et al. (2005) Dong & Lee (2008)

Ford & Kotzé (2005) propose a general framework to understand how culture influences usability and interaction. They have identified five general categories of variables that can affect cross-cultural usability evaluation: subjective culture, the interface, user acceptance, speed of performance and objective culture. The conceptual model for usability is presented with three contexts; user, task and environment characteristics (Table 5). Each sub-class under each context is further classified into specific variables that would need to be controlled or accounted for

when conducing cross-cultural usability research. Therefore, their research provides an empirical model for cross-cultural usability evaluation.

Table 5. Variables of conceptual model of usability (adapted from Ford & Kotzé (2005)).

Context	Sub-class	Specific variable
User Characteristics	Culture	Objective and subjective
	Physical	Age, gender, capabilities and limitations
	Psychological	Cognitive ability, motivation, attitude
Task Characteristics	Job category	Task goal, task duration, task criticality and discretion
	Risk	Errors and side effects
	Demands	Physical, mental and task technology fit
	Linkages	Linked tasks and autonomy
Environmental Characteristics	Organisational Environment	Management and communication
	Organisational Culture	Performance monitoring, performance feedback, work autonomy, interruptions, hours of work and single/multi user environment and organisational support
	Technical Environment	Functionality and specifications
	Physical Environment	Workplace conditions and workplace safety

There are many studies which have tried to understand how cultures are different with regard to user interface design and technology use and their acceptance (Khushman, S. & Amin, S., 2011). They normally choose two or more cultures and compare them with each other. For example, Gould et al. (2000) focused on two of Hofstede's dimensions (Power Distance and Individualism versus Collectivism), and one Trompenaars' dimension (Specific Relationship) in order to explain differences between the two cultures of Malaysia and the United States. The results found that Malaysian websites reflected the High Power Distance and Low Individualism of the culture. The websites of Malaysia emphasised on establishing relationships, credibility and underlining group participation. The U.S. websites, on the contrary, tend to place more stress on individual user goals and task completion (Gould et al., 2000). Likewise Callahan (2006) used Hofstede's dimensions to analyse university websites in several countries. The author examined graphical elements and found that there are correlations between graphical elements and Hofstede's index values but these are statistically weaker than initially hypothesised. Dormann (2005)

employed the Masculinity dimension to examine different emotions and values which were conveyed on university websites in three different countries. The result showed that pages from more feminine countries tend to reflect more feminine values as stated in Hostede's work.

Cultural models used as explanatory frameworks have also been applied to other cross-cultural studies such as technologies adoption and their acceptance. For example, using Hofstede's model, and Marcus & Gould's (2000) guidelines, the study of De Angeli et al. (2004) found that cultural context affecting users' expectations and behavioural possibilities influenced people's response to adopting and using a technology such as ATMs. In particular, the response from users in India, which belongs to a relatively High Collectivism culture, showed that family and friends were significantly influencing someone's technology adoption. Another study conducted by Faiola & Matei (2006) found that user's performance and task completion are better with websites which have been designed by a member of their own culture. They argue that the use of websites is influenced by the culture within which the cognitive processes of both users and designers of the websites are formed.

2.3   Website Design and Culture

Designing user interfaces in the context of web and online environments is a challenge. When designing globally accessed websites the challenge becomes even bigger because we have to achieve shared understanding between groups of people who see the world in fundamentally different ways. For example, different visual preferences were found from the users of the Latin and Chinese alphabets (Prabhu & Harel, 1999). Symbols can be acceptable in one culture but offensive in another (Mullet & Sano, 1995, Plocher et al., 2012). Therefore, cultural sensitivity and user diversity in the international online environments might exist.

2.3.1 Cultural implications on the design of websites

It is not ideal to rely on website designers' personal experience and intuition in order to address cultural matters. The issue of cultural diversity and its effect on HCI design has attracted the interest of researchers. One of the strong opinions concerning the HCI design and cultural issues was raised by Evers (1999). She claimed that "there is a clear need for more cross-cultural research into the understanding and perception of interfaces. This cultural awareness should be fuelled by the desire to offer equal opportunities in technological development for all people" (p.153). Dunckley & Jheita (2004) also argued that the different perceptions and understandings of people from different cultures expanded to the domain of HCI.

Early studies on cultural impact on website design focused on visible elements of culture such as colours, icons, symbols and layout (Barber & Badre, 1998). After examining the existing websites, Barber & Badre (1998) identified website design features such as colour, icons and symbols that are associated with particular cultures. Consequently, they coined the concept "cultural markers" to describe "interface design elements and features that are prevalent, and possibly preferred, within a particular cultural group." A specific "cultural marker" signifies a cultural association and denotes a conventionalised use of website design elements. Such cultural association can be seen in the frequent use of cultural markers such as national symbols, colour, or spatial organisation (Badre & Laskowski, 2001; Barber & Badre, 1998; Sun, 2001). Various cultural makers found and categorised by Barber & Badre (1998) are shown in Table 6.

Sun (2001) expanded Barber & Badre's work(1998) into a study on four cultural markers (language, visuals, colour and page layout) on two multilingual websites in order to discover if the cultural markers affected the user's preference or performance. Marcus & Gould (2000) looked at the relationship between Hofstede's cultural dimensions and graphical features and linguistic characteristics of websites from different cultures.

Table 6. Overview of cultural markers which were categorised by Barber & Badre (1998)

HTML Specific	Icons/Metaphors	Colours	Specific colours	Grouping
# of lines # of centers # of images # of links # of internal links # of external links link color visited link color horizontal bars tables bold italics underlines frames audio video background mage background colour text colour	international local clocks newspapers books pages homes stamps envelopes musical notes paperclips thumbtacks other	red blue green purple pink black yellow gold teal white multiple	flag graphics pictures borders background	symmetrical asymmetrical proximity alignment boundary enclosure connection
Flag	**Language**	**Geography**	**Orientation**	**Sound**
native foreign multiple	native foreign multiple	maps outline globe	centred left-right right-left	music voice
Font	**Links**	**Regional**	**shapes**	**Architecture**
cursive italics bold size shading	color embedded stand alone internal external	foliage animals landscape water desert	squares circles triangles rectangles lines arrows	state building house church office cityscape

Users from different cultures differ in their perception, attitudes and behaviour towards websites (Chau et al., 2002; Cyr & Trevor-Smith, 2004; Cyr et al, March 2004; Cyr, 2013, Luna et al., 2002; Simon, 2001; Vishwanath, 2003, 2004, Arenas-Gaitána,J., Ramírez-Correab, P. E., & Rondán-Cataluñaa, F. J., 2011). Some studies found that users from different countries have different preferences on website design features, navigation, security and product information (Luna et al., 2002; Simon, 2001; Tsikriktsis, 2002). Thatcher (1999) studied cultural aspects of Latino users in terms of communication patterns and their impacts on website usability. Recent research claims that there are differences in online attitudes and behaviour across cultures. For example, users in Asian countries such as Hong Kong appear to prefer

using the Internet for social communication and hobby activities whereas in the United States users tend to use the Internet more for product information, search purposes, and e-commerce (Chau et al., 2002). Vishwanath (2003, 2004) studied online auction behaviour on how website visitors from different cultures use information. Applying Hofstede's Uncertainty Avoidance cultural dimension, Vishwanath (2003) found out that online auction visitors from Japan, a High Uncertainty Avoidance culture, tended to avoid bidding at auctions if they have little or no information about products which are being auctioned. Users from the United States, a Low Uncertainty Avoidance culture and from Germany, a Moderate Uncertainty Avoidance culture, would bid for products, even if they do not have enough information about them. Regarding online auction ratings as information cues, bidders from Canada, which is a high interpersonal trust culture, have a propensity to participate in online auction regardless of seller feedback ratings. This is a contrast to those from Germany (moderate interpersonal trust culture), or France (low interpersonal trust culture) where feedback rating is very important (Vishwanath, 2004).

However, web based communication is neither fully neutral nor specific to culture (Khashman & Large, 2011; Robbins & Stylianou, 2002; Zhao et al., 2003). Using Hofstede's cultural dimensions, research undertaken by Robbins & Stylianou (2002) examined the websites of 90 global corporations and found that the Internet had some impacts on culture but there was no evidence of cultural convergence at that time. Similar results were found from the study of Khashman & Large (2011) who examined design characteristics of government websites from three Arab countries, Egypt, Lebanon and Saudi Arabia. They correlated element frequency scores with Hofstede's dimensions and interpreted them by using the cultural model developed by Marcus & Gould (2000). The findings suggest that Hofstede's cultural dimensions are not fully associated with the design characteristics of Arabic websites.

2.3.2   Approaches to studying cultural issues in website design

Research on cultural influences on the website design has been carried out largely by two different approaches:

1. Applying theoretical cultural models to website design in chosen countries (Dormann & Chisalita, 2002; Gould et al., 2000; Khashman & Large, 2011; Marcus & Gould, 2000; Okazaki, 2004; Robbins & Stylianou, 2002; Singh et al., 2005, Goyal et al., 2012),

2. Conducting comparative empirical studies in which various design features are investigated. (Barber & Badre, 1998; Fink & Laupase, 2000; Hu et al., 2004; Sheppard & Scholtz, 1999, Zhang, G. & Herring, S. C., 2012).

We discuss both of them as follows.

Applying cultural theories

We overview studies in which cultural theories (e.g. cultural models or dimensions) have been applied to websites in order to discover cultural impacts on website design across countries.

Hofstede's cultural dimensions

Hofstede's cultural dimensions have often been used for designing user interfaces that are culturally suitable. For example, Marcus & Gould (2000) have started to apply Hofstede's cultural dimensions to user interface of website design. Based on the definitions of existing cultural models, Marcus & Gould (2000) examined the relationship between Hofstede's dimensions and graphical features and linguistic characteristics of websites for national cultures. According to them the cultural dimensions influence the local user's perception of website usability with regards to appropriate and meaningful content, images, icons, and symbols. They suggest, for example, that on websites for High Power Distance countries information is highly structured, the social and national order in symbols are more frequently used and the access is more secure and restricted. In contrast, on websites for Low Power Distance

countries information access is less structured and there is less emphasis on authority and power. In addition, they suggest that an Individualistic culture would show images of success and improvements more frequently than Collectivistic countries which would focus more on their history and traditions. Sheridan (2001) employed website design patterns proposed by Marcus & Gould (2000) in order to deduce guidelines for website design based on each of the cultural dimensions.

Robbins & Stylianou (2002) used Hofstede's dimensions to analyse the frequency of appearance of specific design elements in commercial websites from several regions. They found various website design elements can be related to Hofstede's cultural dimensions such as a relationship between Individualism versus Collectivism and site registration and security provisions. Tsikriktsis (2002) also used Hofstede's cultural dimensions in order to examine the correlation between a website's quality expectations and culture. The results suggest that users from a country that is characterised by Masculinity and Long-term orientation tend to have much higher expectations in terms of website quality than users from Femininity and Short-term orientation countries. Similarly, Singh & Baack (2004) compared Mexican and United States e-commerce websites in order to examine and compare cultural values. They categorised websites' contents based on Hofstede's original four cultural dimensions, and found out that local Mexican websites had more content related to Power Distance and Collectivism than the United States websites. Callahan (2006) studied graphical elements used in universities' websites from eight different countries by applying Hofstede's cultural dimensions. The homepages of 20 universities from each country were examined in order to evaluate layout design, type and frequency of images and number of links per each web page. The author hypothesises many correlations between graphical elements and Hofstede's index scores. The results showed that most of the correlations are statistically weaker than initially hypothesised. The strong correlations were found in the use of logo images which correlated to High Power Distance and the use of figurative images which correlated more to Masculine countries.

There are criticisms about using Hofstede's theory when studying website design since his work was not related to user interface design but to organisations. Moreover, although Hofstede argues that culture is fairly stable, technology such as the Internet

applies globally which is thus going beyond local concerns. Nonetheless, Hofstede's work has continued to be used and quoted in cross-cultural website design research (e.g. Callahan, 2005; Marcus & Gould, 2000; Pfeil et al., 2006; Singh & Baack, 2004, Khashman & Large, 2011) because they offer quantitative analysis. For example, Singh & Baak (2004) focus on correlations between cultural values and occurrence of certain website features. Another example is the British HCI 2005 conference in which four out of six papers discussing culture in HCI used Hofstede's cultural models. In addition, the concept of the five "element units" is useful and simple to operationalise in many other fields and can be studied outside anthropology.

Hall's context model

Hofstede's model is not the only one that has been applied for studying cultural impact on website design. Hall's framework of High versus Low Context dimensions (1976), has been applied in explorations of cultural influences on user interface and website design. According to Hall's cultural context, the expression of message, especially the informativeness of the message varies among cultures.

Although there have not been many studies in this area prior studies have shown that High versus Low Context communication styles are reflected in Computer Mediated Communication fields. Hall's cultural model which focuses on different styles of communication is particularly applicable to website design. For example, Singh & Matsuo (2004) analysed websites of company from a Low Context culture, the United States, and Japan, a High Context culture, and they found a clear difference between each country's communication styles. United States websites have less reliance on the unspoken context than their Japanese counterparts. Choong & Salvendy (1998) found out that users from a High Context culture show a preference for implicative menus (with icons or animations) over text-based descriptive menus.

According to Sun (2001), the association between users' preferences and their context cultures seems to be clear. He states that by looking at different users' preferences for cultural markers (visuals, colours, and page layout) and their cultural backgrounds, users from a Low Context culture (e.g. Germany) would prefer a hierarchical and structured page layout, and alphabetically ordered links in the navigation bar. On the

contrary, users from High Context cultures (e.g. Chinese and Brazilian) demonstrated a strong preference for 'visuals' by stating that they feel comfortable with visuals related to local culture. In the comparison study of Geocities homepages in the U.S. and Korean Yahoo!, Kim & Papacharissi (2003) found that Korean authors of personal homepages used more indirect communication styles whereas American authors preferred direct communication styles. According to them indirect communication styles included animation effects, inter-links, and associations with particular online groups. The posts on webpages, made by Korean authors used more nonverbal information or images, such as moving pictures, and cartoons. American authors on the other hand expressed their identities (e.g. their residence and ethnicity) by displaying all their information through text. Similarly Würtz (2005) conducted an exploratory analysis of McDonald's websites and found differences in communication styles between High and Low Context cultures, e.g. images were more likely to be used in High Context cultures than in Low Context cultures. Kim, Coyle et al. (2009) analysed 200 corporate websites, originating from South Korea and the United States. They found that South Korean websites were more likely to include design features for Polychronic time orientation (e.g. animated images, video) and High Context communication (e.g. visual formats) than the U.S. websites.

Given that High Context cultures place strong emphasis on imagery and other non-textual forms of communication, it is reasonable to expect that websites from South Korea, a High Context culture, will implement images, animation and other non-textual features such as video and audio more frequently than websites of the United Kingdom, a Low Context culture.

Nisbett's model

Nisbett's cognitive model has not been broadly applied to user interface and website design unlike the other cultural dimensions of Hall (1989) and Hofstede (1991). However, Fiaola & MacDorman (2008) proposed a 'cultural cognitive design (CCD)' theory attempting to "connect cultural cognition and the contextual shaping of the internal systems that represents the organisation and structure of Web information". Faiola & Matei (2006) explored issues in terms of the website designer's cultural cognitive styles and their impact on user responses. They performed an online

experiment in which American and Chinese users were exposed to websites created by both Chinese and American designers. They found out that users sought information faster when using website content which was created by designers from their own culture. Riding & Rayner (1998) argue that the layout of the website is directly influenced by the cognitive style of designers, who produce the website because cultural cognition is related to "preferred and habitual approach to organising and representing information". In other words, the cultural cognitive styles of website designers are correlated with their production (i.e. website). Cultural differences in cognition have been found in the comparison studies from East Asian countries and from Europe and America (Choong, 1996; Liu et al., 2003; Peng et al., 2001). Therefore, the visual arrangement of website information and components such as symbols, icons, text and styles may differ across cultures. Similarly Fiaola & MacDorman (2008) propose that correlations between cultural cognition and website design can support understanding of how culture forms cognitive styles of website designers. In particular, Dong & Lee (2008) studied the relationship between cognitive style and webpage perception based on Nisbett's cognitive model of Holistic versus Analytic thought. They hypothesised that differences between Holistic and Analytic thought can be reflected by users' webpage perception. They carried out users' eye movements test with three different cultural groups, Chinese, Korean and American. The results showed that different cultural groups have different viewing patterns, when viewing the webpage, which indicates a positive relationship with Nisbett's cognitive theory.

The studies described above do not directly provide website design recommendations per se. However, their results strongly suggest that it is necessary to be aware of target users' cognitive styles in order to enhance users' ability to use the websites, if they belong to different cultures.

Comparative empirical studies

There are also studies that have not used any existing cultural framework to compare cultural differences in website design. Based on the inspection of several hundred websites from different countries and languages, Barber & Badre (1998) found that people from different cultural groups have different preference for symbols, colours, and website structures. They assert that a specific cultural marker signifies a cultural association and denotes a conventionalised use of the feature in the website. Sheppard & Scholtz (1999) found out that the usability of a website increases when appropriate cultural markers were employed in their design. Singh et al. (2003) concluded that websites contain cultural markers that reflect the local culture. The study was based on a selection of 80 United States and Chinese local websites. Moreover, according to Luna et al. (2002), culturally matched Web content brings about easier navigational experience and favourable attitudes towards the websites. The issues of content and structure relating to multilingual websites was discussed by Huang & Tilley (2001). The studies to determine whether the absence or presence of cultural markers affects the users' preference or performance were conducted by Sheppard & Scholtz (1999) and Sun (2001).

Cyr & Trevor-Smith (2004) conducted analysis of 30 municipal websites in Germany, Japan and the United States in order to investigate culturally preferred design features. The design elements they examined were use of symbols and graphics, colour preferences, site features (links, maps, search functions, and page layout), language and content. They found that there were significant website design differences between the three countries. For example, Germany and Japan use translation capability more than the United States. Japanese websites had the highest percentage of content compared to the United Sates and German websites. Regarding navigation, Japanese websites had significantly more symbolic navigation tools and symbols for links than Germany and the United States. However, there is little support for diverse preferences for the use of multimedia, because the animation is the only design element used significantly more by Germany and Japan than the U.S.

Although both approaches to studying cultural influences on website design attempt to address cultural differences, the findings from these studies cannot be generalised

for many reasons. Firstly, some of the differences in website design were found nearly 10 years ago and therefore, they may no longer exist because these websites may have been regularly updated. Similarly, the results of these studies could have been interpreted differently. Secondly, choosing a different set of cultural dimensions or different cultural model may have produced different results. Thirdly, although these studies can give website designers an interesting outlook on culture, they do not provide any advice on how to design website for a particular culture. Finally, we could also argue there are other factors influencing these studies, and which have not been considered in the analysis of their results.

2.3.3   Design features related to cultures

Web page design elements that may be culturally or genre specific are identified and have already influenced webpage design and usability (Badre, 2000; Badre & Laskowski, 2001; Barber & Badre, 1998; Dormann, 2005; Russo & Boor, 1993, Nawaza, A. & Clemmensena, T., 2013). A specific "cultural marker" signifies a cultural association and denotes a conventionalised use of the feature in websites. Such cultural association can be seen in the frequent use of cultural markers such as a national symbol, colour, or spatial organisation in website design (Badre, 2000; Badre & Laskowski, 2001; Barber & Badre, 1998; Sun, 2001).

A number of studies have been conducted to find out whether website design is culturally manifested, and if so, which design features are culturally specific. Some of the existing studies of culturally tailored design features by country are presented in Table 7, which shows that the most frequently observed design feature, different across cultures, is the way website content is presented, i.e. their layout and page structure. Menus for optional language translations, plus the use of colours and symbols have also been categorised as culturally specific. The use of multimedia, i.e. animation and video clips, has been more used in countries such as Korean, Japan and Germany.

Table 7. Existing studies of culturally specific design features by country

Culturally specific design features	Country	Author(s), Year
Colour-green Icon-flag (government) Light graphics Text oriented	Lebanon	Barber & Badre (1998)
Colour-green Grouping-alignment Spatial orientation- right to left	Israel	
Geographical references Heavy graphics Icon-flag (government)	Brazil	
Colours- red, blue, white Spatial orientation -centred	France	
Colour-limited range likeshades of blue, purple and white Language- translation capability Navigation-search available inother languages Use of multimedia-animation	Germany	Cyr & Trevor-Smith (2004)
Colour- brighter colours like yellow Content-index features Language- translation capability Links- external links, symbols usedforlinks Navigation- symbolic navigation Tools, search available in other languages Use of multimedia-animation	Japan	
Colour- grey the most used Content-email support	United States	
Image -traditional genderand family distinction	Middle Eastern	Marcus & Gould (2000)
Image-mix of male and female	European	
Layout-strong axial symmetry Photograph – official seal,faculty or administrator leaders, monumental building	Malaysia	
Layout-stronger use ofasymmetric Photograph-both genders and students	Netherlands	
Content- focus on visitor,his/her goals, possible actions	United States	
Content- focus on nature,downplays the individual tourist, use of slogan, massive political announcement	Costa Rica	
Search portal-less orientstoward specific gender	Japan	
Content-no distinction ingender or age	Sweden	
Image-simple and clear limited choices	Belgium	
Content-density and choices with popup windows Layout-scrolling required to view hidden content Multiple types of interfacecontrols	United Kingdom	
Layout-emphasise crisp, cleanfunctional design for faster goal achievement	Germany	
Layout-require more patient toachieve navigational and functional goals	China	
Layout-divided by many independent spaces	China	Schmid-Isler (2000)
Layout-organised around a central point of the page	Western-style	

Culturally specific design features	Country	Author(s), Year
Colour-less bright colours (more greens and less blues)	Asians	Simon (2001)
Navigation-focus on appearance of the site (the use of animation tools)	Asians, Latin & South Americans	
Colour-lighter, brighter colours Navigation-more use of navigation bar and simple tools (arrows, buttons)	European & North Americans	
Colour-vibrant colours Pictures -related to the culture auser'sorigin, more pictures	Brazil	Sun (2001)
Pictures-related to the culture auser'sorigin	China	
Layout-hierarchical and structured Navigation bar links –alphabeticalorder	Germany	
Personalisation	United States	Zhao et al. (2003)
Animated content and floating banner Content-Organisational history	China	
Colour-white background, popular use of blue, equal use of white, black, blue and red for logo Layout-more use of white space, more use of icons, left, top, center-oriented navigation models	United States	Lo & Gong (2005)
Colour-white background, prominence of red, less emphasis of white, frequent use of black and red for logo Layout-more use of active banners, animation, rollover graphs/text, frames, buttons, top-oriented navigation	China	
Colour-white background, various shades of blue, brown, toned yellow	Greece	Callahan (2006)
Animation- heavy use of animation (decorative flashing, scrolling news, moving clickable menus) Colour-white background, vivid colours Highest numbers of pictures per page High number of links Layout-vertical page orientation	Malaysia	
Animated images Colour-bright colour, shades of blue, yellow, grey, black Layout-Horizontal page orientation	Ecuador	
Colour-strong preference for white background, blue, yellow, grey, purple, pink, dark red	Sweden	
Colour-various shades of blue Horizontal page orientation	Denmark	
Colour-pastel colours Highest numbers of pictures per page High number of links Layout-vertical page orientation Navigation tool bar-one-level simple menu	Japan	
Colour-bright colours, white background Layout-horizontal page orientation	Austria	
Colour-white and yellow background, bright to dark for graphic and textual elements	United States	
Image- clickable and animated images Navigation tool bar-more use of rollovers navigation bars Pop-ups, splash pages Streaming video	South Korea	Kim et al. (2009)

To summarise the studies collated in Table 8, the most frequently observed design features and variables which may be culturally sensitive in website design are page layout, colours, symbols, navigation, multimedia and interactivity.   Each design feature has its own variables, which we show in Table 8 and discuss below.

Table 8. Design features by category and their sources that may be culturally influenced

Category	Design feature	Source/Study
Page layout	Placement of banners, search, menu, animation, splash windows, rollover-graph/text, buttons, icons, white space, page orientation (vertical/horizontal), symmetry/asymmetry, navigation model (left-oriented, right oriented, top-oriented, bottom-oriented, and center-oriented)	Schmid-Isler (2000) Marcus & Gould (2000) Lo & Gong (2005) Cyr & Trevor-Smith (2004) Callahan (2006) Marcus & Gould (2000) Tong & Robertson (2008)
Colours	Choice of colour for page, background, foreground, frame, table background, image, hyperlink and logo, and Percentage of the page used by colours , the most prominent colour of the page	Lo & Gong (2005) Cyr & Trevor-Smith (2004) Callahan (2006) Tong & Robertson (2008) Kondratova & Goldfarb (2006)
Symbols	Use of local or culturally specific symbols, Asian symbols, passive pictures (i.e. maps), symbols for currency, easily understood, logo type, logo symbol	Cyr & Trevor-Smith (2004) Tong & Robertson (2008)
Navigation	Symbolic navigation tool (non-text), drop-down (pull-down) menus, vertical menus, horizontal menus, return to home button, keyword search, search capabilities in other language	Cyr & Trevor-Smith (2004) Callahan (2006) Kim et al. (2009)
Multimedia	Use of streaming video, sound, animation	Cyr & Trevor-Smith (2004) Callahan (2006) Tong & Robertson (2008) Kim et al. (2009)
Interactivity	Payment system, feedback, e-mail contact, phone, online knowledge support, online form, FAQ, search, site map	Lo & Gong (2005) Cho & Cheon (2003) Pan & Xu (2007)

According to Barber & Badre (1998) specific orientations in webpages and their placement vary across cultures. In Latin-languages written texts are oriented from left to right, with the next line appearing below the previous one. On the contrary, Arabic and Hebrew read from right to left. East Asian languages follow a different layout. For instance, Japanese text might be typically laid out from top-to bottom with lines right to left. Therefore, webpage designers must consider text flow and the

placement of website design features according to the national language orientations in reading and writing. On French websites design features would most likely be placed in the centre of the page. Website organisation proved to be different between Chinese and Western home pages, after news websites were examined by Schmid-Isler (2000). Chinese websites showed many independent parts of their web pages whereas Western websites are organised around a central part of the webpage. Similarly, Marcus & Gould (2000) stated that German websites featured crisp, clean functional website design, aimed at achieving goals quickly and efficiently. In contrast, the layout of Chinese websites required more patience to achieve navigational and functional goals. Moreover, Sun (2001) found that local and structured layout are preferred by a Low Context culture.

With regard to page orientation, Callahan (2006) discovered horizontal orientation was clearly preferred by Austria, Denmark and Ecuador. On the contrary, Japan and Malaysia showed a strong preference for a vertical page orientation. The author also noted that the majority of the pages examined had asymmetrical orientation.

Colour preferences related to culture have been found in several studies (Barber & Badre, 1998; Callahan, 2006; Cyr & Trevor-Smith, 2004; Simon, 2001, Cyr at al., 2010). For example, Barber & Badre (1998) observed that government websites usually used the colours of the national flags in all of the countries studied, except Brazilian websites in which diverse bright colours were used. The research of Simon (2001) found that Asians were more likely to use "less bright colours (more greens and less blues)" while Europeans and North Americans tended to use "lighter/brighter colours with more images to make the sites appear more 'modern' " (p.31). Cyr & Trevor-Smith (2004) examined the use of colour on 30 municipal websites in three countries, Germany, Japan, and the United States. The finding showed that fifteen colours were used across the websites. Grey was most popular on American websites whilst blue was the most often observed on German websites. Japanese websites appeared to prefer brighter colours such as yellow. In their study of the impact of colour in website design across cultures such as Canada, Germany and Japan, Cyr et al. (2010) found that website trust and satisfaction were significantly determined by website colour scheme. Germans had the most evident preference for the blue colour scheme whereas Canadians preferred the grey colour scheme more than the Germans

and Japanese. However, the yellow colour scheme appeared to be unpopular across all three countries. Callahan's study (2006) discovered that there were evident differences in colours schemes and image themes across cultures. For example, a white background was frequently chosen for Malaysian, Greek, Swedish, Austrian and U.S. websites. In contrast, the use of white as a background colour was much less preferred in websites from Ecuador and Japan.

The use of symbols is another potentially culturally distinctive design feature. Singh et al. (2005) explored the depiction of cultural content on websites from China, India, Japan and the U.S. The features they observed with regards to symbols were flags, pictures of historic monuments, pictures reflecting uniqueness of the country, country specific symbols in the form of icons, and indexes. The results show that features such as clubs, newsletter, family theme, and country-specific symbols which belong to Collectivism cultural dimension, are prominently portrayed on local Chinese and Japanese websites. The Chinese websites were found to include Chinese cultural symbols such as the Great Wall of China, Chinese festivals, the Chinese flag, and other Chinese landmarks (Singh et al., 2006).

Webpage navigation is affected by culture (Marcus & Gould, 2000). The authors argue that users from High Uncertainty Avoidance cultures, such as Belgium, prefer "navigation schemes intended to prevent users from becoming lost" (p.41). In contrast, users from Low Uncertainty Avoidance countries (e.g. the United Kingdom) tend to have "less control of navigation; for example, links might open new windows leading away from the original location" (p.41). Through empirical study of examining various website attributes, Simon (2001) found that Europeans and North Americans focus more on navigation bars and simple tools such as arrows and buttons in order to make the website simpler and easier to use. The Asian, Latin and South Americans pursue navigation aids to change the appearance of the website without direct speed of movement such as the use of animated tools. Navigation bars are another design feature that has been used differently in cross cultural website design (Kim et al., 2009). After examining 200 websites from Korea and the United States., Kim et al. (2009) discovered that South Korean websites tend to include more rollover navigation bars, pop-ups, and splash pages than United States' sites. The results of a study by Cyr & Trevor-Smith (2004) found that there were different

preferences for navigation and search function across Germany, Japan and the United States. Japan tended to prefer symbolic navigation tools, vertical and horizontal menus as opposed to Germany and the United States. Although search function was available in other languages on German and Japanese websites, it did not appear once in the United States websites. In addition, a menu "return to home" was used on German and Japanese websites twice as frequently as on the United States websites.

Multimedia is another design feature, which was examined in terms of culture. Marcus & Gould (2000) described website designers from a culture that values material goods and assertiveness, which in turn is the characteristic of Hofstede's masculinity, using graphics and multimedia such as streaming video, sound and animation, more than any other culture. Cyr & Trevor-Smith's study (2004) showed that animation was the most frequently used design features in German and Japanese sites compared with United States websites. However, the use of other design features, such as streaming video, or sound did not differ significantly across cultures. The Malaysian university websites showed a heavy use of animation of various types: from simple button and decorative flashing to moving clickable menus (Callahan, 2006).

Lastly, interactivity was identified as one of the design features which were culturally sensitive. Although interactivity was studied in terms of cultural differences (Cho & Cheon, 2003; Lo & Gong, 2005; Pan & Xu, 2007) there was not much literature available which would evaluate impact of culture on interactivity.

2.3.4   Web 2.0 sites and cultural differences

Web 2.0 has become very popular over the last decade. As a second generation of World Wide Web, Web 2.0 focuses on the users' collaboration and sharing of information online. Its technology has brought forwards new phenomena of users' active participation in online communication and enforced a shift from a consumer culture (passively consumed towards the goods already produced) to participation culture (actively participated in providing the means and personally meaningful activities) (Fischer, 2009).

Web 2.0 websites often exhibit rich interfaces allowing users to do more than just retrieve information and viewing content. They have characteristics of social networking websites, allowing users to build virtual applications and actively get involved in online environments. As a result, its applications can understand users' knowledge and intentions therefore deliver services to satisfy users' needs. The examples of such applications are numerous and range from: the Web based applications such as RSS, wikis, blogs, photo sharing (Flicker, Pisca) and social networking websites (MySpace, Facebook, Cyworld, Bebo), to AJAX and API programming (Google maps), video media (Youtube), book marking (Delic.io.us) and many more.

The use of Web 2.0 websites and cultural differences has been conducted. In the study of relations between wikis usage and cultural background of the contributors, Pfeil et al. (2006) suggested cultural differences might affect how users utilise them. They found that respondents from High Masculinity countries were more likely to add information and contribute to group activities. In contrast, respondents from High Power Distance cultures tended to be unwilling to delete others' contents although they thought the content was incorrect.

Social networking websites were explored in terms of cultural differences (Waters, R. D., & Lo, K. D., 2012, Jacksona, L. A. & Wangb, J. L., 2013). Chapman and Lahav (2008) examined social networking websites from the U.S., France, South Korea and China and they found the differences on the user's goals, common interaction behaviours and typical pattern of self-expression. Users tended to publish more personal information in the U.S. social networking websites compared to those in the Chinese websites in which less personal information was published. As far as self-expression is concerned, Chinese users tended to discuss more personal topics whereas French users tended to discuss common topics rather than personal topics. The different users' behaviours were found between the U.S. and South Korea in terms of interaction behaviours of social networking websites. In line with this, cultural difference with regard to users' motivations on the use of social networking websites was investigated by Shin (2010). The results showed that users in the U.S. used social networking websites due to extrinsic motivation whereas users in South

Korea used them because of intrinsic motivation. Social relationships may be different between Cyworld (South Korea) and MySpace (U.S.). This is because people in South Korea connect with their real friends who they already know and share content on Cyworld (Shin & Kim, 2008). In contrast, users in the U.S. did not consider friends on MySpace as real friends (Dwyer, 2007) and they connect members who have the same interests or opinions. In the study of Fogg & Lizawa (2008), two popular social networking websites from the U.S. (Facebook) and Japan (Mixi) were examined in order to investigate how social networking websites in different cultures motivated users toward persuasive goals. The results revealed that persuasive design of Facebook was more assertive and mechanistic while Mixi was subtle and indirect, suggesting that the different persuasion styles appear to relate to cultural differences between the U.S. and Japan.

Mandl (2009) compared Chinese and German blogs. Findings showed that Chinese blogs were more graphically oriented and emphasised the communication between bloggers and commentators. In addition, Chinese blogs expressed emotional and positive comments whereas German bloggers posed more negative comments on their blogs. This result was explained with Hofstede's cultural dimensions in which Chinese bloggers, characterised as a Collectivist culture, were prone to express less negative comments since they were reluctant not to say negative comments about others. Dotan and Zaphiris (2010) investigated users of Flickr, a popular social photo-sharing application, from different cultures such as Peru, Israel, Iran, Taiwan and the UK. The results show clear differences as well as similarities between the five cultures in terms of language used, tagging patterns, motivation and preferences. Users from Peru and Taiwan were less interested in sharing content compared to users from Iran and Israel because Peru and Taiwan had the Highest Power Distance index and Lowest Individual index scores. However, the correlations with most of the quantitative data were very weak. This could be related to the appropriateness of the quantitative data used in the correlations.

Yoo & Huang (2011) studied the use and acceptance of Web 2.0 applications in terms of cultural differences. Six Web 2.0 applications (blogs, instant messenger, online social communities /Facebook, online video sharing/YouTube, online video & audio conference/Skype, and social virtual communities/Second Life) were targeted in the

survey in order to investigate technology acceptance between the two cultures, U.S. and South Korea. The results show that users from the two cultures in many Web 2.0 applications were significantly different in terms of utilisation level and the anxiety level. Korean students answered that most Web 2.0 applications are apprehensive for them to use when compared to American students.

2.3.5   National units for measuring cultures

In subsection 2.1.1 we have defined that "culture forms the way people believe, behave and express themselves. The values, thinking patterns and behaviour that are shared with a group, distinctive from others, are handed down from one generation to another". Based on this working definition of culture, we have looked at the units of measuring cultures, which is required to examine the impact of culture on website design.

Each individual can belong to various cultural groups, at the same time, depending on his/her roles, characteristics and contexts in which he/she is involved. However, if individuals belong to the same national group, their cultural characteristics can be defined differently with regards to their characteristics and values individuals may have. For example, if we wish to define a cultural group for a Korean woman, who works in the UK IT industry, but lives in France, we need to refer to different categories of culture, such as nationality, gender, occupation and resident location. Therefore combining several of these categories makes it difficult to define one specific cultural group, where this particular Korean woman may belong.

A context sensitive approach to determine to which cultural group an individual might belong was discussed by Briley et al. (2002). They claim that an individual can belong to either one or the other multiple cultural categories such as gender, job, etc depending on the context. "Knowledge Activation Theory" (Higgins, 1996) is also based on context dependent knowledge and it was argued that "possessing a particular cultural construct does not entail relying on it continuously, and these predictable factors determine whether a construct will become operative" (Briley et al., 2002). Similarly, "Social Identity Theory", was developed by Tajfel and Turner (1979) in

order to understand the psychological basis of intergroup discrimination. They suggested that each individual has not one, "personal self" but rather several selves that are usually triggered by social context.

Nonetheless, which factors or characteristics of cultural group should be emphasised in a study perhaps depends on the objectives of the research conducted. A target user is the important factor when defining such a cultural group in market research. It is also sometimes the researcher's decision which variables should be emphasised in a study. Although each individual can belong to various cultural groups, the question of how to define the optimal cultural group for him/her should be based on individuals' thinking, behaviour patterns and values shared within each group.

Various researchers have often used nations as a categorisation for culture. The reason is perhaps because national governments collect data which is normally only relevant at the national level. For example, Hofstede's model (1980) is identified by looking at different nations as cultural units as well as Hall's (1990). However, there is criticism concerning Hofstede's idea. Wright (2000) claimed that national frame corresponds to artificial cultural borders rather than reflecting reality. Nevertheless, Hofstede (1980) argued that differences in values are usually more prominent between countries than within countries. Results of studies by Hall & Hall (1990), Kluckhorn & Strodtbeck (1961), Triandis (1972), and Trompenaars (1994) provide evidence in favour of Hofstede's statement by claiming that cultural values differ significantly across countries.

In this respect, the concept of a national culture can be used in cultural studies because it involves socio-economic variables which are often specific to a country. Variables such as legislation, national policy and law are often homogeneous within the borders and diverse from other countries. Furthermore, our concept of culture defined is relatively close to a national culture. This is similar to definitions of other researchers, who have identified and used a national culture as a unit for measuring cultures (Hall & Hall, 1990; Hofstede, 1991). Therefore, defining nation as a cultural unit, which is Hofstede's approach, has been justified.

2.4   Interactivity

2.4.1   Interactivity definitions and different approaches to studying interactivity

Interactivity is one of the key characteristics of Internet (Fortin & Dholakia, 2005; Lombard & Snyder-Duch, 2001; Morris & Ogan, 1996; Rafaeli & Sudweeks, 1997). It is related to communication activities such as human to human and human to computer interaction, which involve receiving and disseminating inputs, messages, or data.

The term 'interactivity' (a noun), means 'the extent to which something is interactive', and more specifically in relation to the Internet 'the extent to which a computer program and human being may have a dialog' (Dictionary, 2009). The notion of interactivity is derived from the concept of 'interaction', normally which is defined as 'exchange', 'interplay', and a 'mutual influence' ((Jackel, 1995), cited from Jensen (1998)). Historically this terminology is used in situations where users observe results, menu choices and dialog boxes and are constantly influencing the performance of the program through new inputs.

Interactivity is a complex and multidimensional concept (Heeter, 1989; Liu & Shrum, 2002b; McMillan, 2000a; Steuer, 1992). Traditionally interactivity was focused on individuals and organisations communication from an interpersonal communication perspective (Blattberg & Deighton, 1991). The sociological concept of interaction is identified as the reciprocal relationship between dual or multiple people in a given situation and the activities between them (Jensen, 1998). As a communicational concept, Duncan (1989) defines interaction as the state of reciprocal awareness. With regards to the informatic concept, interaction considers the relationship between people and machines, which is often called human-computer interaction (HCI) or machine interaction. It is also characterised by the "style of control", which is considered to be the opposite of mutuality and reciprocity (Jensen, 1998). The concepts of interactivity and interaction have been used synonymously in information

and media studies whilst the term interactivity is not usually used in sociology. With the introduction of new media and communication technologies such as Internet, communication and media, researchers have often used "interactivity" or "interactive media" to characterise the new media (Jensen, 1998) and to discuss online interaction (Chung, 2008).

There are many studies which attempt to define interactivity (Heeter, 1989; Kiousis, 2002; Rafaeli, 1988; Rafaeli & Sudweeks, 1997; Steuer, 1992) but there is no clear agreement of its definition (Jiang et al., 2010; Lombard & Snyder-Duch, 2001; McMillan & Hwang, 2002). Kweon et al. (2008) argue that the boundaries between communicator, audience, message, and medium become blurry, which makes it harder to define interactivity clearly. Interactivity has been studied from different perspectives in various fields. Rafaeli & Sudweeks (1997) for example, identified interactivity as "the extent to which messages in a sequence relate to each other, and especially the extent to which later messages recount the relatedness of earlier messages" (p.7), defining it as a process-related concept of communication. Similarly, from the perspective of the computer mediated communication process, Steuer (1992) defines interactivity as "the extent to which users can participate in modifying the form or content of a mediated environment in real time" (p.84), this applies to situations where we have two dimensions of interaction (human-human interaction and human-message interaction). Rice and Williams (1984) noted that interactivity should be a two-way exchange, instant, and in real-time. From an interpersonal perspective, Morris and Ogan (1996) defined interactivity as a two-way communication system from senders to receivers. Robb et al. (1997) defined from the marketing perspective that interactivity is "the combination of rich content, active intelligence, and collaborative communications to create a compelling consumer experience" (p.5). Hoffman & Novak (1996) described interactivity as a part of the medium feature, with the ability to communicate with people and access information.

The definition of Interactivity can also be based on the notion of control. For example, Williams et al. (1988) define interactivity as a three dimensional construct such as control, exchange of roles and mutual discourse. Likewise, Shedroff (1999) defines interactivity according to the level of control the audience (users involved in interactivity) has, and the amount of choice that control provides. His interactivity

includes feedback, control, creativity, productivity, communications, and adaptivity. Hoffman & Novak (1996) also argue that the key feature of interactivity is user control.   Neuman (1991) refers to interactivity as the "quality of electronically mediated communications characterized by increased control over the communications process by both sender and receiver" (p.104).

Other scholars distinguished interactivity from interaction (the traditional relationship between two or more people), and identified it as either being 'medium interactivity' (user to system) or 'human interactivity' (user to user). Chung (2008) for example, categorised interactivity by dividing website design features into three levels: low (audio and video downloads, photo galleries etc.), middle (content submission features, polls, etc.), and high (email link, message boards, chat features etc.).

Multiple attempts to define and measure interactivity are largely centred around three different approaches in literature: the perspective of process, functional features and the user's perception. The process view has not been applied as much as others. It focuses on discourse and the reciprocity between participants in communicative context (Larsson, 2012). Some authors identified it as a process-relatedness, and thus messages in a sequence relate to each other (Rafaeli & Sudweeks, 1997). Studies on interactivity from the functional perspective concentrate on clarifying interactive features accommodated in websites. (González & Palacios, 2004; Ha & James, 1998; Marsico & Levialdi, 2004; Paul, 2001). The content analysis is often applied in cases when trying to find 'specific features that can be identified and categorized as interactive' (McMillan, 2002a). Focusing on the functional aspect of interactivity, Laurel's (1990a) definition of interactivity is based on three dimensions - frequency, range, and significance. Steuer (1992) identified interactivity based on speed, range and mapping to facilitate users' manipulation of content. Similarly Coyle and Thorson (2001) identified three elements - mapping, speed, and user control – which are important in website interactivity.   Deuze (2003), focusing more on the user interface aspects identified three different types of interactivity: navigational (hyperlinks, menu bars, etc), adaptive (content submission tools, polls, etc) and functional (messages boards, chat features, etc). There are other studies describing interactivity from a functional perspective. Heeter (1989) provides a comprehensive conceptualisation of interactivity.   She defined interactivity as a concept of new

technologies to be distinguished from traditional media by describing six dimensional concepts as follows.

1) the complexity of available choice: this dimension is related to the degree to which users are provided choices of available information or selectivity. Therefore, when the user has more choices, his/her interactivity will be higher.

2) the effort that any user must exert: this dimension concerns the effort the users must make in order to access information. High interactive mediums will allow users to access information more easily than low ones.

3) the responsiveness to users: this dimension is related to the extent to which the medium can actively respond to users. Responsiveness is defined as "the degree to which a communication exchange resembles human discourse" (p.223). Therefore if media have a high level of interactivity, they will respond to a user like a human being.

4) the monitoring of information use: this dimension concerns the degree to which information selection can be monitored across all users. In a high interactive medium, user's selection of information can be monitored across all users.

5) the ease of adding information: this dimension is related to the degree to which users can add information that can be accessed by mass audience. In a high interactive medium, users can do that.

6) the interpersonal communication facility: this dimension concerns the extent to which the media system facilitates interpersonal communication between particular users. High interactive media can facilitate such a communication.

The six dimensions of Heeter (1989) above may not be perfectly applied to website design, but they provide specific measurable concepts which have been adopted by many researchers.

Table 9. demonstrates the Heeter's interactivity dimensions that have been used in different disciplines, particularly in computer mediated communication and information system.

Table 9. Disciplines and studies which used interactivity dimensions proposed by Heeter (1989)

Discipline	Interactivity dimensions used	Study
Computer Mediated Communication	Complexity of Choice, Effort of users exert, Responsiveness, Monitoring of information, and Interpersonal Communication	McMillan (1998)
	Transmissional, Consultational, Conversational, and Registrational Interactivity	Jensen (1998)
	Direction of Communication (One-way and Two-way) and Level of Receiver Control (High and Low): Monologue, Feedback, Responsive Dialogue, and Mutual Discourse	McMillan (2002b)
	Three factors determines interactivity: Technological structure of the media used, characteristics of communication settings, and perceptions of individuals	Kiousis (2002)
Information System	Control of the Communication Process and content between Provider and User	Middleton (2002)
	Playfulness, Choice, Connectedness, Information Collection, and Reciprocal Communication	Chen & Yen (2004)
	Active Control, Two-way communication, and Synchronicity	Lowry et al. (2006)

Another conceptualisation of interactivity from a functional perspective was studied by Ha & James (1998). They defined interactivity as "the extent to which the communicator and audience respond to, or are willing to facilitate each other's communication needs" (p.461) and identified six dimensions of website interactivity such as playfulness, choice, connectedness, information collection, monitoring mechanisms and reciprocal communication.

Other researchers focused on users' perception. For example, McMillan (2002a) stated that "interactivity means different things to different people in different contexts" (p. 162). This suggests that a user's subjective perception is an important standard in judging interactivity. Studies which focus on what an individual perceives as interactivity have been carried out (McMillan & Hwang, 2002; Newhagen et al., 1995; Wu, 1999). Some researchers have attempted to define and develop tools in order to measure user's perceived interactivity. Newhagen et al. (1996) was one of them. They identified users' perceived interactivity according to efficacy, as "a two-dimensional construct: internally-based self-efficacy and externally-based system-efficacy" (p.166). In websites, internally-based self-efficacy

can be understood as a user's perceived control, while externally-based system efficacy can be interpreted as the way websites are responsive to the user's action. Users can find their internally based efficacy in their website navigation (Chung & Zhao, 2004). Wu (1999) studied the relationship between the users' attitude towards websites and the level of perceived interactivity. The finding showed that users' attitudes towards websites are positively related to the perceived interactivity of the websites. Three dimensions of the perceived interactivity, perceived control, perceived responsiveness, and perceived personalisation, were identified (Wu, 2000). Similarly, McMillan and Hwang (2002) identified the perceived interactivity as direction of communication such as user control, and time. The level of interactivity also has positive effects on the use of Internet Presence Sites (IPS) (Ghose & Dou, 1998). These studies suggest that the user's subjective perception of interactivity and its objective measurement should be clarified.

Other studies focused on the interrelationship between interactivity as function and as perception (McMillan et al., 2003), interaction by self and others (Newhagen & Rafaeli, 1996), consumer involvement (Day, 1998), consumers' actual clicking behaviours on websites (Chung & Zhao, 2004), and customers' shopping behaviour and perceptions and interactive functions (Teo et al., 2003).

2.4.2   Types of interactivity

Numerous studies have attempted to classify various types of interactivity. From the communication process point of view, a dual approach is the most commonly used in the literature. Most dual approaches identify human-human interaction and interaction with content or machine. For example, Massey & Levy (1999) defines one dimension as interpersonal interactivity in which users can have computer-mediated conversations created for them, and the other dimension as content interactivity in which journalists technically control content which is used by consumers. Hoffman & Novak (1996) described interactivity as both the ability to communicate with people (person interactivity) and access information (machine interactivity). Machine interactivity is defined as the extent to which users can take part in modifying the form and content of a mediated environment synchronously. Person interactivity refers to interactivity between people that occurs through a

medium or is unmediated, as in the case of face-to-face communicative context (Teo et al., 2003). These definitions indicate that machine interactivity is interactivity with medium, whilst people interactivity is interactivity through the medium. With regard to machine interactivity, Szuprowicz (1996) divided it into two sub-levels, *user-document* interactivity, where users are not able to influence or manipulate contents, and *user-system interactivity* where users can manipulate the content by changing its characteristics. In the context of websites, browsing through the hypertext would be an example of *user-document* interactivity and querying the search engine would be an example of *user-system* interactivity.

The user to message interactivity is commonly defined as the ability of the user to control, modify and manipulate messages or content (Liu & Shrum, 2002b; Shedroff, 1999, Steuer, 1992). This kind of interactivity can be considered as a mid-level interactivity, exemplified by filling in online surveys, personalised login registration and transactions (Coyle & Thorson, 2001; McMillan et al., 2008). Users can find their way around various elements of a website. The design features which represent *user-medium* interactivity include hyperlinks, various types of menu bars, and search engines (Ha & James, 1998; McMillan et al., 2008). Similarly *human-message* interaction deals with users' interactions with messages. Users of interactive media select the messages they encounter and exert control over the messages by searching and manipulating them during interaction (Liu & Shrum, 2002a).

On the other hand, *human-human* interaction concerns two-way communication such as mutual discourse, feedback, interpersonal interaction, dialogue, role exchange, connectedness, responsiveness, and reciprocal communication between sender and receivers (Ko et al., 2006). According to Szuprowicz (1996) *user-user* interactivity is defined as real-time responses between two or more users. Cho and Leckenby (1999) identified *human to human* (consumers and advertiser) *and human to message* interaction (consumer's manipulation or control over messages) in the advertising context.

Other dual channels of interactivity, active control and reciprocal communication, have been identified (Lowry et al., 2006). Active control refers to the ability to select information and guide an interaction, while reciprocal communication denotes the

ability to communication between two or more individuals (Jiang et al., 2010; Lowry et al., 2006). Active control is widely used as an interactivity aspect in various Information System literature including e-commerce (Jiang et al., 2010) and HCI (Teo et al., 2003). Schultz (2000) addressed *reader to reader* and *journalist to reader* interactivity as a part of reciprocal communication. Chung (2008)'s human interactivity and medium interactivity are similar to human-to-human and human-to-computer interactivity respectively which have been identified by Yun (2007). Table 10 demonstrates types of dual interactivity and their definition by different study fields and studies conducted.

Table 10. Types of dual interactivity and their definition by fields of study and studies conducted

Type of dual interactivity	Definition	Field of Study	Study
Human-message	"Choice over several levels of information"	Advertising	Cook (1994)
	"Different levels of information"	Advertising	Ramen & Leckenby (1995)
	"Control over content or structure	Communication	Rice (1984)
	"modifying the form and content"	Communication	Steuer (1992)
	"user influence on the form and content"	Advertising	Lombard & Syner-Duch (2001)
	"use of information from the customer"	Marketing	Day (1998)
Human-human	"two-way dynamic dialogue"	Communication	Morris & Ogan(1996)
	"communication exchanges"	Communication	Rafaeli (1988)
	"two-way communication between source and receiver"	Communication	Pavlik (1996)
	"mutual discourse"	Communication	Williams et.al (1988)
	"feedback"	Marketing	Haeckel (1998)

The dual approach to defining a type of interactivity expands into various dimensions and three types of interactivity have been identified. Szuprowicz (1995) proposed interactivities such as *user to user*, *user to documents*, and *user to computer* (system) interactivity. Similarly, Sundar et al. (2010) identified interactivity which corresponds to three elements of communication, source, medium and message. According to them interactivity converts a system into a communication medium, by

eliciting user interaction with the system interface and other users. Kayany et al. (1996) identified relational (or interpersonal), content (or document based), and process/sequence (or interface-based) interactivity according to types of control. Two different approaches to interactivity types and their studies are summarised in Table 11.

Table 11.Two different approaches to interactivity types and their studies

Approach	Type of Interactivity	Study
Dual factors	Human-human and human-message interaction	Cho & Leckenby (1999), Steuer (1992)
	Person-to-person and person-to-technology interactive	Haeckel (1998)
	Interpersonal and content interactivity	Massey & Levy(1999)
	Personal and machine interactivity	Hoffman & Novak (1996)
	Active control and reciprocal communication	Jiang et al. (2010) Lowry et al. (2006)
	Reader to reader and journalist to reader	Schultz(2000)
	Human to human and Human to computer	Yun (2007)
	Human interactivity and medium interactivity	Chung (2008)
Three factors	User to user, user to documents, user to computer	Szuprowicz(1995)
	Relational (or interpersonal), content (or document based), andprocess/sequence (or interface-based).	Kayany et al. (1996)
	User to machine, user to user, user to message	Liu & Shrum(2002b)
	human to human, human to content, and human to computer	McMillan(2002b, 2005)

McMillan (2002a) offers a typology, differentiating *user-to-user*, *user-to-system*, and *user-to-documents* interactivity. This typology proposes that interactivity can apply not only to human-to-human communication (people talking to each other) but also to a property of a particular medium. In particular, the definition by Liu & Shrum (2002b) provides a comprehensive definition by combining the three traditional factors of interactivity (user to machine, user to user and user to message) describing "the degree to which two or more communication parties can act on each other, on the communication method, and on the messages and the degree to which such influences are synchronized" (p.54). They specified three constructs of interactivity, active control, two-way communication, and synchronicity. Active control occurs when control influences users' experience. The reciprocal communication occurs between

companies and users, and users and other users, which are referred to as two-way communication. Unlike traditional media, online transaction availability is another important aspect of two-way communication. Lastly, synchronicity refers to a system's responsiveness of simultaneous users' input. As Liu & Shrum (2002b)'s definition of interactivity combines all three types of interactivity in which users can interact, the following working definition of interactivity appears to be the most appropriate for the research carried out in this thesis.

Interactivity is the extent to which two or more users' communication through system (e.g. website) and the extent to which the content can be chosen and manipulated simultaneously.

2.4.3   Interactivity on websites

Websites which provide information and communication technologies enable easy and fast interaction between users and providers (Coyle & Thorson, 2001; Ha & James, 1998). Different levels of interactivity may be found in websites (Coyle & Thorson, 2001) because websites can be categorised according to the control of the users over the communication process (Ha, 2003). Therefore individual differences in communication needs should be considered. Depending on the users they may want only low levels of interactivity in their communication. For example, they might want to have the freedom of navigating websites through different options, without a direct contact with the website provider. But this may not be applicable to users who may want immediate help from the website providers, such as technical support, or information required to solve a problem (Ha & James, 1998). The level of interactivity on websites plays an important role in situations the goal is to convert a current website visitor to a potential customer in e-commerce (Berthon et al., 1996). The increase in levels of interactivity of websites can influence visitors towards heightened levels of connectedness with the website (Coyle & Thorson, 2001).

A website includes a range of interactive features (e.g. hyperlink, feedback form, etc.) that provide users with more individual control over their browsing experience and engage them in a synchronous two-way interaction. Interactivity has been defined

using various dimensions but human-message interaction and human-human interaction are the most frequently mentioned in the existing literature (Cho & Leckenby, 1999; Massey & Levy, 1999). Ko et al. (2006) argue that these two dimensions can be applied to examine interactivity on the Internet because "they serve as umbrellas for different definitions and dimensions of previous interactivity studies" (p.96).

The degree of control of the medium was the focus of interest of Shih (1998) as the main dimension of interactivity. He defines control as "the ability to modify the casual relation between a person's intentions or perceptions and the corresponding events in the world" (p. 657). The user's control over the flow of the information will determine the degree of interactivity therefore, in the context of websites, the hyperlinks could be an important tool for control. In websites with numerous hyperlinks users can control their own behaviour through clicking or not clicking, and can have higher interaction with the websites (Chung & Zhao, 2004).

Several studies have addressed interactivity in business websites. Ha & James (1998) discussed interactivity within the specific context of websites, providing more useful interactivity measures within this context (Chou, 2003). Ghose & Dou (1998) saw interactivity as an important factor in improving the quality of business websites. In their study, the extensive five main interactive functions and 23 possible interactive sub-functions were described.

There are studies, which have focused on interactivity in cross-cultural website environments. For example, after analysing commercial websites from the United States, the UK and South Korea, Ju-Pak (1999) found a higher level of interactivity in Korean websites than their United States and UK counterparts. Similarly, Kim et al. (2009) found that Korean websites were more likely to use clickable images, pull-down bars, and hyperlinks compared to the United States websites. They claim that interactive features, which require active participation and manipulation from a user, are more likely to be used in cultures that have a polychromic time orientation culture such as SK.

Cultural dimensions of Hall and Hofstede were used in the study of Cho and Cheon (2005). They compared the websites from the United States, UK, Japan, and South Korea and found that websites from the United States, a Low Context culture, offer clearer, more explicit and greater amounts of information by having functions such as search engines, internal and external hyperlinks. They also found that websites in the United States and UK tended to emphasise consumer-message interaction and consumer-marketer interaction. Websites in Korea and Japan in contrast are likely to use consumer-consumer interaction, probably due to Collectivist nature of these Eastern cultures. Consistent with the results Ko et al. (2006) studied customers' interactivity and motivations on websites in terms of cultural differences. The results showed that users from a Low Context culture had a higher degree of information and convenience motivation and perceived a higher degree of human-message interaction, whereas users from a High Context culture had a higher degree of social interaction motivation and human-human interaction.

Similarly the cultural differences of corporate websites in terms of interactivity and public image were examined in the field of marketing (Pan & Xu, 2007). The study attempted to analyse different online strategic communications on websites from the U.S. and China. The findings showed that the U.S. corporations tended to highlight online marketing interactivity and social responsibility. Chinese corporate websites on the other hand, used more online interactive spaces for the consumer-consumer interactions and had a corporate public image that focused on corporate history and power-oriented symbols.

2.5 Choice of Countries and Their Cultural Characteristics

We have selected two countries for conducting the study South Korea (SK) and the United Kingdom (UK). The reasons are fourfold; different cultural dimensions, economic and political progress, technological development, and legal and regulatory adoption, which are detailed below.

2.5.1 Different cultural dimensions

Firstly, SK and the UK are representatives of Oriental and Western culture respectively. They have significantly different cultures (Hofstede (1991) and Hall (1976)) as summarised in Table 12. Even though Hall (1976) does not rank SK per se, he refers to Asian countries such as SK as mostly High Context cultures (see subsection 2.1.2).

Table 12. Cultural index scores (0 to 100) for SK and the UK adopted from Hofstede (1991), Hall (1976) and Nisbett (2003)

Cultural dimension	South Korea	UK
Power Distance	60 (high)	35 (low)
Individualism	18 (low)	89 (high)
Masculinity	39 (low)	66 (high)
Uncertainty Avoidance	85 (high)	35 (low)
Long-term Orientation	75 (high)	25 (low)
Context	High Context	Low-context
Cognitive Style	Holistic	Analytic

In addition, Nisbett (2003) describes East Asian culture as tending to have Holistic cognitive style whereas Western culture has a tendency to have an Analytic cognitive way of thinking. East Asians also tend to find the 'middle way' between opposing propositions. In contrast Westerners are more analytical, prone to categorisation and use logical rules (Nisbett, 2003). Furthermore, SK and the UK belong to two diverse continents which represent the Western, European cultural environment and the Far Eastern cultural background respectively.

As a country with 5000 years of history, SK has different worldviews that include the perspectives of Shamanism, Buddhism, Confucianism, and Christianity. Korea has been strongly influenced by Confucianism and its ethics and mentality still pervade modern Korean society. This is partly because it was adopted as an official philosophy by the late Yi Dynasty, which ruled Korea for 500 years from the late 14th century to the early 19th century. Confucianism is a "philosophy of human nature that considers proper human relationships as the basis of society" (Yum, 1988).

The most fundamental cultural value of Britain is freedom based on the history and choice of Judaeo-Christian values and Hellenism, which has created and maintained the civilisation of modernity, democracy, capitalism, and science in British society. The British contribution to world civilisation is significant. They played an important role in developing constitutional government, parliamentary democracy and democratic institutions, practicing tolerance, honesty, enterprise and scientific curiosity (Marsland, 1995).

2.5.2   Different economic and political progress

SK and the UK are different in their economic and political progress. They had different economic development through the centuries. As one of the tiger economy countries SK underwent rapid economic growth in the late 20th century (Beba, 2011). In contrast, a highly developed, diversified market base, have the UK is the sixth-largest economy in the world (State, 2010). Furthermore, they have experienced different political and geographical changes through history. Korea was divided into two countries after the Korean War in the 1950s. Established in 1948, South Korea spent the next four decades under autocratic rule. The massive protest movement of 1987 led to a democratic government, which has continued to this day. Since the 1990s, SK has become one of the most vivid democracies in Asia (ONI, 2010). The UK, consisting of England, Wales, Scotland, and Northern Ireland, is a constitutional monarchy. The strength of the British Empire was seriously diminished through two World Wars. But it has become a leading global financial centre and Western

democracy (Central Intelligence Agency, 2011) and a member of the European Union (EU).

2.5.3   Different technological development and adoption

SK and the UK have different speed of adoption of Information technologies and technological advances. Different pace of adoption of technological advances have affected the development of both societies in the last decade. Many countries have placed their priority on broadband network development, which has helped to generate increased efficiency and productivity of the economic infrastructure of countries. Both developed and developing countries have organised a widespread strategy for encouraging capital investment in information and communications technologies (ICTs) (Frieden, 2005).

The Internet infrastructure of the country, especially the broadband penetration rate and its speed, may play an important role in providing sufficient environments for utilising various interactive features/functions in websites. We therefore discuss broadband development and the current status of each country in this subsection.

The term "Broadband" is typically used to describe an Internet connection with download speeds faster than traditional dial-up connection (at 64 Kbps). According to the Organisation for Economic Co-operation and Development (OECD) (2007), the technology includes DSL, cable and other (fibre to the premises and apartment and LAN connections) and the minimum threshold for bit rates is 256 Kbps. The broadband transmission capacity is defined as faster than a primary rate at 1.5 or 2 Mbps (ITU, 2003). It is no doubt that the Internet users can enjoy various types of applications and services when there is a high-speed Internet connection. It is recommended that the service provider should deliver a minimum speed of 2 Mbps for a reasonable user experience and data-heavy services such as Video-on-Demand (ITU, 2011b).

SK boasts one of the most advanced Internet infrastructures in the world. The speed of the development of the broadband market is extraordinary. In 1998 broadband services were launched first in SK. Its broadband penetration rate was the highest in

the world by 2000, and remains high in the ranking now, 2011 (OECD, 2011b). The high Internet penetration rate of SK is widely attributed to a series of government led extensive plans implemented since the 1990s such as 'National Information Super Highway Project (1995~2005) and the 'BCN Establishment Project (2004~2010)'. In February 2009, the Korean Communication Commission (KCC) announced the development of the BCN (Broadband Convergence Network) project, aiming to upgrade the national network to deliver 1 Gbps service by 2012 (KISA, 2011). The nationwide promotion of information and communication technologies (ICTs) appealed to SK, a country with few natural resources in the aftermath of the Asian financial crisis of 1997. In the early 1990s, the boom of PC *tongshin* (PC communication) culture, a text-based form of online communication helped Korean citizens to access the Internet. In contrast, the UK lagged far behind SK in the early stage of broadband development in the 90s. After a slow start, the UK government proposed programs for the promotion of broadband diffusion. In June 2006 the UK Labour government proposed a 'Digital Britain' plan to provide a Universal Service Obligation (USO)[b] of 2 Mbps broadband by 2012. That objective was then integrated into a more general broadband plan in 2010 by the newly elected government and its deadline was extended to 2015. In December 2010 the UK announced a new strategy called 'Britain's Superfast Broadband Future' in order to have Europe's best broadband network by 2015. The plan aims to have all households accessing a minimum level of services of 2 Mbps. In addition, 530 million GBP has been invested to provide broadband in remote and rural areas (BIS, 2010). Amongst the EU countries, the UK has one of the most ambitious plans. Finland and Spain, for example have established a Universal Service Obligation (USO) of 1 Mbps and France is even lower at 0.5 Mbps (CESifo, 2011).

SK is one of the most wired countries on earth in terms of both Internet penetration and high connection speed. As of 2011 there were about 37.2million users aged three and older, comprising about 77.8% of the population (NIDAK, 2011), which have been involved in active online interactions. The number of Korea's Internet users has increased from 19 million in 2000 to 36.1million in 2010, a growth of 17.1 million users. This growth rate for Internet users surpasses the national population growth by

[b]Universal Service Obligation indicates the requirement to provide certain services to the total population, regardless of profitability aspects(CESifo, 2011)

18 times as the total population of Korea increased from 47 million in 2000 to 48.8 million in 2010 (NIDAK, 2011). With regard to the broadband penetration rate SK has been consistently far more advanced than the UK throughout the years. Interestingly, in 2002 SK had higher levels of broadband take-up than the UK had achieved by 2006. SK had 21.8 subscribers per 100 inhabitants whereas the UK had only 2.3 subscribers per 100inhabitants in 2002 as shown Table 13 (OECD, 2011b).

Table 13. Wired broadband penetration rates by time series, 2002-2011 (subscribers per 100 inhabitants)(OECD, 2011b)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011-Q2
SK	21.8	23.8	24.8	25.3	29.0	30.4	31.8	33.5	34.4	36.0
UK	2.3	5.4	10.3	15.9	21.4	25.7	28.1	29.5	30.5	32.6

It took almost six years to achieve similar broadband diffusion in the UK. In 2008 the penetration rate showed that the SK had 31.8 while the rate was 28.1 in the UK. Figure 5 shows the wired broadband penetration rates by time series from 2002 to 2011 for both countries. It indicates the gap between the two countries has been reduced during this time.
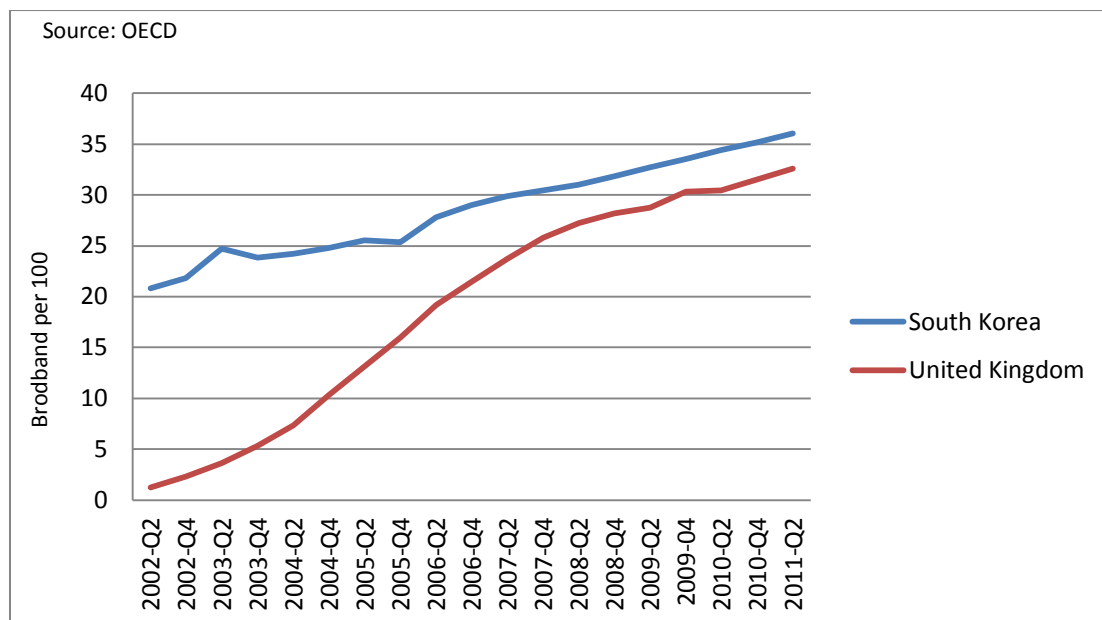
Figure 5.Wired broadband penetration rate by time series for SK and UK, June 2011(OECD, 2011b)

Figure 6 shows the average broadband connection speeds increased significantly in the UK during 2006. There was particularly strong growth in connections at 'up to 8Mbps' from nearly none in December 2005 to an estimated 4 million by the end of 2006.
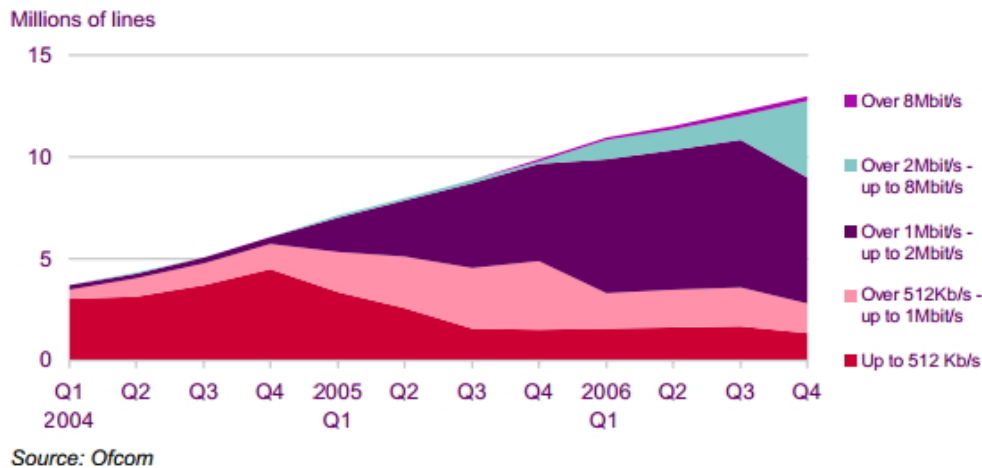
Figure 6. Broadband lines by advertised download speed in UK from 2004 to 2006

ITU data shows that there are major differences between fixed broadband subscriptions broken down by advertised speed around countries (Figure 7). By the end of 2010, SK did not really provide any broadband connection below 2Mbps. The UK also have only very few subscriptions with speeds below 2Mbps, and offer most of their broadband users higher speeds.

In spite of the slow adoption of broadband initially, the UK already has high rates of Internet use and broadband penetration. As of 2011 the UK is ranked 5th (20.3 million subscribers) out of 34 OECD countries for fixed (wired) broadband markets whereas SK is ranked 6th (17.6 million subscribers) (OECD, 2011a). According to the National Statistics Survey (NationalStatistics, 2010), 41.9 million people had Internet access in 2011. This represented 67.8 per cent of the UK population.
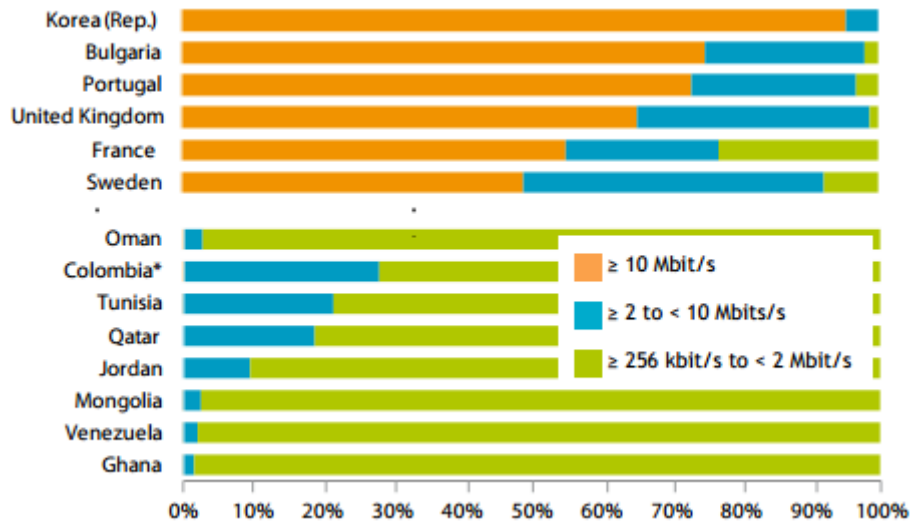
Figure 7. Advertised fixed-broadband subscriptions, breakdown by speed, early 2011 (ITU, 2011b)

In summary, Table 14 shows SK and the UK in terms of population, GDP per capita, democracy index, Internet users and broadband penetration.

Table 14. Comparison of two countries: Key indicators of SK and the UK

	SK	UK
Population (2010)[a]	48.5million	61.8million
Number of Households (2009)[b]	18.8million	25.8million
GDP per capita (USD PPP)(2011)[c]	31,700	35,900
EIU Democracy Index (out of 167 countries) (2010)[d]	20	19
Personal Computers (% of households) (2010)[e]	82%	83%
Internet users (% of population in 2011)[f,g]	37.2million (76.7%)	41.9million (67.8%)
Fixed broadband subscriptions (2011)[h]	17.6million	20.3million
Wireless broadband subscriptions (2011)[h]	48.5million	27.6million
Broadband household proportion (2009)[i]	95.9%	69.5%
Average broadband speed (2011)[j]	17.5Mbps	4.9Mbps

Sources:[a] Un data (2010), [b] ITU (International Telecommunication Union (2009), [c] CIA, The World Factbook (2011), [d] ONI (2010), [e] ITU (2011a), [f] NIDAK, Korea Internet & Security Agency (2011), [g] National Statistics, UK (2012), [h] OECD (2011a), [i] OECD(2010), [j] Akamai(2011)

2.5.4   Different legal and regulatory adoption

In SK, a *real-name policy*[c] was introduced in July 2007, which requires web users to provide their identification data including real name and resident registration number when making online postings and comments. The regulation, designed to prevent potential cyber-crimes, applies to web portals, websites of public organisation and government agencies with more than 100,000 daily online visitors (Kim, January, 2007). The updated regulations proposed by the European Commission (EC) with regards to preserving information security, controlling spam, spyware and other malicious software were integrated into national legislation of the UK in 2010 (European Commission, 2009). Internet service providers (ISPs) are under no obligation to monitor the information consumers transmit over the internet, which is specifically stated under European Union law. However, ISP must be able to provide information on consumers transmissions, given an appropriate request from the government (Council Directive, 2000). The UK is a strong supporter of fundamental human rights, diverse viewpoints, freedoms and freedom of expression. The law guarantees freedom of expression and protection of privacy over the Internet. However, the recent antiterrorism laws could not avoid harsh criticism (ONI, 2010). This is because expanding police power and retaining personal data for the purpose of national security are held to be against basic human rights principles (PrivacyInternational, 2007).

Finally, our personal interest and knowledge of both cultures were also one of the motivations to choose SK and UK. A South Korean sample was a convenient choice for the study as the researcher was born and raised in South Korea; and now is resident in the UK.

---

[c] The requirement to use their real names on websites was struck down by the country's constitutional Court on August 2012 because the rule restricted freedom of speech and undermined democracy(BBC, 2012b).

2.6   Discussion and Conclusion

This chapter introduced the theories and literature on culture and its influence on website design. The definitions of culture and interactivity were discussed, cultural theories reviewed together with HCI, its cultural issues and their impact on interactivity in website design. Our working definitions of culture (see subsection 2.1.1) and interactivity (see subsection 2.4.2) will be applied to our main studies. The choice of two countries, SK and the UK was also discussed focusing on their cultural differences from various aspects.

The current research on cross-cultural website design and interactivity address design features and elements concerning culture and cultural differences. The literature review highlights that cultural models from anthropological studies and marketing data are applied to cross-cultural studies in order to find out if cultural differences exist in website interface design. However, there does not seem to be solid evidence of how useful this data is when applying it to website design for a target cultural group.

In addition, the literature review showed that some of the website design features are used more preferably if they originate in a particular country. However, there are not many studies publicly available that give insight into the way website design and interactivity have been changed over time and across countries. In other words, the ways in which websites are designed, (i.e. knowing whether interactivity features that are favourably used in a particular country) have been changed or not over the years, have yet to be addressed in detail. Moreover, previous cross-cultural website design studies predominantly focused on the analysis of e-commerce, corporate or university websites, which have been designed by professional website designers. Little attention has been paid to the design of websites which are created and managed by actual end-users regarding their cultural differences. This is important because UGC on the Internet is prevalent in blogging and microblogging these days.

The literature review has also identified the major gaps in the literature which show the lack of:

- Research concerning websites' interactivity in terms of cultural differences;

- Substantial empirical evidence on which interactive design features were preferred by SK and UK websites, and whether or not these preferences have changed over time;

- Approach to creating interactivity in websites, in spite of there being some cross-cultural website design research available which was focused on cultural differences in relation to cultural models in anthropological studies;

- Research which investigates interactivity in websites which are managed by actual end-users across countries;

- Studies considering the relationship between interactivity in websites and the technological infrastructure development of countries.

The research in this thesis will consider interactivity in websites, i.e. interactive design features of websites, which relate to cultural dimensions in order to investigate cultural differences in website design. Given the impact that culture has on people's perception and behaviour, each website should reflect the cultural dimension of its users. Applying such consideration into interactivity in websites in practice is extremely important. Therefore, we also need to look at interactivity in websites from both perspectives: professional website designers and actual end-users from each of the chosen countries.

CHAPTER 3. PILOT STUDY

In this chapter, we describe the *Pilot Study* in which we compared website designs of the SK and UK broadcasting corporations and attempted to identify any specific website design features which can be recognised as culturally explicit or specific for either of these two countries.

In the text labelled cultural implications on the design of websites in subsection 2.3.1 suggests that it is possible to detect design features in websites, which may be typical of their countries of origin. However, this does not imply that these website design features will be constantly favoured by website designers in that particular country. The previous research also suggest that when applying cultural theories to website design features, certain design features become related to cultural dimensions, as defined by Hofstede (1991) and Hall (1989). These design features related to cultural dimensions which in turn, may be shared across countries, as noted by the study of Marcus & Gould (2000). In other words, a set of website design features typical of a particular country can be found in different cultures.

In order to discover the presence of country-specific design features, our *Pilot Study* chose to examine the SK and UK broadcasting corporations' websites for many reasons. Our choice of a local broadcasting corporation website was based on the assumption that websites of the countries of origin would be more likely to accommodate their local cultural design features than other kind of websites because their targets are more likely to be local users. It is reasonable to expect that manifestations of website design features in the SK and UK may be reflected by the website designer's cultural background. This is elaborated on through the works of Riding & Rayner (1998) and Faiola & Matei (2006). In principle cognitive styles are directly linked to culture (Chen & Ford, 1998; Nisbett, & Norenzayan, 2002; Riding & Rayner, 1998). Therefore, we assume that designers' cognitive styles are reflected in the website design and content of websites. As a result, differences in cognitive style will create variations in website design, ultimately based on national culture.

In the *Pilot Study,* we also had an opportunity to clarify types of website design which may be different between the SK and UK websites and to indicate whether the found website design features of the selection of websites disclose a global trend in website design or show greater degrees of differences amongst them. Furthermore, it allowed us to investigate if direct examination of the websites is appropriate to detect design features that are used in different cultures, i.e. cross-cultural study.

The best way to determine the manifestation of cultural representation is by directly 'examining' the current websites, which can be done through the content analysis. By directly looking at and examining the content of the chosen websites according to the clearly defined criteria, we can detect what has produced in there (e.g. website designers made their decision already) rather than what can be produced (e.g. website designers will make a decision). Other techniques such as interviews are beneficial because a large number of rich information can be obtained from open-ended questions. However, users may be influenced by questions in terms of giving answers which are expected for them and which may not be exactly what they did or think in real exercise. Since our aim of the study is to find out what kinds of specific design features are present in website in each country, we have carried out direct observation of the chosen websites, as this would be less biased compared to other techniques such as questionnaire surveys and interviews (Kinnear & Taylor, 1991).

The following sections describe the method used and the websites chosen for this *Pilot Study* in order to find potential website design features which may be culturally specific, followed by analysis of the findings and their implications.

3.1   Method

It is important to note that we carried out an exploratory study, therefore the method we used did not prescribe an expecting or particular outcome from the *Pilot Study.* The steps of the method are given in bullets below, and some of them are further explained in paragraphs that follow.

- Step 1- Justifying our choice of using the websites of the broadcasting corporations of both countries;

- Step 2- Deciding which pages of the KBS and BBC websites would be examined. Chosen pages were saved because of their regular updating, therefore both pages were saved on the same day.

- Step 3- Examining the categories identified in Table 8 on the homepages chosen in Step 2. We tried to identify all categories from Table 8 in the saved web pages such as page layout, colours, symbols, navigation, multimedia, and interactivity. Each recognised category was noted.

- Step 4- Examining the design features identified in Table 8 for each category identified in Step 3. Each recognised design feature for a category found in Step 3 was noted.

- Step 5- If any design feature discovered in Step 4 required further action (e.g. if more clicks were required to see the result of the action, such as leaving a comment or site registration) we performed the necessary action to see the result of it. The action and its results were noted.

- Step 6- If we observed any design features in the saved homepages, which we did not find as categories and design features in Table 8 we also noted them.

- Step 7- We compared lists of noted categories and their design features which were identified in Steps 3-6 and analysed the results of the comparison.

If a particular design feature noted in Step 4 appeared in both homepages, this would suggest it may not be culturally specific. However, if a particular design feature was present on one and not the other homepage, then we could claim that it may be culturally specific to that country.

More explanations on Steps 1 and 2 are given in the following subsection.

3.2   Choice of Websites: public broadcasting corporations' websites

In Step 1 we justify our decision to choose the public broadcasting corporation BBC (www.bbc.co.uk) for the UK and KBS (www.kbs.co.kr) for SK to the subjects of our exploratory study.

Public broadcasting corporations include television, radio and other electronic media channels whose primary mission is to provide to public services to the country. Korean Broadcasting System (KBS*, Hanguk Bangsong Gongsa*), founded in 1927, is a South Korean radio and television network managed independently (KBS, 2011). The British Broadcasting Corporation (BBC), founded in 1922 is a British semi-autonomous public service broadcaster whose main responsibility is to provide public service broadcasting in the United Kingdom, Channel Islands and Isle of Man (BBC, 2012a).

We have already mentioned in the Introduction that the BBC and KBS websites might be ideal for our study because:

  a) They were both mostly or entirely developed for local users of the UK and SK respectively.
  b) They would be likely to exhibit their local cultural elements and design features more than websites developed in other sectors and industry, particularly outside of broadcasting.
  c) They may have more homogeneous cultural values, because the BBC and KBS are within a specific domain (Hong & Chiu, 2001), in our example, broadcasting.

Points a) - c) help us to make reasonable comparison between the two chosen countries.

In Step 2 we decided that a 'homepage' would be the chosen page within the www.bbc.co.uk and www.kbs.co.kr for the *Pilot Study* for many reasons outlined below.

  A. A homepage, defined as "the first page of a website" (Sullivan, 1999, p. 194) appears immediately when a user accesses the website.

B. The homepage serves as the 'front door' to users and frequently implement most of the website's features (Evans & King, 1999).

C. Homepages are usually visited more than any other page within a website. Any user who plays the role of visitor to the website would be first exposed to the homepage even if they did not intend to.

D. Homepages are always the centre of 'attention' when designing websites (Nielsen & Loranger, 2006). If visitors have to search through several steps (set of web pages) to find website features or information, they tend to experience frustration and leave the website.

E. Homepages very often include content and structure that reflect culturally specific values because they have a central role in website design (Luna et al., 2002).

The homepages of the BBC and KBS were captured below (Figure 8 and Figure 9) at the time we examined the websites.

Their details, which are actually the findings and results of the *Pilot Study,* are explained in the next subsection.

Figure 8. Homepage of BBC, UK captured on 30th April 2005

Figure 9. Homepage of KBS, South Korea captured on 30th April 2005

3.3 Findings and Discussion

Through an exploratory examination, the homepages of both SK and UK broadcasting corporations were subject of the content analysis. The comparison does not attempt to test any hypotheses. Instead, the goal was to shed some light on whether or not culturally manifested design features can be observed and, if so, which of them may have more significance for our research. Table 15 summarises the design features which have been found in the chosen homepages.

It is obvious that there are design categories in both homepages which are good candidates to store culturally specific design features. The best example is the multimedia category which shares no common design features on both homepages. On the other hand, the layout and colour categories have almost identical design features for both the UK and SK. Consequently, multimedia design features may become good candidates for defining culturally specific design features, whereas design features relating to layout and colours will not.

We comment on all of the findings in the paragraphs below.

The most distinctive categories of website design features, between the two homepages, are the use of navigation, multimedia and interactivity. The design features of these three categories which differ in each country are:

- the number of animation
- type of navigation bar
- additional interactive options such as a) English and visually handicapped version for SK and b) text and mobile edition version for the UK.
- The way in which a user can leave a comment on articles

With regard to navigation, the links available on the homepage are organised (listed) according to the thematic content they represent (and their sub links), and were found as a part of a navigation bar on the left-hand side of the homepage in both websites. Minor differences were found in the actual space these links occupy on the homepage (the BBC uses more space to specify the links and possible content of the webpages behind given links). In other words, both homepages used hypertext links to view details of the subject.

Static navigation bars (underlined when the mouse is positioned over it) were popular on the BBC homepage while graphical navigation bars, in which the colour of iconic features changes while the mouse is positioned over it, plus pull-down navigation bars mainly appeared in the KBS homepage.

A search menu was found in both homepages. However, the BBC homepage has two search menus: one for the index search within the BBC homepage and another for a keyword search within the BBC, News and the Web. The KBS homepage offers one integrated keyword search function, but drop-down menus are categorised in order to allow search within a specific community, local broadcasting websites and websites of the KBS affiliated companies.

In terms of multimedia, the Korean KBS homepage had three animations and two videos whilst no animation or videos were found on the BBC website. The KBS

website exhibited noticeable active comment function. After logging into the website the KBS enables users to leave comments on every single article of the news, but this function was not available on the BBC website. BBC users have to go to a specific menu named "Talk" in order to make a comment on current affairs. Clicking on the menu "contact us" for KBS guided users to the email address, phone and location of the KBS headquarters. However, the same menu on the BBC invited users to leave feedback on each program, and to help pages (FAQ). The BBC homepage specifies that the BBC website is available in text-only format and users can also view its mobile edition. None of these were found in the KBS homepage. Instead, it has an English version and aversion for the visually handicapped. The KBS homepage distinctively displayed the updated date and time, which allows visitors to see how old the displayed content of the homepage is, which was not found in BBC homepage.

Both BBC and KBS homepages used horizontal fit, therefore they do not need a horizontal scroll bar. They also used vertically oriented layout, which allows visitors to use their vertical scroll bars in order to view more contents in their homepages. However, slight differences were found in content presentation.   In the BBC homepage, even though there is a main menu located on the left hand side of the homepage, the body consists of mostly short words which look like another "main menu". The body of the KBS homepage was divided into parts:

- the left hand side located main menu and
- the short explanation for each of the options and their usage in different colours.

Both homepages had the main navigation bar positioned in the top-middle and on the left-hand side. The logo menu was displayed in both homepages on the top-left as in many other websites (Nielsen & Tahir, 2001).

Table 15. Design features found in SK and the UK Broadcasting corporation websites by category

Category	Design feature	
	SK	**UK**
Layout	- Horizontally fit, vertically oriented - Main menu (left hand)/sub menu (right hand) - Logo menu on top left	- Horizontally fit, vertically oriented - Main menu(left hand), short words looking like another main menu (right hand of the body) - Logo menu on top left
Colours	- White for background - Bluish for navigation bar - Body text: grey, black - Menu- white text	- White for background - Bluish for navigation bar -Body text: black -Menu-dark blue text
Symbols	- Independence Day anniversary - Korean presenters, actor/actress shown in images -11 images on homepage	- UK map, election 2005 - Weather images (e.g. sunny, cloudy,) - 10 images on homepage
Navigation	- Hypertext links for each title - Graphic, pull-down navi bar (colour of iconic feature changed when mouse over) - One integrate keyword search menu, drop-down menus for searching categorised info	- Hypertext links for each title - Static navi bar (underlined when mouse over) - Two keyword search menus
Multimedia	- Three animations - Two videos	- No animations - No videos
Interactivity	- Contact us (e-mail, phone, address to KBS) - Leave comment on each article after logging into the site - English version - Visually handicapped version - Updated date/time	- Contact us (Feedback to each program), Feedback, Help (FAQ) - 'Talk' menu for leaving comments on current affairs - Text only version - Mobile edition version

With regard to the use of colour, both homepages showed similar preferences; white for background and blue for navigation bars. However, the BBC homepage used blue more than the KBS, therefore the blue colour dominated in spite of it not being a background colour. Symbols on both homepages included local information as images: the UK map and Election 2005 for the UK and the Independence Day anniversary for the SK. The number of images in both homepages is almost identical: 11 in KBS and 10 in BBC homepage. However, the size of each image was much bigger in the KBS homepage than in their BBC counterparts.

The findings of the *Pilot Study* revealed differences in the website design features of the two countries. The UK BBC homepage is clearly different:

- it has much less animation and images than the KBS homepage,

- it relies on static navigation bars, rather than pull-down bars,

- its navigation bar links are textual only,

- it does not utilise the functionality of adding comment to news articles as actively as the KBS homepage does.

Finally the KBS homepage, compared to its BBC counterpart consists of a large number of animations, images and pull-down navigation bars. The extent to which the homepage can interact with visitors is more enthusiastic, because the KBS homepage utilises user registration and each article has comment functionality. Culturally specific design features are therefore animation, video, type of the navigation bar, images and comment postings.

3.4   Implications for the Main Study

In summary, through the *Pilot Study* we gained better insight into the website design features that are possibly culturally preferred. There are differences between the homepages of the national UK and SK broadcasting corporation websites in the use of design features, which can be listed as the use of animation, images, type of navigation bar and comment posting. In other words, they have become unique design features which can be influenced by the culture.

Types of navigation bar and the opportunity to post comments on homepages are website design features, which are directly related to users' activity on the homepage. The user is able to choose or input information rather than be surrounded with various pre-formatted website design features, determined by their designers. For example, design features such as page/menu orientation and background/ text colours are normally decided by website designers therefore no user activities in terms of 'choosing' and 'inputing' are available. Furthermore, types of navigation bar and the opportunity to post comments on homepages are related to interactivity on websites, which corresponds to our own working definition of interactivity, described as the extent to which two or more users' communication through system (e.g. website) and the extent to which the content can be chosen and manipulated simultaneously.

Therefore, we should pay particular attention to interactivity in general when determining the existence of website design features and identifying whether they may be culturally specific.

The *Pilot Study* also confirmed the usefulness of our direct examination of the websites, whilst trying to find preferences of specific website design features. Consequently, we should bear in mind that more studies should be carried out in order to investigate what kind of interactive design features are employed in websites and whether their use are different in two cultural environments.

CHAPTER 4. FRAMEWORK FOR DERIVING INTERACTIVE DESIGN FEATURES

In the *Pilot Study*, we looked at potential cultural differences in website design and found that interactive design features play an important role in determining cultural aspects of website design. This outcome has also been supported by the literature review which confirmed that cultural differences exist with regard to interactivity in websites (e.g. Ju-Pak (1999), Cho & Cheon (2005), Kim et al.'s (2009)).

In this chapter, we describe the framework for deriving interactive design features in websites and blogs. These features are used in our main studies in order to achieve the research objectives. However, before we single out interactive design features we must fully understand what interactivity in general is and how it has been addressed in literature. It is necessary to understand the importance and role of interactivity in website design, before we derive interactive design features.

We have discovered that interactivity in websites is often categorised into different types, which in turn creates different functionalities within websites, and consequently it might have been addressed differently in different cultures (e.g. Cho & Cheon (2005)). The same interactive design feature might be present in different interaction types, and we should differentiate between them because they play a different role (functionality) in website design. For example, "chat room" interactive design feature might appear in various interaction types. It can be used when a user interacts with other users (one type of interaction) and when a user interacts with a website provider (another type of interaction). In both cases, it is a well-defined interactive design feature. However, it might be more prevalent in one culture than in another as a design feature, which supports interactivity between two users (as an interaction type) and does not support interactivity between the user and the provider.

Being aware of various interaction types, and their role in creating websites in various cultures, has motivated us to revisit our research objectives and reformulate them into

hypotheses, which focus on interaction types and cultural dimensions identified by Hofstede and Hall. The results of tests will show if these hypotheses are supported or not in each study. This in turn will address research objectives and we would be able to debate if we have achieved the objectives of this research.

Testing our hypotheses would not be feasible if we do not have clear interactive design features applicable to websites and blogs. However, deriving them is not a trivial task and there is no literature, which can directly support us. Therefore, we propose a framework, which manages a whole process of deriving interactive design features. It should take into account definitions of interaction types, notion of cultural dimensions and hypotheses, which will help us to achieve research objectives, and should prescribe the steps, which derive interactive design features through interactivity dimensions.

The framework consists of six steps:

(I)   Defining Interaction Types applicable to our study: User to Interface (U2I), User to Content (U2C), User to Provider (U2P) and User to User (U2U) Interactivity (see subsection 4.1.1);

(II)   Defining Hypotheses which can be tested throughout our study in order to achieve research objectives, because we discovered in the literature that there are cultural influences on the four interaction types (hence hypotheses) (see subsection 4.1.2);

(III)   Deriving our own interactivity dimensions (see subsection 4.2.2) based on the prior research (see subsection 4.2.1);

(IV)   Mapping the interactivity dimensions from (III) to the four interaction types: U2I, U2C, U2P and U2U Interactivity and three interaction types B2I, B2C and B2B Interactivity (see subsection 4.2.3 and Table 18 and Table 19);

(V)   Deriving interactive design features from interactivity dimensions for charity websites (see subsection 4.3.1 and Table 20) and

(VI)   Deriving interactive design features from interactivity dimensions for Blogs (see subsection 4.3.2 and Table 21).

4.1.   Interaction Types and Research Hypotheses

4.1.1   Four Types of Interactions on Websites

In this subsection we define interaction types applicable to our study. We defined interactivity already as the extent to which two or more users' communication through system (e.g. website) and the extent to which the content can be chosen and manipulated simultaneously. Based on our working definition of interactivity we consider it on websites to be a subset of interactivity in general. It can be broadly defined as any action a user takes while visiting a website or functionality performed by the website. However, in website design we focus on the interaction between websites and users, and between users and either website provider or other users.

The types of interaction in this thesis have been adapted from the concept of three elements for information transmission (Berlo, 1960; Shannon & Weaver., 1949). They claim that the type of interaction can be determined by the relationship among three elements; source (user), medium (interface) and message (content). Source is "the communicator who has created the content or sender of communication content". Medium is "the channel through which the content is transmitted and shared". Message is "the content of communication". With these elements, interactivity can be conceptualised as a set of system affordances that allow users to change source, medium, and message of their communications by using the system (Sundar, 2004; Sundar, 2007). Based on this concept of three elements of interactivity, we have defined three types of interactivities from the communication process perspective, which should be applied in this research. It is similar to McMillan (2005)'s human to human, human to content, and human to computer interactivity.

However, it is believed that human to human interactivity includes interaction between the website provider or content creators (advertiser, instructor, and marketer) and users (audience, visitors) as well as interaction among website users themselves. In websites, users can interact with each other differently. They may interact with website provider or with other users depending on how interactive features/functions are implemented within the website for that particular purpose. Therefore, the interactivity conceptual framework described in this thesis is constructed upon four

types: *User to Interface (U2I), User to Content (U2C), User to Provider (U2P) and User to User (U2U) Interactivity.* Each dimension of interactivity is described below.

User to Interface (U2I) Interactivity

User to Interface (U2I) Interactivity signifies the interaction between a user and website's user interface. U2I is similar to navigational interactivity of Deuze (2003) that focuses on a user interface, allowing users to navigate a website through hyperlinks and menu bars. This dimension of the interactivity refers to various ways users choose from different options when browsing websites. Studies that focus more on the computer side of the human-computer interactivity tend to examine issues such as user interfaces and input devices (Laurel, 1990b; Nielsen, 2000; Schneiderman, 1998) and user choice related interactive features (Belkin et al., 1993; Steuer, 1992). It considers various design features provided on websites, which allow users to select and choose from, rather than manipulating or modifying content of the website, in order to make direct influence to the website design (i.e. according to the users' needs).

U2I interactivity is therefore defined as an activity which allows users to access and choose from different options which have been provided in websites.

User to Content (U2C) Interactivity

User to Content (U2C) Interactivity is considered to be similar to Liu & Shrum (2002b)'s *user to message* and Shedroff's (1999) perspective in which the user has ability to control and manipulate the content or the message. Users can engage with content of websites by editing and modifying its content in real-time (Steuer, 1992), which has been described as 'allowing users to express their opinion' (Chung, 2008).

U2C interactivity is therefore defined as an activity which allows users to modify and manipulate content of websites.

User to Provider (U2P) Interactivity

User to Provider (U2P) Interactivity denotes a partial user to user interactivity. U2P is a way of facilitating communication between individuals, who are often identified

through their roles, as either source or receiver (McMillan et al., 2008). U2P is also seen as the interaction between senders and receivers of messages (Haeckel, 1998; Morris & Ogan, 1996). In traditional media, like newspaper, this form of interaction is often explained with 'feedback' tools (e.g. letter) through which audience can interact with content creators (e.g. editors, journalists), owners or creators of websites by using e-mail, contact-us links and so on.

U2P interactivity is therefore defined as an activity which allows users to communicate with providers (creators) of websites.

The concepts of a provider and creator of websites may be different. For example, in case of charity websites a provider can be referred as the owner of the charity organisation while a creator of the websites can be a website designer rather than the owner of the organisation. Despite the possible differences, we have used two words synonymously in the study because we are only interested in the interaction between source (provider and creator) and receiver (user). As long as the source provides a certain feature or functionality, allowing that the receiver communicate with it, we do not need to differentiate between them.

User to User (U2U) Interactivity

User to User (U2U) Interactivity is related to a reciprocal communication in which users can interact with other users. Identified as an interpersonal interaction (Wells et al., 1995), it is considered as a higher level of interactivity. Like U2P this dimension of interactivity is inspired by what is often labelled a sociological definition of concept (Downes & McMillan, 2000), focusing on the ideal of face-to-face interaction as the default or standard from of interactivity (Walther & Burgoon, 1992). U2U interactivity distinguishes from U2P interactivity by considering communications between users (visitors, audience) rather than a provider or creator of websites. The important characteristic is audience participation and contribution through an interpersonal communication if desired (Chung, 2008).

U2U interactivity is defined as activity which allows users to communicate with other users who have visited websites.

4.1.2 Cultural Influences on Interaction Types and Hypotheses for the Studies

In this subsection we define hypotheses which can be tested throughout our studies. To assess cultural differences in the use of interactive design features, we adopt the cultural dimensions of Hofstede (1991) and Hall (1989), which have already been discussed in the review of existing cultural models. The four types of interaction (User to Interface (U2I), User to Content (U2C), User to Provider (U2P) and User to User (U2U)) defined in subsection 4.1.1 were applied on the cultural dimension which helped us to create hypotheses. They in turn supported the investigation of how differently interactive design features are used in websites in the two countries, SK and the UK. The each type of interaction and its possible cultural influence based on the cultural dimensions of Hofstede (1991) and Hall (1989) have been discussed below, which enabled us to propose four hypotheses.

U2I Interactivity and Hypothesis 1

U2I interactivity is related to user's one-way interaction with the interface of the websites. It allows users to access and choose a range of interface features in the websites. The concept of this interactivity is associated with choosing and simple clicking by users, who are faced with numerous choices (and their potential complexity). Although a user can input data or text within the website these actions do not affect its content.

Multiple design features can contribute to an interactive website experience. Design features should assist users with easy navigation of websites as users can easily feel "being lost" in poor design (Kim et al., 2009). A range of online interactive features such as clickable text, images, audio, video, active navigation bars provide interaction between users and interface of the website.

According to Hall (1989) High Context communication involves less information in the verbal part of the message such as in words, sentences, and grammar. In other words, the messages in the appropriate context are required in order to understand the right meanings conveyed in the messages. In Low Context communication on the contrary, the mass of the information is vested in the explicit code, that is in the

words, sentences, and grammar (Hall, 1989). Low context messages are likely to be more context-free and much more reliance upon the explicit communications (e.g. textual and verbal form) (Keegan, 1989), and less upon information about the background and values of the communicators (Hall, 1989). Most Asian cultures (e.g., Korean, Chinese, Japanese) who are considered as High Context cultures, have been found that they tend to take little interest in the coded, explicit part of the information message (Gudykunst & Nishida, 1986).

Hall's High or Low Context communication style preferences are reflected in websites design. The different communication styles were found in the comparison studies of website design between High and Low Context cultures. For example, a more likely use of indirect communication style, such as preference on images and visuals, is present in the High Context cultures, compared to the Low Context cultures, where direct communication style is favoured (Kim & Papacharissi, 2003; Singh & Matsuo, 2004; Würtz, 2005). In addition, these direct/indirect communication styles influence the transparency of interface of websites (Würtz, 2005). Würtz (2005) found that a detailed outline was provided in websites from Denmark as a Low Context culture, by using many intra-links, headings, sub-headings, and illustrations on the front page. She argued that these direct communication increased transparency of information on the webpage. On the contrary, the main page of Japanese websites described as High Context culture, comprised a limited amount of text and a large image. A user therefore, needs to perform an extra action, such as mouse-overs on the sparse text or the images in order to obtain further or more detailed information.

According to Mass (1983) transparency is a direct mapping between goal level and semantic level employed on a system. This indicates that *what a user wants to do correspond what user can do'* without making extra efforts in order to find the information they are looking for, from the user's goal perspective. Website transparency refers to the ease with which users can access the authenticity of the website content (Gant & Gant, 2002) and the apparentness and obviousness of user interface (Würtz, 2005).

Given the high context communication characteristics, a website from High Context cultures can be described as less transparent, since it depends on links and information described by a limited amount of text, and sometimes with a brief illustration. It often therefore, requires user's extra efforts to chase the information through exploration of the site, and actions such as mouse-overs (putting the cursor of the mouse over a link to reveal more information before clicking it). In contrast, a website from Low Context cultures can be described as more transparent since it provides a detailed overview of the site on the homepage. A large collection of links and clear descriptions of information on the homepage of the website make it possible for visitors to find immediately what they are interested in (Würtz, 2005). The less transparent websites are, the more users' efforts are required to find information, and that encourages more U2I interaction. In subsection 2.5.1 we have already specified that SK belongs to High Context culture whereas the UK to Low, we can assume that SK websites are more likely to employ a broad range of capabilities that secure more U2I interaction. Therefore our first hypothesis H1 is below.

H1. SK websites exhibit more interactive design features related to U2I interaction than the UK websites.

U2C Interactivity and Hypothesis 2

U2C interactivity is the interaction between a user and content, allowing users to input, modify and manipulate the content or messages in the websites. The website's content such as colours, graphics, and sounds can be modified by users to manipulate and customise messages (Cho & Leckenby, 1999) which in turn affects the website. More U2C interaction can be performed when a greater amount of information are provided on the websites.

Hofstede's (1991) High or Low Uncertainty Avoidance was applied to explain the cultural difference in U2C interaction. Uncertainty Avoidance is the extent to which the members of a particular culture feel threatened by uncertain or unknown situations. According to Hofstede (1991) people in Low Uncertainty Avoidance cultures tend to look for information and to engage in activity that will directly

resolve the uncertainty. They try to understand and discover aspects of the uncertain environment. Individuals in High Uncertainty Avoidance cultures, on the other hand, feel uncomfortable towards unfamiliar risks and develop a self-regulatory style that avoids uncertainty. When confronted with uncertainty they will depend on others or on heuristic methods more than on direct methods for resolving uncertainty.

Anxiety can be reduced by reducing uncertainty, which facilitates effective and successful communication. The communicative strategies for reducing uncertainty vary across cultures. People in High Context cultures tend to look to the environmental, socio relational and perceptual contexts for information to lessen uncertainty. In contrast, people in Low Context cultures are more likely to depend on verbal information seeking strategies, usually by asking lots of questions (Gudykunst & Kim, 1997).

In websites, it is therefore expected that the more personally relevant or uncertain situation exists, the more Low Uncertainty Avoidance oriented cultures will be actively engaged in the website in order to reduce uncertainty by inputting, searching or editing content or messages. In addition, the activity of changing or manipulating of the content is connected to a possible error which brings about user's insecurity. According to Hofstede (1991) SK is a High Uncertainty Avoidance culture, whereas the UK is Low Uncertainty avoidance oriented. Therefore our second hypothesis H2 is below.

H2. The UK website exhibit more interactive design features related to U2C interaction than SK websites.

U2P Interactivity and Hypothesis 3

U2P interactivity denotes a partial user to user interactivity. It was defined as an activity which allows users to communicate with providers (creators) of websites. The user to provider interactivity is a way to facilitate communication between individuals who are often considered by their roles as either source or receiver (McMillan et al., 2008). It is the interaction between senders and receivers of the

messages (Haeckel, 1998; Morris & Ogan, 1996). In traditional media like newspaper, this form of interaction is often explained with 'feedback' tools (e.g. letter) through which audience can interact with content creator (e.g. editors, journalists), the organisation or the creator of the website, and the users through e-mail, contact us links and so on.

Hofstede's (1991) Power Distance has been employed with regard to cultural divergence in U2P interaction. The Power Distance dimension is related to how power is organised in society and how differential rewards are between high and low status people. Hofstede (1991) defined power distance as "the extent to which the less powerful members of institutions and organisations within a country expect and accept that power is distributed unequally" (p.28). It addresses the degree to which equality or inequality of power is accepted within society and organisations. Like in Hofstede, Schwartz (1994), this cultural values theory suggested hierarchy versus egalitarianism, describing to what extent equality is valued and expected and personal responsibility is guaranteed to preserve the social order. In hierarchical societies, roles are used to assure responsible behaviour and unequal distribution of power. Values like social power, authority, humility and wealth are highly important in hierarchical societies. There is the underlying assumption that individuals must accept their hierarchical roles and the distribution of resources and the need for conformity with laws and rules. On the contrary, in egalitarian societies people are socialised to cooperate and to feel concern for everyone's welfare. Values associated with egalitarian societies include social justice and caring for the weaker members of the society, honesty, social responsibility and voluntary cooperation. In egalitarian societies individuals are seen as more equal.

People in High Power Distance cultures (e.g. SK) are more likely to be comfortable with a larger differential status than in Low Power Distance cultures. In High Power distance cultures there is a propensity to have a vertical, hierarchical and unequal social structure focusing on social status and authority. On the contrary, Low Power Distance societies (e.g. the UK) are likely to be horizontal and equal social structure emphasising on egalitarian, equal rights and less hierarchy. In these countries, subordinates tend to challenge bosses and consultation between them is common (Hofstede, 1984).

In the context of websites, the inequality situation can occur in the relationship between a user and provider. Users are less authoritative and powerful because they have limited control and restriction on the content of the websites. On the other hand, providers are authoritative and powerful because they can create and control content of the websites. In subsection 2.5.1 we have already specified that SK belongs to a High Power Distance country whereas the UK to Low. Given the disposition of cultural differences, it is reasonable to infer that in the UK, as a Low Power Distance country, there is equality between a user and provider interaction. Compared to SK websites, the UK websites therefore, may tend to minimise the distance between a user and provider in order to promote egalitarian and horizontal relationships between the two groups. Therefore our third hypothesis H3 is below.

H3. The UK websites exhibit more interactive design features related to U2P interaction than SK websites.

U2U Interactivity and Hypothesis 4

U2U interactivity is an activity which allows users to communicate with other users who have visited websites. It is related to the two-way, reciprocal communication. Identified as interpersonal interaction (Wells et al., 1995), it is considered to be a higher level of interactivity. User to user interactivity distinguishes from user to provider interactivity by considering communications between users (visitors, audience) rather than organisation or creator. In the context of website, the design features can be characterised through online message board (BBS), chat room (Liu & Shrum, 2002, McMillan 2008, Rafaeli, 1988), e-mail links to friend (Liu & Shrum, 2002, McMillan 2008), online community, online forum, product user groups (Cho & Cheon, 2005). The important characteristic is audience participation and contribution as active agents through interpersonal communication if desired (Chung, 2008).

According to Hofstede (1991) in Individualistic societies, people tend to identify themselves as individual entities rather than group members, and ties between individuals are loose. Individual focuses on self-reliance, personal freedom and

personal achievement over the groups (Hofstede, 1991). People from Individualistic cultures are likely to be independent from in-groups, and affiliate and pull out their relationships with less restriction depending on their individual preferences (Triandis, 1986, 1989). Their goals and performance take priority over group goals and harmony when the two are in conflict. In contrast, people from Collectivist societies tend to be group interdependent and tightly integrated. In a Collectivistic culture, collective or group centred aims and norms take priority over individual goals and tasks. They have a tendency to form tight and intensive in-group relationships and therefore such in-groups narrow their size and numbers (Triandis, 1989).

There are popular proverbs that represent individualism and collectivism respectively: "the squeaky wheel gets the grease" and "the nail that stands out gets pounded down" (Markus & Kitayama, 1991). As a figurative expression *the squeaky wheel* indicates people who state their own opinion actively and enforces their rights. The proverb says that more benefits and attention will go to the one who expresses his/her own opinions more loudly and vigorously. On the contrary, the latter proverb represents a social norm and group harmony. If a person (a nail) that goes against group orientation (stands out) either in a positive or negative way, he/she will be criticised by members of group. Therefore, the person should adjust himself/herself to group values and orientation to blend in with his/her environment.

Given this cultural difference in the proverbs above, Collectivistic cultures are more likely to form intensive in-group relationships, activities and interaction than Individualistic cultures. In the context of website, it is expected that content of Collectivistic cultures may contain more respecting family values and emphasise community features. In contrast, website design of Individualistic culture may focus more on self-expression options, individual customisation and topics (Singh & Baack, 2004). In subsection 2.5.1 we have already specified that SK belongs to a High Power Distance country whereas the UK to Low. According to Hofstede (1991) SK belong to Collectivistic culture, whereas the UK belongs to Individualistic cultures. It is therefore reasonable to assume that the SK websites belonging to a culture exhibiting a relatively high level of collectivism will be more likely to focus on collectivistic relationship and activities among users, accommodating more U2U interaction. Therefore our fourth hypothesis H4 is below.

H4. SK websites exhibit more interactive design features related to U2U interaction than the UK websites.

Summary of Interaction Types and Hypotheses

Table 16 gives a summary of interaction types, their definitions and hypotheses that have been applied to our main studies. The readers must note that U2I, U2C, U2P and U2U interactivity have been applied to the *Charity 06 Study* and the *Charity 12 Study* while B2I, B2C and B2B interactivity have been applied to the *Study of International Blogs* and the *Study of SK and UK Blogs.*

Table 16. Interaction types, their definitions and hypotheses applied to our studies

Interaction type	Definition of interaction type	Hypotheses
U2I (User to Interface) B2I (Blogger to Interface)	An activity which allows users to access and choose from options which have been provided in websites	H1: SK websites exhibit more interactive design features related to U2I interaction than the UK websites.
U2C (User to Content) B2C (Blogger to Content)	An activity which allows users to modify and manipulate content of the websites	H2: The UK websites exhibit more interactive design features related to U2C interaction than SK websites.
U2P (User to Provider)	An activity which allows users to communicate with provider (creator) of websites	H3. The UK websites exhibit more interactive design features related to U2P interaction than SK websites
U2U (User to User) B2B (Blogger to Blogger)	An activity which allows users to communicate with other users who have visited websites.	H4. SK websites exhibit more interactive design features related to U2U interaction than the UK websites.

4.2. Deriving Interactivity Dimensions and Mapping them to Interaction Types

In this subsection 4.2 we discuss various interactivity dimensions from the literature in order to create our own interactivity dimensions and map them to the four interaction types which were identified in subsection 4.1.1. This will help us determine interactive design features in websites and blogs.

4.2.1 Interactivity Dimensions on Websites

In the text labelled interactivity on websites in subsection 2.4.3 we elaborated on studies, which identify interactive features on websites (Ha & James, 1998; Massey & Levy, 1999; McMillan, 2002b) and noted that in an early attempt to define interactivity, Heeter (1989) suggested six elements form the functional perspective of the Internet. Although his ideas are focused on the Internet, we can still use them on websites, because they provide some useful concepts applicable to websites. Here are his six dimensions of interactivity:

A. Complexity of available choice, meaning the amount and variety of user choices; also referred to as "selectivity".

B. The effort that any user of a media system must exert to access information.

C. Responsiveness, also referred to as the degree to which medium can react responsively to a user.

D. Information use monitoring, meaning how successfully information selection can be monitored across an entire population of users.

E. Ease of adding information, meaning that the degree to which users can add information for access by a mass audience. The most common example is Bulletin Board Systems (BBS) that are encompassed almost entirely of user-generated content.

F. Interpersonal communication facilitation, which includes two forms: asynchronous (allowing users to respond to messages at their convenience) and synchronous (allowing for simultaneous participation).

Several researchers have studied the understanding of interactivity in business websites. Ha & James (1998) for example, analysed business websites' interactivity and identified its six dimensions of interactivity through different communication needs as follows (cited in Chou (2003)).

a) Playfulness - is measured by the occurrence of curiosity-triggered formats such as Q and A and games.

b) Choice – results in an internal emotional sense of satisfaction of visitors, which is closely related to the dimension of playfulness. The choice dimension is examined by the number of substitutes for colour, speed, language, and non-informational aspects.

c) Connectedness - is examined by the presence of information about the product, company, third-parties, and other content of interest to visitors.

d) Information collection - is based on the perspective of website providers, not users. It is examined by the presence of monitoring mechanisms.

e) Monitoring mechanisms -is similar to information collection. Its examples are a) tools by which a website provider can record who has visited the website (e.g. a visitor registration) and b) counters which display the number of visitor to a website allowing visitors to retrieve the traffic statistics of the website.

f) Reciprocal communication - is examined by the presence of response mechanisms such as the webmaster's email address, surveys, and purchase orders, chat rooms. Response mechanisms are described by tools through which the visitor can communicate with the website owner.

The dimensions in a)-f) are focused on websites, therefore they provide us with valuable interactivity measurements in that context.

In addition, Ghose & Dou (1998) focused on the role of interactivity in improving website quality. After examined the actual interactive features in corporate websites they found 5 main interactive functions and each of them has further sub functions, which amounts to the total of 23, therefore become a very comprehensive list with all possible interactive functions that can be found in business websites.

I. Customer support - software downloading, online problem diagnostics, electronic-form inquiry, order status tracking, comment, feedback

II. Marketing research - site surveys, product survey, new-product proposal

III.   Personal-choice helper - keyword search, personal-choice helper, virtual reality display, dealer locator

IV.   Advertising/promotions/publicity - electronic coupon, user groups, online order, sweepstakes/prize, multimedia shows, push media, interactive job placement

V.   Entertainment - electronic post card, surfer posting, games.

4.2.2   Deriving Our Own Interactivity Dimensions

In this subsection we create our own interactivity dimensions. The source of our interactivity dimensions is primarily from our literature review. We reviewed existing dimensions of interactivity, which have been derived from the research focused on the Internet in general, on corporate and business websites. They are all itemised through three groups: A.-F, a) - f) and I- V. in subsection 4.2.1.

This itemisation is not very suitable for our studies for three reasons. Firstly, some of dimensions overlap between the groups. Secondly, vocabulary used in these itemised dimensions is specific to the studies which identified them and it is difficult to re-use their exact words in our research. Thirdly, some of the itemised dimensions are more important in our research than others and therefore it is more appropriate to merge their overlapping concepts of interactivity into our own dimensions. Consequently, our own interactivity dimensions are defined through our own vocabulary and their presence in our list of dimensions is dependent on the purpose of our study. However, we try to use the itemised dimensions from A.-F, a) - f) and I- V as much as we could which is illustrated below.

The seven dimensions of interactivity in websites have been created based on the prior literatures (Ghose & Dou, 1998; Ha & James, 1998; Heeter, 1989; McMillan, 2005). They are

- *Choice Availability* (derived from A, b), III)
- Possibility of Adding Information (derived from E)
- *Information Access* (derived from B, c), IV)
- *Interpersonal Communication* (derived from F, f), I, II)

- Monitoring Information Use (derived from D, d), e))

- *Responsiveness to Users* (derived from C, V, a))

However, we introduced one additional interactivity dimension from other sources, because they are needed for our choices of interaction types, but they do not exist in the literature reviewed in subsection 4.2. Consequently, we added

- *Personalisation/Customisation* (derived from Greer & Murtaza (2003) and Wiedmann et al. (2002))

We give an example which justifies our own naming of interactivity dimensions in the bullets above, which, at the same time, addresses issues from 1)-3) above. For example: the Choice Availability dimension is used under the name of Complexity of choice by Heeter (1989) but it was named as Choice and Connectedness by Ha & James (1998) and Content availability and choice by Hashim et al. (2007).

In the next seven paragraphs, we provide definitions of our interactivity dimensions, referenced with appropriate sources and summarise them in Table 17.

Choice Availability - is a concept similar to the one defined by Heeter's and coined as "complexity of choice" (Chung & Zhao, 2004; Heeter, 1989). The *choice availability* enables an individual to choose among numerous types of information and options and menus (which can be associated with various services available on websites). In websites, this dimension provides options which minimise user effort for a particular task being performed. When users encounter different alternatives during the websites navigation, they will feel welcome and respected. They therefore are likely to spend more time at the website, exploring alternatives and engrossing its content.

Possibility of Adding Information–allows users to add information (e.g. data, text, video, audio etc) to websites and their contents by sending posts to a Bulletin Board Systems (BBS) or guest book that are encompassed almost entirely of user-generated content.

Information Access - allows users to access information by various navigational tools. The hypertext in websites allows website users to jump from one point to another with little effort in cyberspace (Snyder, 1997), therefore, users can have more interaction with the websites. Steuer (1992) claimed that users can interact with website content as though actually exist in a natural environment when the hypertext and images are appropriately mapped. The information access is examined by various types of navigational tool bar (McMillan, 2005).

Interpersonal Communication – is a concept similar the one coined as "reciprocal communication" by Ha & James (1998). Users can communicate to each other asynchronously or synchronously. Interpersonal communication here has two aspects: a) the interaction between users (e.g. visitors) and the website provider or webmaster, and b) the interaction between users (e.g. visitors) themselves. Therefore, the interactive capability of websites allows a user to send a message to the website provider/webmaster or other users or vice versa. If the reciprocal communication is proactive between the website user and its owner, the website will be more able to respond to the specific needs and requests of users, which help to increase the perceived interactivity. The interpersonal communication is measured by bulletin board, guestbook chat room, email to webmaster, survey etc.

Monitoring Information Use– allows collecting and monitoring data of users, their choices and use of information. Data gathering is becoming more important to companies and organisations because such data can allow them to tailor messages and information according to users' interest and their prior knowledge levels. In the context of websites, information can be collected in the form of admission requirements such as registration, or website tracking without users' awareness such as cookie files (Dreze & Zufreyden, 1997). It can also be measured by hit counters or visitor counters (which are run by a website provider) which are the ways to capture users' interests on relevant information or the websites.

Personalisation/Customisation - allows users to personalise the page of websites and contents according to their interests as the capability to specific customers' tailored information (Greer & Murtaza, 2003). Customisation leads to a highly interactive experience. The personalisation may be done by users through a registration process.

Personalisation options of websites range from choosing topics and alerting/updating via emails, community information and/or events calendar. From these activities, users' profiling (Wiedmann et al., 2002) can be developed, which is a key factor to identify their demographic and behavioural analysis. The features such as "one click" or "My Yahoo" are good examples of personalisation (Palmer, 2002).

Responsiveness to Users - is the level of responsiveness between users and a webmaster or provider of websites. According to Rafaeli (1988) interactivity is a continuous variable measuring how "actively responsive a medium is to users". With appropriate design features websites can be responsive to users' needs. Responsiveness here refers to websites allowing users to receive something they requested.

Table 17. Seven interactivity dimensions, their definitions and sources employed in our study.

Interactivity dimension	Definition	Source
Choice Availability	Users can choose from numerous formats of information and various services available on the website.	Complexity of choice (Ha & James, 1998; Heeter, 1989), Choice and Connectedness (Ha & James, 1998), Content availability and choice (Hashim et al., 2007)
Possibility of Adding Information	Users can add information to the content of the website.	Ease of adding information (Heeter, 1989)
Information Access	User can access information using various navigational tools.	Users efforts to access information (Heeter, 1989), connectedness (Ha & James, 1998), Navigation (McMillan, 2005)
Interpersonal Communication	Users can communicate each other asynchronously or synchronously.	Interpersonal communication (Heeter, 1989), reciprocal communication (Ha & James, 1998)
Monitoring Information Use	The site can collect and monitor data of users, their choices and their use of website information.	Monitoring information use (Heeter, 1989), Information collection (Ha & James, 1998)
Personalisation/ Customisation	The site allows users to personalise the page of site and content according to their interests.	Personalisation availability (McMillan, 2005), Customization (Hashim et al., 2007)
Responsiveness to Users	The site allows users to receive response to their requests.	Responsiveness to users (Heeter, 1989), Responsiveness (Rafaeli, 1988)

4.2.3   Mapping the Interactivity Dimensions to Interaction Types

In this subsection we address (IV) from Chapter 4. It is important to note that we perform the same procedure of mapping interaction types to interactivity dimensions for websites and blogs. The only difference is in the set of interactive types for blogs, where one of them is obviously redundant. The results of mapping are shown in two tables below (Table 18 and Table 19).

In Table 18 we show our way of mapping between Interaction types and our own interactivity dimensions given in the first column of Table 20 for websites. The rationale behind the mapping is twofold:

Firstly, we had to use definitions of interaction types from subsection 4.1.1 and their shorter versions given in Table 16 and map them to the set of interactivity dimensions from Table 18.

Secondly, we had to use our own judgement in mapping if we found out that the definitions of interaction types are either not detailed enough or each interactivity dimension should find its place within at least one interaction type.

Table 18. Mapping of interaction types to interactivity dimensions for websites

Interaction type	Interactivity dimension
U2I (User to Interface)	Choice availability Information access Monitoring of information use
U2C (User to Content)	Personalisation/customisation Possibility of adding information Responsiveness to users
U2P (User to Provider)	Possibility of adding information Interpersonal communication
U2U (User to User)	Possibility of adding information Interpersonal communication

U2I Interactivity has been mapped with three interactivity dimensions: Choice Availability, Information Access and Monitoring of Information Use. The U2I was defined as "users to access and choose from different options" therefore, Choice Availability and Information Access interactivity dimensions are obvious to

determine. *Monitoring of Information Use* interactivity dimension may not require a user's direct activity with interface of websites. However, users' choices and use of information can be collected and monitored.

U2C Interactivity has been mapped with three interactivity dimensions: *Possibility of Adding Information, Personalisation/Customisation* and *Responsiveness to Users.* The definition of the U2C states "users to **modify** and **manipulate** content" therefore, whether or not a user can *add information* into the website is an essential dimension. Through adding or editing activity, a user also can receive response to their requests, which is therefore associated with *Responsiveness to Users* interactivity dimension. *Personalisation/Customisation* is accommodated by users' direct input activity as a result, the content of the webpages or websites can be manipulated according to what users have input.

U2P and U2U Interactivity both have been mapped with two interactivity dimensions: *Possibility of Adding Information* and *Interpersonal Communication.* It is important to be able to *add information* in order to interact with the provider or other users. As both interactivities deal with interaction between users and users (e.g. visitor or the website provider), *Interpersonal communication* is also obvious interactivity dimension.

In Table 19, we show our mapping between Interaction types for blogs and the same interactivity dimensions given in the first column of Table 17 for websites. Our assumption is:

a) There is no need to create new interaction types for blogs because blogs are websites which simply may have a difference purpose.

b) If we were expecting any differences between websites and blogs in terms of interactivities available within them, it is likely that we will find them within specific design features and not within their interactivity dimensions (dimensions are more abstract and features are more specific).

c) If we scrutinise interaction types and have a different list of them for blogs (one interaction type in the first column of Table 18 has no counterpart in Table 19), then we can expect that the mapping between types and dimensions for blogs is correct!

Table 19. Mapping of interaction types to interactivity dimensions for blogs

Interaction type	Interactivity dimension
B2I (Blogger to Interface)	Choice availability Information access Monitoring of information use
B2C (Blogger to Content)	Possibility of adding information Personalisation/customisation Responsiveness to users
B2B (Blogger to Blogger)	Possibility of adding information Interpersonal communication

There are two important notes related to Table 19:

- We use the term 'Blogger' instead of 'User' for this interaction type because a user who is blogging is also known as a 'Blogger', and;

- Blogger to Provider (B2P) interactivity was not included for blogs because we are interested in finding how bloggers use interactive design features within their own blogs. A blogger is both a user and a provider in his/her blogs and therefore we are not interested in finding out how blog hosting sites are using such features. Moreover, we explored the cultural differences within one internationally known and popular blog site (Blogger.com), which is the same provider for both countries, SK and the UK.

4.3. Deriving Interactive and Other Design Features

4.3.1 Deriving Interactive Design Features for Charity Websites

In this subsection we derive interactive design features from interactivity dimensions for charity websites. We have identified 24 website interactive design features in charity websites, based on the work of Ghose & Dou's (1998)'s 23 items, the findings of Ha & James (1998), Hashim et al. (2007), and the observation of our *Pilot Study* described in Chapter 3. They have been grouped into four interaction types: U2I, U2C, U2P and U2U interactivity which were introduced in subsection 4.1.1. However, in order to identify which interactive design feature belongs to which interaction type we used interactivity dimensions as introduced in subsection 4.2.2.

In order to identify interactive design features in websites, according to interaction types, we

(i)   Use the content of the Definition column of Table 17, which describes each interactivity dimension, and

(ii)   Generate interactive design features which fit to that interactivity dimensions (see Table 20).

We look at each Interaction Type separately. This means that we are able to take all interactivity dimensions, for each Interaction Type as it is defined in subsection 4.3.1 and perform (ii), by using definitions as stated in (i). Table 20 summarises the framework of interaction types, their interactivity dimensions, and identified interactive design features for charity websites, which have been applied to our studies (*Charity 06* and *Charity 12 Studies*).

The U2I Interaction Type has three interactivity dimensions: *Choice Availability, Information access and Monitoring of information use* as shown in Table 18.

The definition of the *Choice Availability* interactivity dimension from Table 17 states that users are able to choose from "numerous **formats** of information and various **services**" that are available on a particular website. From this description, we are able to generate three interactive design features, which are associated with **formats**

and **services**. From "**numerous formats**" in the definition we deduced that "formats" of information in websites may apply to fonts (size and type), version of websites (text and mobile) and multimedia (animation, audio and video). Furthermore, in the U2I interaction type we do have opportunity to "**choose from**" rather than manipulating or modifying the content of websites, therefore we have decided to look for **services** within websites, which will give support for languages other than the native language of a particular website. The reason for creating the interactive design feature which offers "support for languages other than native" is threefold. Firstly, the *Pilot Study* showed that English language version was provided additionally in the SK KBS broadcasting website from the *Pilot Study*. Secondly, the feature were also identified in (b) from subsection 4.2.1. Thirdly, one of the main manifestations of culture is its language and therefore it must not be overlooked in our study. We agree that native languages are naturally culturally specific. However, support for other languages, other than native, might be a website design feature relevant to our study because it can emphasise cultural differences between the UK and SK in terms of using any other language in their website design.

Consequently, in Table 20 under the *Choice Availability* interactivity dimension we list 3 interactive design features in its rightmost column:

1. Available options for font size, font type, text version, mobile version of the website;
2. Available format of multimedia: animation, audio and video and
3. Support for languages other than native language.

Looking at the *Information Access* interactivity dimension from Table 18, which also belongs to the U2I interactivity, its definition states that users can access information through various navigational tools. We have generated 6 interactive design features from this particular interactivity dimension. From "**navigational tools**" in the definition of the *Information access* interactivity dimension, we deduced that there will be 3 different types of navigational tools such as links, pop-up windows and navigational tool bars, which have also been found from the *Pilot Study* and prior literature review of design features related to cultures and interactivity on websites.

Owing to the purpose of our chosen websites (charity organisation), we are interested in accessing information which are related to the domain of charity and their donors. Therefore we should examine all links which can take us to

- lists of donors and
- Information which explains how their donation is being used.

Furthermore, navigational tool bars may be of different types therefore, we distinguished amongst them as defined in our *Pilot Study* into pull down, rollover and text only.

Consequently, in Table 20 under the *Information access* interactivity dimension we list 6 interactive design features in the rightmost column:

4. Links to donors list
5. Links to how donation used
6. Pop-up window
7. Pull down navigational tool bar
8. Rollover navigational tool bar
9. Text only navigational tool bar

Finally, the last interactivity dimension of the U2I interaction type is named *Monitoring of Information Use,* which has been described in Table 17 as ability to "collect and monitor data of users, their choices and their use of website information". We converted it into only one interactive design feature named 'Visitor counter' as the also identified in (e) from subsection 4.2.1. It is obvious that 'Visitor counter' itself can only count the number of users visiting websites, and it cannot perform any type of monitoring. However, the collection and monitoring of manipulation of information on websites could be performed through various websites file logs, which cannot be available for our inspection, i.e. they are simply not observable items. Therefore, the last interactive design feature of the U2C interaction type is

10. Visitor counter

Table 18 shows the U2C Interaction Type has three interactivity dimensions: *Possibility of Adding Information, Personalisation/Customisation* and *Responsiveness to Users.*

The definition of the *Possibility of Adding Information* states that users must be able to **add** information to the content of the website. The most obvious interactive design feature, for this interactivity dimension in terms of the U2C, is when users add their own information while signing-in a particular website, using the 'Site Registration' facilities. However, users can also add their own words when they use Keyword search facilities within the website, and if they appear to be donors for charities, they will use facilities, which manage their donations. Consequently all three interactive features, 'Site Registration', 'Keyword search' and 'Donation capability', may belong to the *Possibility of Adding Information* interactivity dimension.

Look at the definition of the *Personalisation/Customisation* interactivity dimension, it is clear that 'Site Registration' is an essential design feature if we wish to allow users to personalise pages in websites, which might result in personalisation of contents of the websites as identified in subsection 4.2.1.

The *Responsiveness to Users* is defined as an interactivity dimension, which allows users to receive response from websites, when they either ask questions or expect services. 'Keyword search' and 'Donation capability of website' are obvious design features which can characterise this interactivity dimension.

Consequently, in Table 20 under the U2C interaction type we have 3 interactive design features in the rightmost column:

11. Site registration (e.g. sign in)
12. Keyword search
13. Donation capability of website

The U2P Interaction Type has two interactivity dimensions: *Possibility of Adding Information* and *Interpersonal Communication*. It is important to note that

a) The *Possibility of Adding Information* dimension in U2P does not necessarily generate the same design features as in U2C (note that interaction types may share interactivity dimension, but It may not share design features).

b) Both dimensions *Possibility of Adding Information* and *Interpersonal Communication* share the same interactive design features. This is because the *Interpersonal Communication* should always include various types of adding users' own information to the website.

The *Interpersonal Communication* interactivity dimension (which subsumes Possibility of Adding Information) is defined in Table 17 as a facility, which enables users to **communicate** with each other, and in the case of U2P, it is actually a communication between users and website providers. This communication can be synchronous or asynchronous. In order to list design features which fit to this description, we used some design features identified in I and f) from subsection 4.2.1.

However, there is one interactive design feature, which has not been found in our literature, but it belongs to the U2P interaction type. Links to Web 2.0 sites such as Facebook and Tweeter appeared lately as buttons in almost all websites, including charities. They are important part of the U2P communication and should be considered in our studies. They could not exist at the time when sources in our literature were created, because the proliferation of social networking in businesses and public sector is a relatively new phenomenon.

Consequently, Table 20 shows all interactive design features for the U2P interactivity in its rightmost column:

14. Sign in newsletter
15. Email to Webmaster
16. Email to organisation agent
17. Bulletin board systems (BBSs)
18. Chat room function
19. Electronic-form inquiries/ comments on the site or provider
20. Online poll or survey
21. Links to Web 2.0 sites (e.g. facebook, youtube etc)

Table 20. Charity websites interactive design feature framework: interaction types, interactivity dimensions, and identified interactive design features in charity websites applied as in Charity 06 and Charity 12 Studies

Interaction type	Interactivity dimension	Interactive design feature in website
U2I (User to Interface)	Choice availability	1. Available options for font size, font type, text version, mobile version of the website 2. Available format of multimedia: animation, audio and video 3. Support for languages other than native language
	Information access	4. Links to donors list 5. Links to how donation used 6. Pop-up window 7. Pull down navigational tool bar 8. Rollover navigational tool bar 9. Text only navigational tool bar
	Monitoring of information use	10. Visitor counter
U2C (User to Content)	Personalisation/customisation Possibility of adding information Responsiveness to users	11. Site registration (e.g. sign in) 12. Keyword search 13. Donation capability of website
U2P (User to Provider)	Possibility of adding information Interpersonal communication	14. Sign in newsletter 15. Email to Webmaster 16. Email to organisation agent 17. Bulletin board systems (BBSs) 18. Chat room function 19. Electronic-form inquiries/ comments on the site or provider 20. Online poll or survey 21. Links to Web 2.0 sites (e.g. facebook, youtube etc.)
U2U (User to User)	Possibility of adding information Interpersonal communication	22. Chat room function 23. Function for creating online community 24. Email to other users

The U2U Interaction Type has the same two interactivity dimensions: *Possibility of Adding Information* and *Interpersonal Communication* as the U2P interaction type. However, not all design features from the U2P may be used in this interaction type because we have to choose the ones where we can replace a provider with a user. Consequently only two design features: 'Chat room function' and 'E-mail to other users' (instead of webmaster from the U2P) are qualified to be in this interaction type. The additional design features in the U2U, which is not applicable in the U2P type is

'Function for creating online community'. It has been derived from the literature from subsection 4.1.1.

Consequently, Table 20 under the U2U interaction type we have 3 interactive design features in the rightmost column:

    22. Chat room function

    23. Function for creating online community

    24. Email to other users.

4.3.2   Deriving Interactive Design Features for Blogs

In this subsection we derive interactive design features from interactivity dimensions for Blogs. Due to unique characteristics of blogs, we overview the origin and definition of blogs and their functionalities followed by identify blogs interactive design features.

The origin and definition of Blogs

Blogs (also known as weblogs) have become increasingly popular in the last decade. Although it is not clear when the blog originated exactly, it seems the most of us agree that the term weblog was first coined by Jørn Barger in 1997 (Blood, 07 September 2000; Herring et al., 2004). As an amateur James Joyce scholar and interactive fiction theorist, Jørn Barger used the word "weblog.html" in the end of his message that was announcing to start a log of his web surfing experience (Jerz, 17 February 2003). The shorten term blog started in use in early 1999, when Peter Merholz pronounced the word as "wee-blog" in order to distinguish it from website log files.

Blogs are created and maintained by an individual, and their contents focus on the creator's interests (Herring et al., 2004). They are a means for self-expression and sharing knowledge with people across the world on the Internet. Although blogs are like current websites in terms of various styles, looks and themes, they are fundamentally different in a way they acquire a socially-transformative and

democratising (Herring et al., 2004). Blogs are considered as alternative sources of news and opinions by journalists (Lasica, 2001).

Barrett (26 September, 1999) defines a blog as "a small web site, usually maintained by one person, that is updated on a regular basis and has a high concentration of repeat visitors. … highly focused around a singular subject, and underlying theme or unifying concept" (p.25).

Jerz (17 February 2003) refers to "a textual genre native to the World Wide Web, comprising a regularly-updated collection of links to other documents, together with commentary that evaluates, amplifies, or rebuts the off-site information."

Functional characteristics of blog

As equivalent of online journal or diary blog has regular entries with text and increasingly include videos, music, audio and photos. A blog allows visitors to reply to other bloggers' messages. It offers an self-managed space that is not controlled by gatekeepers (Ferguson & Howell, 2004). The prevalent availability of ease to use software has brought about an increase in blogging (Drezner & Farrell, 2004)

Blogs has various functions. In general blogs are defined as frequently modified website in which dated entries are organised in reverse chronological order (Blood, 2002; Herring et al., 2004; Walker, 2003). Blogs are often updated frequently with daily posting, where each entry and post can be saved as an HTML document having a specific link as a permalink for easy publication. Moreover, posted articles can simply be categorised and networked by trackback, a link to other bloggers' postings that discuss on it and link to the original bloggers' entries (Kim, 2004).

Although the current design elements of blogs can be changed over times, there are six essential functions of blogs (Lee, 2004). They are:

1) **Archives** that make recent postings appear first.
2) **Comment system** that allows visitors to make comment and reply on postings.
3) **Categorisation of postings** that classifies the postings of the blog.

4) **Permalink** through which each posting can be saved as HTML document having a specific link and visitors can move to the original article and blogs that locate in head or back link of posting.

5) **Trackback** that allows to list postings on other blogs that have referenced a particular posting, which therefore, contributes to create a powerful community in the same interest.

6) **Search tool** that allows to search for pervious postings and to give a guide to who has visited blogs through web searching.

Blogs change and challenge the way how conventional mass communication works. In the previous mass communication model, professionals decide what information or news is going to be published and what is not, but this does not apply in blogs any longer. This is because hundreds of thousands of ordinary people can easily create their own webpage in which they post their thought, opinions freely. In addition, they communicate with others by commenting and evaluating each other's post. Therefore, blogs are an easy and inexpensive self-publication tool which allowing people who do not have special computer programming skills to participate in and put their opinions easily and efficiently to the community across the world. They have also more flexibility and interactivity than prior publication devices (Herring et al., 2005).

The interconnectivity of blogs allows a blogger to connect each other by so called permalink forming a blogosphere – the term used to describe the overall universe of blogs. "Social interaction" has been emerged with blogs linking to other blogs (William et al., 2005).

The widely prevalent easy-to-use software has brought about the dramatic proliferation of blogs (Kahn & Kellner, 2004). The number of blogs has grown significantly since 1999, when there was an estimate less than 50 blogs (Drezner & Farrell, 2004). In 2004, it was estimated there were over 4 million blogs (Technorati, 2004). Less than three years later, in April 2007 according to Technorati (2007), a site to track blogs, there were over 70 million blogs globally and around 120,000 new blogs were created daily. It is not easy to calculate accurate overall numbers but it was tracked over 181 million blogs around the world in 2011, which was risen from 36 million in 2006 (NMIncite, 2012).

Blogs are personal sites that allow self-disclosure so that people can observe and share thoughts about their on- and off-line life (Qian & Scott, 2007). Many bloggers include personal identification in their blogs such as a name, age, occupation and geographic location (Herring et al., 2004; Trammell & Keshelashvili, 2005). Pseudonyms are sometimes used to preserve the identity. In addition, blogs are online diaries of self-representational writing (Serfaty, 2004). Bloggers write about their life experiences and thoughts, and share these writings with other people. Such public disclosures of people's identity, their private experience and thoughts may engage some risks and lead to real-life consequences (Viégas, 2005).

Many blog-hosting sites like Bloggers (www.blogger.com) allow their users to put restrictions on who can add comments to their articles. For example, some authors may allow all visitors (anyone) to comment on their posts whereas some may only give permission to people who have been registered to the same blog service. Depending on the author's preference and attitudes, the comment facilities to an entry may not be allowed at all. In some particularly interesting posts, for instance, a long line of comments can be found, producing a sense of community.

Bloggers often search for people's views and responses, and update others on activities (Nardi & Gumbrecht, 2004). The links to other sites of personal homepages, for example their interests' list, are considered as a means of enabling social relationships (Dominick, 1999). Similarly, other functions like blogrolls (a list of URLs of other blogs), trackbacks and comment facilities enrich a blogger's connections. Many bloggers interact with each other sufficiently to create a sense of community (Blanchard, 2004).

There are various blog hosting providers which can be chosen by users according to their preferences. Some of them are free open source (e.g. WordPress, Blogger.com etc.). They often offer their own typical design format but this can be modified using templates which are provided by the provider. Such a template helps users to choose and apply to their blog in no time.

Most of the research on blogs focused either on the type of the blogs and the structural attributes of the blogosphere (Blood, 2002; Herring et al., 2005; Krishnamurthy, 2002) or on individual motivations and characteristics (Herring et al., 2004; Huffaker & Calvert, 2005; Nardi et al., 2004). As yet, however, little research has investigated interactive design features of blogs and cultural influences on their use.

Blogs interactive design features

We have identified 12 interactive design features for blogs, which have been grouped into three interaction types: Blogger to Interface (B2I), Blogger to Content (B2C), and Blogger to Blogger (B2B) interactivity, which were introduced in subsection 4.2.3.

In order to identify which interactive design feature belongs to which interaction type for blog we used the same approach as for charity website (see subsection 4.3.1). For each interaction type we identify interactivity dimension and with the help of their description we generate suitable interactive design features. In other words, in order to identify interactive design features in blogs, according to interaction types, we used the content of the definition column of Table 17, which describes each interactivity dimension, and generated interactive design features which fit to that interactivity dimensions (see Table 21).

As in subsection 4.3.1 we look at each interaction type separately. This means that we are able to take all interactivity dimensions and generate interactive design features which fit to that interactivity dimensions, by using definitions as stated in the definition column of Table 17. Table 21 summarises the framework of interaction types, their interactivity dimensions, and identified interactive design features for blogs.

It is important to note that the same interactivity dimensions for each interaction type in websites and blogs (see Table 20 and Table 21) do not necessarily generate the same interactive design features. This is because blogs have their own functionality and design features which are not always available outside blogs. Furthermore,

interaction types in blogs do overlap with websites because we do not change their meaning: The only change is in replacing 'user' with 'blogger' and eliminating B2P (because B is P).

For the *Choice Availability* interactivity dimension from Table 17, only multimedia presentation (animation, audio and video) could become a design feature. This is because choice of fonts, their sizes and language options do not exist in blogs. Consequently, in Table 21 under the *Choice Availability* interactivity dimension we list 1 interactive design feature in its rightmost column:

1. Available format of multimedia: animation, audio and video

Information Access interactivity dimension from Table 17, which also belongs to the B2I Interactivity can have only one design feature which is Blogroll (link to blogroll). Blogrolls are a list of other blogs that a blogger reads. They are normally listed on the side of a blog focusing on the sources which are of interest to bloggers. Therefore blog authors may choose to display a blogroll of their topics of interest and allow other bloggers to see it and navigate through such lists. None of design features for the *Information Access* interactivity dimension from Table 20 (websites) is applicable to blogs. Consequently, in Table 21 under the *Information Access* interactivity dimension we list 1 interactive design feature in the rightmost column:

2. Blogrolls

For the *Monitoring of Information Use* interactivity dimension, we use the same design feature and its rationale, as in websites (see subsection 4.3.1) therefore, the last interactive design feature of the B2C interaction type:

3. Visitor counter

In the B2C interaction types, interactivity dimensions generate four interactive design features as opposed to three in websites. The Template modification design feature enables the adding of information and personalisation. Most blog hosting sites provide their own typical design layout, navigation, background colours and images. However, this can be modified by templates provided by blog hosting sites. In other words bloggers have options to change their blogs interface design according to their preferences as they can choose one from provided templates and apply a new style of

design to their blog easily in no time. Keyword search and Comment capability design features enable adding information, i.e. adding comments on posts. Trackbacks enables adding information and linking it together, which could be interpreted also as responsiveness. Bloggers can track original posts of the topic of interest and link them to their own to post. The B2C interaction types will have four interactive design features:

4. Template modification
5. Keyword search
6. Comment capability
7. Trackback

In the case of B2B interaction type, we have a similar situation as in B2C: there are more design features generated for this interaction type in blogs than in charity websites. Only one design features form charity website (e-mail to other visitor) appears in blogs (e-mail to blogger). However, instant messenger, which is prevalent in blogging, is actually something very similar to chat rooms. It is interesting to note that online poll survey is a design feature, which appears in the U2P and B2B interaction types at the same time. This is because surveys are important in both environments and in blogs, they are in hands of bloggers (i.e. they go from a blogger to a blogger.

Finally, all interactive design features of B2B, from the most right column of Table 21, are related to the *Possibility of Adding Information* and *Interpersonal Communication* interactivity dimension. However, link to blogger's personal page only applies to *Interpersonal communication*.

There are a few interactive design features which were added for this study i.e. they were not included in *Charity 06* and *Charity 12 Studies*: comment capability and trackback and blogroll. In blogs, a comment system enables a topic related conversation between authors and readers. Although a comment posted by visitors contributes to producing a sense of community, it may offend people or reveal information that should not have been shared. Therefore, we may find ourselves, as authors or readers of blogs, in a socially uncomfortable and potentially vulnerable situation. For this reason, bloggers may control the level of access to the comment

system in their blogs in order to prevent negative consequences of contents of the online posts. The level of comment input can be managed by allowing it to be open to everybody or restricted to registered users only. It can also be configured to keep it completely private. In the study we examined the presence of comment capability by which a visitor can add comment on each post.

Bloggers often search for other people's opinions and responses (Nardi & Gumbrecht, 2004). The links to other sites of personal homepages, for example their interests' list (i.e. blogrolls), are considered as a means of enabling social relationships (Dominick, 1999). Along with comment facility trackbacks also enrich connections between bloggers. A trackback creates a comment on someone else's post with a link directly back to an author's new post. This means when the author completes a post with his or her trackback, the link is also put in front of someone else's blog readers who might click on it to see what he or she has said about the topic. Therefore, trackbacks allow bloggers to interact with each other sufficiently frequently about a topic or issue through which a sense of community can be created (Blanchard, 2004).

Table 21. Blogs interactive framework: the framework for interaction type, interactivity dimensions, and interactive design features in blogs applied as in Study of International Blogs and Study of SK and UK Blogs

Interaction type	Interactivity dimension	Interactive design feature in blog
B2I (Blogger to Interface)	Choice availability Information access Monitoring of information use	1. Multimedia presentation (e.g. animation, audio, video) 2. Blogrolls 3. Visitor counter
B2C (Blogger to Content)	Possibility of adding information Personalisation/customisation Responsiveness to users	4. Template modification 5. Keyword search 6. Comment capability 7. Trackback
B2B (Blogger to Blogger)	Possibility of adding information Interpersonal communication	8. Guestbook 9. Email to blogger 10. Instant messenger 11. link to blogger's personal homepage 12. Online poll or survey

In summary, Table 21 summarises the framework of interaction types, their interactivity dimensions, and identified interactive design features of blogs, which have been applied to our studies (*Study of International Blogs* and *Study of SK and UK Blogs*).

4.4.   Summary

In this chapter we proposed a framework in order to assess cultural preferences in the use of interactivity of websites and blogs across two countries, SK and the UK. Four interaction types (U2I, U2C, U2P and U2U Interactivity) were identified. Based on the identified four interaction types, the cultural dimensions of Hofstede (1991) and Hall (1989) were adopted through which four hypotheses were proposed: High or Low Context culture for U2I, High or Low Uncertainty Avoidance for U2C, High or Low Power Distance for U2P and Collectivistic or Individualistic culture for U2U interactivity.

In order to determine interactive design features we overviewed the literature of interactivity dimensions on websites and identified seven our own interactivity dimensions, which have mapped to four interaction types (see Table 20 and Table 21 from subsection 4.3.1). Consequently, 24 interactive design features have been chosen for our framework based on the seven interactivity dimensions for charity websites. 12 interactive design features have also been chosen for blogs. The framework of interactive design features of websites will be applied to our studies.

CHAPTER 5. CULTURAL IMPACT ON WEB AND MAIN STUDIES

In this chapter, we describe extensive summaries of our four main studies: *Charity 06 Study*, *Charity 12 Study*, *Study of International Blogs* and *Study of SK and UK Blogs*. Each subsection describes one of the studies through focusing on its rationale, i.e. aims, the method used, data analysis and results. The framework proposed in subsections 4.2 and 4.3 has been used as follows: Table 20 for the *Charity 06 Study* and the *Charity 12 Study*, and Table 21 for the *Study of International Blogs* and the *Study of SK and UK Blogs* respectively.

We illustrated studies which focused on cultural impact on website design, but we also emphasised that only a handful of studies examined cultural influences on interactive design features in websites. There are no studies, focusing exclusively on possible cultural differences on interactive design features of websites in the UK and SK in particular. In this chapter, we focus on the core studies of this research, which will be able to test our hypotheses and shed more lights on cultural differences on interactive design features in websites and blogs.

In subsection 5.1 we describe the overview of content analysis, which was applied while undertaking our main studies. It also includes its potential opportunities and challenges when applied to websites.

In subsection 5.2 we describe the *Charity 06 Study* in which the use of interactive design features in the chosen 20 charity websites from the UK and SK was compared in 2006. Subsection 5.3 describes the *Charity 12 Study* in which we compared the same charity websites as in the *Charity 06 Study*, but this time in the year 2012. In this comparison, we were re-examining for the same interactive design features, which may have been observed in either both or countries. However, the *Charity 12 Study* had an additional role in our research. It was allowed us to detect any changes in the use of interactive design features which were consequences of the 6 year time

gap. Both studies focused on interactive design features in websites, and influence of the professional website designers' cultural backgrounds.

In the *Study of International Blogs* and the *Study of SK and UK Blogs*, we focused on end-users, as opposed to professional website designers. End-users are usually not involved in a typical website design. Their role is more prevalent in websites where users generate their own content. Therefore, websites dedicated to blogging, tweeting and any activity relating to online social networking are more suitable formats of websites for our studies. Subsection 5.4 describes the *Study of International Blogs*, in which we compared the use of interactive design features in 100 blog-websites from Blogger (blogger.com) from the UK and 100 from SK. In the *Study of SK and UK Blogs* (subsection 5.5) we inspected 100 blogs from Naver (blog.naver.com) from SK and compared them with 100 Blogs from the UK, which were inspected in the *Study of International Blogs*. The SK Naver blogs were chosen because SK blogs from Blogger.com appeared to be non-representative of the typical SK blogger. Both studies helped us to determine how end-users from different cultures use interactive design features.

It is important to note that the content of Table 20 from subsection 4.3.1 has been used in the *Charity 06 Study* and the *Charity 12 Study*, while the content of Table 21 from subsection 4.3.1 has been used in the *Study of International Blogs* and the *Study of SK and UK Blogs* in this chapter as a framework of interactive design features.

5.1.   The Content Analysis applied to our Studies

This subsection describes the content analysis applied to our studies for objective, systematic and quantitative examination of communication artefacts (e.g. text, images). The *Pilot Study* and existing literature illustrated how content analysis can help to observe interactive design features preferably used in websites. Although the fast growth and change of websites has some unique challenges, the content analysis can be applied to a dynamic environment. The content analysis does not observe individual users directly. By observing the design features of the interface and

information architecture through the content analysis, we can understand how designers from different countries construct the websites differently or similarly. It also monitors communication content, which is created or produced by users, therefore helping us to investigate a particular element, pattern or trend in various aspects of website design.

In this subsection, we also discuss the potential opportunities and challenges of applying content analysis to websites. The relative strengths and limitations of the content analysis have also been discussed. Consequently, we are able to make several suggestions on how content analysis of websites can be improved.

5.1.1. Overview of Content Analysis

Content analysis has been used to study a broad range of texts from transcripts of interviews and conversations in social research to the narrative of films, TV programs and the advertising content of magazines and newspapers (Macnamara, 2005). It is a widely used research method for objective, systematic and quantitative examination of communication content (Berelson, 1952) and has been widely used not only in the field of traditional communication (Al-Olayan & Karande, 2000; Cho et al., 1999; Han et al., 1992; Mueller, 1987; Tse et al., 1989) but also in studies of web based information, norms of behaviour and cultural values (Cho & Cheon, 2005; Maynard & Tian, 2004; Okazaki & Rivas, 2002; Singh & Baack, 2004; Yoon & Cropp, 1999). In Bernard's definition (1952), content analysis is "a research technique for the objective, systematic, and quantitative description of manifest content of communications." (p.18). Holsti (1969) provides a broad definition of content analysis as the application of scientific methods to documentary evidence describing "any technique for making inferences by objectively and systematically identifying specified characteristics of messages" (p.14). According to Holsti (1969) the content analysis is characterised by objectivity, systematicism, and generality:

- Objectivity - application of specific rules and procedures during data collection that minimise researcher bias.
- Systematicism - the development of categories to identify the inclusion/exclusion of content and the consistent application of those

categories to communication content that offset the potential for data to be collected that only support the researcher's questions and/or hypotheses.

- Generality - the identified relationship, guided by theory, between the data and the producers and/or recipients of the data.

Similarly, Lasswell, Lerner & Pool (1952) argue that "… content analysis operates on the view that verbal behaviour is a form of human behaviour, that the flow of symbols is a part of the flow of events, and that the communication process is an aspect of the historical process". Therefore they conclude that " … content analysis is a technique which aims at describing, with optimum objectivity, precision, and generality, what is said on a given subject in a given place at a given time" (p.34).

There are several other definitions of content analysis. Weber (1990) defined content analysis as "a research method that employs a set of procedures to make valid inferences from text" (p.9). According to Beger (1991) content analysis is "a research technique that measures the amount of information from a representative case of some mass mediated form of art" (p.25). Similar to Bernard (1952), Stone et al. (1966) defined content analysis as "any research technique for making inferences by systematically and objectively identifying specified characteristics within text" (cited from Holsti, p. 5). Neuman (1997) described it as " a technique for gathering and analysing the content of text. The 'content' refers to words, meanings, pictures, symbols, ideas, themes, or any message that can becommunicated. The 'text' is anything written, visual, or spoken that serves as a medium for communication" (p. 272-273). In the Content Analysis Guidebook, Neuendorf (2002) said "Content analysis is a summarising, quantitative analysis of messages that relies on the scientific method … and is not limited as to the types of variables that may be measured or the context in which the messages are created or presented" (p.10).

There are two approaches within the content analysis: qualitative and quantitative. The qualitative content analysis is based typically on an individual's perspective, and therefore it is similar to textual analysis and is primarily interpretive in nature. Consequently, it often does not utilise statistics for data analysis. Quantitative content analysis on the other hand is a research technique used to make valid and reliable inferences from the data to their context (Krippendorff, 1980). According to

Riffe et al. (1998), in quantitative content analysis communication content is systematically assigned to categories by specific rules, and the relationships between those categories are statistically analysed. Potter & Levine-Donnerstein (1999) claim that it is a social scientific methodology that requires the researcher to make strong arguments for the validity and reliability of their data.

The content analysis has been used in many disciplines. According to Holsti (1969), the content analysis is a cross-discipline research technique that has been used to examine various topics. For example, psychologists have used content analysis to examine interview transcripts of therapy patients, and historians have applied the method to recognise themes and patterns in political documents. Researchers in communication discipline have also employed the technique on the mass media. Therefore, in general it is a useful method for examining messages in text, audio, and visual formats. Content analysis has also been expanded to examine web based information (e.g. websites) and cultural values (Singh & Baack, 2004).

It is generally acknowledged that reliability is vital for content analysis because unless it has been established properly, the data and understanding of the data can be considered invalid. Carmines & Zeller (1979) define reliability as the degree to which a measuring procedure produces the same outcomes with repeated tests. Similarly Weber (1990) argues that "to make valid inferences from the text, it is important that the classification procedure be reliable in the sense of being consistent: Different people should code the same text in the same way" (p.12). Neuendorf (2002) also emphasised that "without the establishment of reliability, content analysis measures are useless" (p.141). Neuendorf (2002) agrees in the importance of *intercoder reliability* because an aim of content analysis is to identify and record relatively objective characteristics of messages, denoted as the "amount of agreement or correspondence among two or more coders" (p.10).

We have to take into account an appropriate acceptable level of reliability for the index or indices to be used. There is a range of coefficients for the level of agreement. The most accepted coefficients used in business and the social and behavioural sciences are raw *percent agreement*, Scott's *pi*, Cohen's *kappa*, Krippendorff's *alpha*, Spearman's *rho*, and Pearson's *r*. There are several correlation coefficients,

measuring the degree of correlation. Ellis (1994) proposes a widely accepted rule in which exceeding .75 to .80 of correlation coefficients indicates high reliability. Other researchers such as Frey et al (2000) consider data trustworthy when a 70% agreement is made. Benerjee et al. (1999) declare the following criteria for Cohen's *kappa*:

- 75+ indicating excellent agreement beyond chance;
- .40 to .75, fair to good agreement beyond chance; and
- below .40, poor agreement beyond chance.

Krippendorff (1980) did not indicate the type of reliability coefficient but he claims that agreements of less than .70 on variables are likely to be statistically insignificant. He proposes the rule of reporting on variables only if their reliability is above .80. Variables with reliability between .67 and .80 were accepted only for representing "highly tentative and cautious conclusions" (p.147). Based on a review of studies on reliability, Neuendorf (2002) asserts that reliability coefficients of .90 or above would be nearly always acceptable, .80 or above would be agreeable in most conditions and a disagreement with reliabilities less than .80 and .70 may be appropriate in some exploratory studies for some indices.

5.1.2. Advantages of using Content Analysis

Krippendorff (Krippendorff, 1980) identifies several advantages of content analysis:

- It is unobtrusive.
- It is unstructured.
- It is context sensitive and able to cope with a large quantity of data.
- It examines the artefact (e.g. text, images) of communication itself and not the individual directly.

Such benefits attract researchers who want to investigate phenomena without their investigation influencing the procedure (Harwood & Garry, 2003). Therefore, the outcome may be less biased when compared to other techniques such as questionnaire surveys, interviews, and projective tests (Kinnear & Taylor, 1991). Surveys and interviews are largely used in a variety of audience research. However, they are not

sufficiently accurate in investigating individual motivations and behavioural purposes (McBurney, 1994) because disparity may occur between what people say they prefer and what they actually prefer. Therefore, analysing the content of websites is beneficial for us because it allows us to examine websites directly and include websites which have been produced by a creator and by a user him/herself. Therefore a more comprehensive analysis of potential culturally preferred design features can be explored. In other words, the content generated by the actual creators or users is examined without being directly engaged with their creators and users.

In addition, content analysis is context sensitive (Krippendorff, 1980), which also suits our studies, because we examine cultural influences within the context of website design. Furthermore, carrying out content analysis is a fairly simple and economical process compared to other techniques. This is particularly true if the data is readily available, such as website contents. Even the large quantities of data can be considered as an advantage when carrying out content analysis because it can be used when examining trends and patterns of website contents (Holsti, 1969).

5.1.3. Disadvantages of using Content Analysis

Content analysis has some disadvantages like any other methods. The following can be considered as limitations.

Firstly, quantitative content analysis is primarily restricted to examining manifested content. The "what you see is what you get," which is the apparent value of the content is different to the underlying content, which is the "reading between the lines" value of the content (Potter & Levine-Donnerstein, 1999). Holsti (1969) and Riffe (1998) both agree that as patent content is all that content analysis can examine, interpretation of meaning should occur after data collection, usually in the discussion section. Therefore it is required to take into account the relationship between manifest variables and its frequency of occurrence, and how the result is actually meant in the context.

Another limitation of content analysis is that it is almost a purely descriptive research technique. When the method applies mainly to website content it does not necessarily address how the audience perceives and processes it. Researchers can also provide a number of speculative answers to the questions, content analysis alone cannot give the answers. However, this limitation can be overcome by combining content analysis with another method that is appropriate to measuring these aspects, such as experiments, surveys, interviews and similar. They can particularly evaluate the creator and/or receiver of the content (website content) and statements about impact of content on users, which are better supported and defended (Gunter, 2000; Holsti, 1969). Generally speaking, combining methods –whether they are quantitative, qualitative, or a hybrid – often generates a stronger study and more reliable results of analysis.

Lastly, when applied to website content, its constant changing can be problematic. However, some researchers claim that it can be overcome by rapid data collection (McMillan, 2000b) and downloading websites (Koehler, 1999), which have been conducted in our studies.

5.1.4. Content Analysis Applied to Websites

After the Internet emerged in the 1990s, the World Wide Web, as a complex combined medium of old and new characteristics, became a challenge for anyone who wanted to carry out any kind of research though the content analysis. The complexity of new features such as mixed multiple media (text, graphics, animation, video and audio etc), interactivity, decentralised and hyperlinked structures made content analysis difficult to apply (Neuendorf, 2002). In addition, its continuously evolving nature is challenging and does not help in the development of valid descriptive categories, recording and sampling frames for the method. Potter (1999) emphasises the problem of sampling because of the size and "chaotic design structure" of the Web (p.12). For sampling frame, he suggests using lists from commercial purposed sites like Yahoo and Web21.

Even though the content analysis proved to be a challenging method of analysing websites, there are studies which have already been successfully conducted. For example, Ghose & Dou (1998) studied the interactivity level of business websites by using an extensive list of interactivity categories that were identified by the authors. The study of Bucy et al (1999) who examined the formal features of 496 websites by content analysis, found noteworthy relationships between site traffic and page complexity.

Along with the software technology, development we witness a new approach to analyse websites by automated computer programs. Bauer & Scharl (2000) introduced a software tool called WebAnalyzer, which automatically gathers and analyses parameters such as a site's HTML code and computers frequency information about a host of websites, including the number of images and external links. It is well known that analysing entire websites by human's coding is extremely difficult because many websites consist of thousands of pages. Therefore, researchers will have an advantage through using computer analysis content techniques to parse whole sites instead of taking homepages as their unit of analysis (Neuendorf, 2002).

Neuendorf (2002) explains the typical process of content analysis through nine stages which is illustrated as a flowchart (see Figure 10). Each stage is described below, because it will be used in our own study.

In stage 1, research questions or hypotheses are created.

In stage 2, a set of variables and their definitions must be conceptually formulated.

In stage 3, categories and unit of data collection, which provide validity of measures to match the conceptualisations, must be defined. The continuous change of websites' content leads to potential problems with data collection. After the analysis of 19 studies that applied content analysis on the World Wide Web, McMillan (2000b) found that most studies conducted data collection within one to two months. The quickest data collection reported was two days and the longest was five months. Defining the unit of analysis on Web based content poses distinctive challenges due to the combined multiple media forms. Perhaps completely new context units are

required to be developed (McMillan, 2000b). In choosing which unit should be examined in our studies, we had to consider whether to analyse all pages or just the 'homepage' or opening screen of websites. We chose a homepage as the unit of analysis because it covers all the design elements we had to examine.

In stage 4, the coding scheme must be created. A codebook and coding sheet, which contain content categories and their measurement, are required for evaluating content and performing the coding. It is important to identify the mechanism or coding scheme and categories, because reliability of data may be improved through its validity (Kolbe & Burnett, 1991). Therefore, careful training of coders and checking the reliability of data is of importance in order to overcome potential subjectivity.

In stage 5, sampling is required. A data set is selected and justified to meet the research purpose. Sampling aims to generate a manageable subset of data from a large population and to represent the population. An ideal sample is a balance between the ease of study and the population representativeness. Therefore, during sampling it should be considered how to define a tangible sampling frame, whether the sampling is a representative sample, and how big the sample should be to be effective as well as efficient (Krippendorff, 1980). Potter (1999) emphasised the trouble of sampling because of the size and "chaotic design structure" of the Web (p.12). The sampling methods vary, depending on the specific research questions studied. Weare & Lin (2000) described comprehensive sampling techniques to collect information such as Internet addresses, search engines, popular sites, randomly generated IP addresses and URLs. They argue that the use of multiple techniques may help to validate the samples drawn by one method or to ascertain the samples that have been fully identified.

In stage 6, training of coders, based on the codebook, a pilot test must be carried out. A pilot test is conducted on a random sample of units of data to assess intercoder reliability on each variable. In general training sessions are used to reconcile the coding differences between the coders and to revise the codebook or coding sheet if necessary.

In stage 7, coding is carried out. Actual coding of the sample data must be processed independently, based on the codebook. It is required to have at least two coders in order to establish intercoder reliability.

In stage 8 final intercoder reliability, for each variable, must be calculated by using accepted coefficients such as *percent agreement*, Scott's *pi*, Cohen's *kappa*, Krippendorff's *alpha*, Spearman *rho*, and Pearson *r*.

In stage 9, data analysis and results are reported in various ways. Figures and statistics may be reported by using only one variable at a time. However, it is desirable to cross-tabulate variables in different ways. Over-time trends are also a common reporting method.

1. Theory and rationale
: A set of research questions and/or hypotheses is created.

2. Conceptualisations
: A set of variables and their definitions are conceptually formulated.

3. Operationalisation (measures)
: Validity of measures to match the conceptualisations.
(e.g. unit of data collection, categories that, ideally, are exhaustive, mutually
       exclusive, valid and reliable)

4. Coding scheme
: A codebook and coding form that contain the content categories and the rules
for evaluating content.

5. Sampling
: A data set is selected and justified.(e.g. by time period, by issue, by page etc.)

6. Training and pilot reliability
: Training of coders is conducted by using the code book, and a pilot test is
performed on a random sample of units to assess intercoder reliability on each
variable (the extent to which the coders agree on the coding of variables,
revising the codebook or coding form as needed.

7. Coding
: Coding is independently conducted by at least two coders to establish
intercoder reliability.

8. Final reliability
: A reliability figure for each variable is calculated.
(e.g. Percent agreement, Scott's pi, Spearman's rho, or Pearson's r)

9. Tabulation and reporting
: Figures and statistics are reported in various ways.
(e.g. bivariate, multivariate techniques, over-time trends)

Figure 10. A flowchart of the typical process of content analysis research for human coding
adapted from Neuendorf (2002)

5.2.   Charity 06 Study

5.2.1. Aim of the Study

The framework from Table 20, subsection 4.3.1 has been used in this study in order to test four hypotheses from subsection 4.1.2. We used 20 charity websites from each country, which have been created by website designers. Interactive design features were observed in order to find out whether there exist any cultural preferences in charity websites between the two countries.

5.2.2. Method

The method contains the measurement of interactive design features, how the choice of websites was made, and how the sampling of the charity websites was performed. The content analysis has been applied to the study as stated earlier.

Measurement

The framework of interaction types from Table 20 lists the 24 interactive design features in its rightmost column. Their groupings are mapped to the four types of interaction (U2I, U2C, U2P, U2U Interactivity), which are listed in the leftmost columns of Table 20. These 24 interactive design features will have to be 'measured' in terms of checking whether they exist or not in the chosen websites. However, before we measure them, we have to clarify their meaning in order to perform better coding, as required by the content analysis. These clarifications will be applied when 'measuring' the presence of interactive design features coded as either 1 (Yes) or 2 (No) (and giving the number if the answer was 1(Yes)).

Table in APPENDIX I illustrates the interactive design features to be measured. It is an extension of Table 20. We have added two extra columns for accommodating clarifications and codes for all interaction types of website interactive design features.

The content of APPENDIX I is self-explanatory. For example, for the U2I (User to Interface) interaction type in the leftmost column (first column) of Table, we list all their interactive design features in the second column, and for each of these design features from the second column we give their clarifications in the third column. The

fourth column shows examples of codes, which will have to be allocated for each design feature. Details of the purpose of coding and use of codes are available in subsection 5.1.4 where we addressed the importance of identifying the coding scheme and categories.

Charity Websites in 2006

Charity websites (non-profit organisation websites) were chosen for similar reasons to the *Pilot Study*. They appear to be ideal type of websites for our studies because they are developed for the purpose of reaching people who could be involved with charities, as either donors or workers. It is more likely that these websites will have local design features and characteristics incorporated into their design than other types of websites. Their "look and feel" should attract local visitors, leading to vigorous supports of charities and better fundraising performance. It is also thought that local websites from each country are designed by local designers whose cognitive style that is influenced by cultural cognitive processes (Faiola & Matei, 2006).

Figure 11. Homepage of E LAND Welfare, Korean charity site
(http://www.elandwelfare.or.kr/) captured on 21st October 2006

In addition, most cross cultural studies which have been carried out in order to measure the presence of culturally specific website design features, focused on the websites of profit organisations such as corporate, B2C and e-commerce websites (Cho & Cheon, 2005; Hu et al., 2004). Therefore, none of them was in a position to exploit the power of charity websites when debating the presence or lack of culturally specific website design features.

Figure 11 and Figure 12 show one of the homepages of charity websites from SK and the UK respectively, which were examined in the study.

Figure 12. Homepage of Salvation Army Trust, UK charity site (www.salvationarmy.org.uk) captured on 18th October 2006

Sampling Charity Websites

We have selected 20 charity websites randomly for each country from a list of the 1010 Charities Direct (http://www.charitiesdirect.com) was used to select the UK samples since it provides links to list of thousands of the UK charities and non-profit organisations.

In the case of SK, websites were selected from the Yahoo! local Korean web directory because there was no other option in 2006. Yahoo! had a search directory of Websites that were organised hierarchically within their categories. We conducted

the search by using the keyword "charity" in Korean and then classifying all listed websites as "donation" and "non-profit organisations".

Yahoo! categorised these websites under headings such as "Society and Culture > Society welfare > Organisation, Group > Charity Organisation > Donation, Non-profit organisations, and others". This search yielded 105 websites. The websites that were originally from other countries such as the U.S. (American Institute of Philanthropy etc.) were excluded. 20 websites were randomly chosen for the UK and SK by using RANDBETWEEN function in Microsoft Excel.

We have followed the advice of keeping records of websites because they are not permanent (Mitra & Cohen, 1999). Therefore, we downloaded all 40 websites on October 17, 2006, using WebStripper[4] and then 10% of the websites (two websites from each country) were randomly selected. Two trained coders who were both fluent in Korean and English evaluated these samples of websites. Only the homepages were chosen to be examined as elaborate in subsection 3.2. Training sessions have been used to reconcile the coding differences between the coders. When a discrepancy did occur, such as a different screen resolution, which could affect screen-length measurements for images- the coders identified them quickly and corrected their codes.

The coders only coded website design features that were clearly displayed on the homepage. For example, if there was a clear symbol of a video file on the homepage, the coders coded it as "Y" for video interactive design feature. However, if the presence of video on the homepage is indicated by a hyperlink, i.e. if we were supposed to click on that link in order to see the video, we coded it as "N". In other words, only clearly displayed videos on the homepages were coded as "Y".

Internet Explorer and a screen resolution of 1024 x 768 were used when coding. Screen resolution is defined as the horizontal and vertical height of a screen in pixels. The most common display resolution currently is 1024 x 768 (pixels width and height) (Galitz, 2007).

---

[4] The WebStripper later renamed as PageNest, is an offline browser allowing to download websites and pages onto a user's hard disk (http://www.pagenest.com/).

Coders coded separately to ensure reliability of the results and then compared to see intercoder reliability through Cohen's kappa (k) formula as discussed in subsection 5.1.1. The coders' reliability for each coding (for each country) was above the acceptable indicator of 0.75.

5.2.3. Data Analysis and Results

In order to test our hypotheses we analysed the data collected in the coding sheet. It is important to note that we focused on interactive design features, which were coded as in Table (APPENDIX I) for each of the 40 charity websites. They address the U2I, U2C, U2P, and U2U interaction types.

The coding sheets (see APPENDIX IV) were examined by counting results of coding and creating tables, which will enable us to analyse the results of the study. Therefore, we performed two ways of summarising the data collected in the code forms:

1) We looked at each interactive design feature (the second column of Table in APPENDIX I) across all 40 websites and counted the number of "Y" codes for each feature. The "Y" code indicates that a particular interactive design feature is present in a particular homepage. Therefore, counts of number of "Y codes" for each interactive design feature will give us an indication that a particular interactive design feature might be prevalent in a particular country.

2) We counted the number of "YES" codes per homepage and created its composite score. For example, if a homepage contained all 15 interactive features, which belong to U2I interaction type, its composite score was 15. Therefore, the possible range of the U2I composite score was 0 to 15. Consequently, a particular composite score applies to a particular interaction type (it does not apply to all interaction types). There are NO composite scores for all interaction types because we are interested in each interaction type when testing our hypotheses.

To test the hypotheses we cross-tabulated the data for each of the 24 interactive features using $\aleph^2$ tests, which were performed upon the counts created in 1) above. An ANOVA test was performed upon composite scores from 2) above and between the two countries in order to examine the existence of mean differences in composite scores.

U2I Interactivity

The Hypothesis 1 (H1) states that "SK websites exhibit more interactive design features related to U2I interaction than the UK websites".

We firstly run the $\aleph^2$ tests. Table 22 demonstrates the frequency distribution and $\aleph^2$ results of 15 U2I interactivity design features. The results show that SK homepages, compared to the UK, used more U2I interactive features:

- 11 SK homepages had an English language version but none of the UK homepages had other language versions ($\aleph^2$=15.172, p< .01);

- 8 pop-up windows were found in the SK homepages but none were found in the UK homepages, and the differences are statistically significant ($\aleph^2$=10.000, p< .01);

- The UK homepages contained the text version, whereas none was found in the SK homepages ($\aleph^2$=4.444, p< .01).

Furthermore, 12 SK homepages had the list of their dodnors (i.e. list of donors name and their contribution), therefore it is possible to see the level of donations and who has made them. However, only 1 UK homepage used this U2I interactivity design feature ($\aleph^2$=13.789, p< .01). Links which give information on how donations have been used were also more frequently found in the SK homepages than in their UK counterparts ($\aleph^2$=10.417, p <.01).

The same pattern appears for the multimedia, i.e. animation, audio and video interactive design features: the difference in their use is statistically significant between the two countries. None of the UK homepages used the video or audio

whilst 7 SK homepages contained these design features. Although 4 UK homepages used animation, this was far fewer than the 18 SK homepages ($\aleph^2$=19.798, p< .01).

Table 22. U2I (User to Interface) interactivity in SK and the UK charity websites

U2I interactivity feature	SK	UK	$\aleph^2$	P
	(n=20)		(df=1)	
Font type	0	0	-	-
Font size	0	0	-	-
Text version	0	4	4.444	.035*
Mobile version	0	0	-	-
Other language support	11	0	15.172	.000**
Links to donator's list	12	1	13.789	.000**
Links to how donation used	17	7	10.417	.001**
Animation	18	4	19.798	.000**
Audio	7	0	8.485	.004**
Video	7	0	8.485	.004**
Pull down navigational toolbar	1	5	3.137	.077
Rollover navigational toolbar	13	0	19.259	.000**
Text only navigational toolbar	5	14	8.120	.004**
Pop-up window	8	0	10.000	.002**
Visitor counter	0	0	-	-
Total	99	35		

* p <.05.
**p <.01.

Navigation toolbars were equally used by both countries. However, different types of navigation toolbars were favoured by each country. Rollover type was used for most of the SK homepages (13) ($\aleph^2$=19.259, p< .01) whereas text only style (14) ($\aleph^2$=8.120, p< .01) was the most frequently used type of navigation tool bar in the UK homepages. Their differences are statistically significant.

To summarise, it was evident that the SK homepages used significantly more interactive design features for the U2I interactivity type. This is a strong indicator that H1 has been supported. However, $\aleph^2$ tests deal with individual interactive design features and an ANOVA test is needed in order to obtain an overall picture on the use of interactive design features for U2I interactivity across all SK and the UK homepages. Before we run ANOVA test, we calculated the U2I interactivity composite score for each homepage, as specified in 2) above.

Table 23 shows in its first row that there is a statistical significance between mean differences in U2I composite score between the two countries. The mean U2I composite score for the SK homepages (M=4.95) was higher than those for the UK homepages (M=1.75), and this is statistically significant (F=13.478, p< .01).

Therefore, the first H1, stating that SK websites exhibit more interactive features related to U2I interaction than the UK websites, is fully supported.

Please note that Table 23 has composite scores for ALL interaction types: U2I, U2C, U2P, and U2U interactivity, therefore we will refer to different rows of Table 23 throughout the following three subsections.

Table 23. Each interaction type composite score for SK and the UK websites of 2006

Interaction type	SK		UK		ANONA Results (df=1)	
	Mean	SD	Mean	SD	F	P
U2I	4.95	3.36	1.75	1.97	13.478	.001*
U2C	1.65	1.04	1.55	1.05	.092	.764
U2P	1.85	.489	.80	.523	42.969	.000*
U2U	.35	.489	.00	.000	10.231	.003*

Note: e.g. U2I composite score = the number of U2I interactive design features employed out of fifteen (0-15).
* p< .01.

U2C Interactivity

The Hypothesis 2 (H2) states that "The UK websites exhibit more interactive design features related to the U2C interaction type than SK websites".

As shown in Table 24 both countries overall have similar use of U2C interactive design features. With regard to site registration, the SK homepages had a higher frequency than the UK homepages ($\aleph^2$=12.130, p <.01). The keyword search menu was significantly favoured by the UK homepages compared to the SK homepages ($\aleph^2$=16.942, p <.01).

Table 24. U2C (User to Content) interactivity in SK and the UK charity websites

U2C interactivity feature	SK	UK	$\aleph^2$	P
	(n=20)		(df=1)	
Site registration (e.g. sign in)	16	5	12.130	.000*
Keyword search	4	17	16.942	.000*
Donation capability	13	9	1.616	.204
Total	33	31		
* p <.01.				

The results of an ANOVA test, available in the second row of Table 23 show no statistically significant mean differences between U2C composite scores between the two countries. Therefore, the second H2, stating that UK websites exhibit more interactive design features related to U2C interaction than SK websites, is not supported.

U2P Interactivity

The Hypothesis 3 (H3) states that "The UK websites exhibit more interactive design features related to U2P interaction than SK websites".

Table 25 presents the frequency distribution of the seven U2P interactive design features. Although U2P interactive design features were not prominently displayed in both countries SK homepages overall tended to use more U2P interactive design features than the UK homepages. For example, bulletin boards were significantly more likely to be used in the SK homepages compared to that of the UK homepages ($\aleph^2$=36.190, p <.01). The other six interactive features (e.g. chat room, electronic-form inquiries and sign in newsletter) were not found in either of the two countries websites. Both samples of homepages contained the link "email to webmaster" (16 SK vs. 15 UK, but the difference was not significant).

Cultural Impacts on Web: An Empirical Comparison of Interactivity
in Websites of South Korea and the United Kingdom
Inhwa Kim

Table 25. U2P (User to Provider) interactivity in SK and the UK charity websites

U2P interactivity feature	SK	UK	$\aleph^2$	P
	(n=20)		(df=1)	
Bulletin board systems (BBSs)	20	1	36.190	.000*
Chat room	0	0	-	-
Electronic-form inquiries	0	0	-	-
Online poll or survey	1	0	1.026	.311
Sing in newsletter	0	0	-	-
Email to Webmaster	16	15	.143	.705
Email to organisation agent	0	0	-	-
Total	37	16		
* p <.01.				

Table 23 show in its third row that the mean of U2P interactivity composite score for the UK homepages (M=.80) was lower than the SK homepages (M=1.85), and they are statically significant (F=42.969, p< .01).

Therefore, the third H3 is not supported.

U2U Interactivity

The Hypothesis 4 (H4) states that "SK websites exhibit more interactive design features related to U2U interaction than the UK websites".

Table 26 provides the frequency distribution and $\aleph^2$ results of U2U interactive features between the two countries. For the U2U interaction type, we observed the lack of bulletin board system, chat rooms and links to email to other visitors in the both countries. The only interactive design feature observed in the SK homepages was "online community" and it was not present in the UK homepages. ($\aleph^2$=8.485, p< .01). Therefore, none of the U2U interactive design features were used in the UK homepages.

Table 26. U2U (User to User) interactivity in SK and the UK charity websites

U2U interactivity feature	SK	UK	$\aleph^2$	P
	(n=20)		(df=1)	
Bulletin board systems (BBSs)	0	0	-	-
Chat room	0	0	-	-
Online community	7	0	8.485	.004*
Email to other visitors	0	0	-	-
Total	7	0		
*p <.01.				

The U2U interactivity composite score from the fourth row of Table 23 reveals that the mean U2U composite scores for the SK homepages (M=.35) were higher than those for the UK homepages (M=.00), and they are statistically significant (F=10.231, p<.01).

Although this result is biased by the overwhelming strength of the usage of "online community" by the SK homepages, we consider that the fourth H4, is partly supported.

5.2.4. Discussion

The study aimed to examine how the use of interactive design features of SK websites differs from those of the UK websites. 20 charity websites from each country were chosen and 24 interactive design features examined. Four different interaction types were adopted and explained based on cultural dimensions: High versus Low Context culture for U2I, Uncertainty Avoidance for U2C interactivity, Power Distance for U2P interactivity, and Collectivism versus Individualism for U2U interactivity.

The results revealed that the SK charity websites used more U2I and U2U interaction types than did the UK charity websites. The SK websites provide a bigger range of the U2I interactive design features that allow users to "access and choose", when compared to their UK counterparts.

As expected, the SK websites employed more U2U interactive design features than the UK websites. The more frequent occurrences of online community and message

boards on the SK websites can be seen as a consequence of the SK collectivist society where social values and group decision making are encouraged. In contrast, in an individualist society such as the UK individual freedom and personal decision making are promoted and therefore the UK websites exhibit fewer cases of online community and message boards.

The use of the keyword search function was more frequent in the UK websites than in their SK counterparts, which is not consistent with the study of Marcus & Gould (2000), which argues that users from cultures who "feel anxiety about uncertain or unknown matters" (p.39) (e.g. SK) prefer "navigation schemes intended to prevent users from becoming lost" (p.41).

More explicit information about donors and donation's in the SK websites may be explained by the SK strong Uncertainty Avoidance culture where individuals try to avoid ambiguous situations and look for guidance on donations and how the money has been spent.

The use of multimedia showed differences. The SK websites used it much more frequently than their UK counterparts did. This clear preference towards multimedia is perhaps caused by technology infrastructure, which enables rich communication enhanced with animation, audio and video, since SK broadband penetration rate (26.4) was higher than the UK (19.4) according to the OECD Broadband statistics (OECD, 2006). According to Table 13 the broadband penetration rate in 2006 was higher in SK (29.0) than in the UK (21.4).

5.3. Charity 12 Study

In this subsection, we report on the research into cultural differences in interactive design features used in the charity websites in 2012. We compared each of the 20 charity websites of SK with the UK by applying the same method as in the *Charity 06 Study*. The only difference between the *Charity 06 Study* and the *Charity 12 Study* is year of study performed.

5.3.1. Aim of the Study

The *Charity 12 Study* aims to achieve OB2 and OB3. We are trying to investigate how website designers from different cultures make use of interactivity on website design (OB2) and how the use of interactivity on websites from different cultures change over time (OB3). Therefore, the objectives of the study are

1. To find out whether there exist any cultural preferences in charity websites between the two countries in 2012
2. To examine changes between 2006 and 2012 with regard to the interactive design features used in charity websites in the two countries.
3. To examine change between SK and the UK with regard to the interactive design features used in charity websites in 2006 and in 2012.

Likewise the *Charity 06 Study*, the framework from Table 20, subsection 4.3.1 has been used in this study in order to test hypotheses proposed from subsection 4.1.2.

5.3.2. Method

The same samples of charity websites from SK and UK in 2006 were chosen and analysed in 2012. We used the content analysis as described in section 5.1.

Measurement

The *Charity 12 Study* used the same measurement as the *Charity 06 Study*. The details are described in subsection 5.2.2. We revisited the same charity websites in

2006 and 2012 to make a reasonable comparison of the two countries and assess changes which appear in website deisgn features between 2006 and 2012.

The only difference was a set of additional design features in the *Charity 12 Study* which is a consequence of the appearance of Web 2.0 technology, i.e. links to blogs, wikis, and SN websites. They have appeared on the web and therefore, we had to take them into account when dealing with interaction types and their interactivity dimensions in 2012.

Charity websites

Charity websites (non-profit organisation websites) were chosen for the same reasons as in the *Charity 06 Study*.

Figure 13. Homepage of fruit of love, Korean charity site (*http://www.chest.or.kr/*) captured on 16th March 2012

Figure 14. Homepage of Cancer Research UK charity site
(http://www.cancerresearchuk.org/) captured on 18th March 2012

Sampling procedure

Exactly the same sampling procedure has been applied as in the *Charity 06 Study*. We downloaded all 40 Websites on March 14, 2012 using WebStripper. Whilst all 20 UK websites are online, five Korean charity websites did not exist and were replaced with another 5 websites, randomly chosen from Yahoo! local Korean web directory.

5.3.3. Data Analysis and Results

The data analysis was also conducted exactly the same as in the *Charity 06 Study*. In order to test our hypotheses we analysed the data collected in the coding sheets. It is important to note that we focused on interactive design features, which were coded as in Table 21 for each of the 40 charity websites. They address the U2I, U2C, U2P, and U2U interaction types. The way we summarised and analysed data is same as the *Charity 06 Study* given in subsection 5.2.3.

In addition, the results of the composite scores of each interaction types were compared between SK and the UK by year (2006 and 2012) in order to find out whether the use of interactive design features of SK and the UK have changed over time. Furthermore, the results of the composite scroes of each interaction type was compared between 2006 and 2012 by each country (SK and the UK) in order to examine whether the use of interactive design features has changed over time.

U2I Interactivity

The H1 states that "SK websites exhibit more interactive design features related to U2I interaction than the UK websites".

The third column of Table 27 demonstrates the frequency distribution and $\aleph^2$ results of U2I interactive design features between the two countries in 2012. The SK homepages were overall more likely to use U2I interactive design features than were the UK homepages in 2012. The findings are consistent with the result of 2006 as shown in the second column of Table 27.

- 6 SK homepages had the list of their donors (i.e. list of donors name and their contribution) but none of the UK homepages had them ($\aleph^2$=7.059, p <.01).

- Link which gives information on how donations have been used were also more frequently found in the SK homepages (N=19) than in their UK counterparts (N=13) used ($\aleph^2$=5.625, p <.01).

- 8 and 1 SK homepages had English and Chinese language version respectively but none of the UK homepages had other language version ($\aleph^2$=10.000, p< .01).

- 6 pop-up windows were found in the SK homepages but none of them were found in UK homepages, and the differences are statistically significant ($\aleph^2$=7.059, p <.01).

Table 27. The comparison of U2I interactive design features in SK and the UK by year (2006 and 2012)

Year	2006				2012			
U2I	SK	UK	$\aleph^2$	P	SK	UK	$\aleph^2$	P
interactivity design feature	(n=20)		(df=1)		(n=20)		(df=1)	
Font type	0	0	-		0	0	-	-
Font size	0	0	-		1	7	5.625	.018*
Text version	0	4	4.444	.035*	0	4	4.444	.035*
Mobile version	0	0	-		0	0	-	-
Other language support	11	0	15.172	.000**	8	0	10.000	.002**
Links to donator's list	12	1	13.789	.000**	6	0	7.059	.008**
Links to how donation used	17	7	10.417	.001**	19	13	5.625	.018*
Animation	18	4	19.798	.000**	7	6	.114	.736
Audio	7	0	8.485	.004**	0	1	1.026	.311
Video	7	0	8.485	.004**	10	9	.100	.752
Pull down navigational toolbar	1	5	3.137	.077	0	4	4.444	.035*
Rollover navigational toolbar	13	0	19.259	.000**	14	6	6.400	.011*
Text only navigational toolbar	5	14	8.120	.004**	1	6	4.329	.037*
Pop-up window	8	0	10.000	.002**	6	0	7.059	.008**
Visitor counter	0	0	-		1	0	1.026	.311
Total	99	35			73	56		
* p <.05. **p <.01.								

The overall pattern was similar for other interactive design features, except for font size, text version and pull down and text only navigational toolbars:

- 4 UK homepages provided text versions but none of the SK homepages contained them ($\aleph^2$=4.444, p< .01);

- 7 UK homepages contained font size option whereas none were found in the SK homepages ($\aleph^2$=5.625, p< .01).

The UK homepages evenly used three different types of navigational toolbars. The use of pull down navigational toolbar ($\aleph^2$=4.444, p< .01) and text only navigational toolbars ($\aleph^2$=4.329, p< .01) were prominently displayed in the UK homepages

whereas the SK homepages distinctively preferred rollover menus ($\aleph^2$=6.400, p< .01), which is consistent with the results of 2006.

Table 28 shows the statistical significance of mean differences in U2I composite score between the two countries by year. The result in the second row shows that the mean U2I composite score for the SK homepages (M=3.65) was higher than that for the UK homepages (M=2.80) in 2012, but they are not statistically significant.

Therefore, the H1 stating that SK websites exhibit more interactive features related to U2I interaction than the UK websites, is not supported in 2012. This result is contrary to *Charity 06 Study*.

Table 28. Composite score of U2I interactivity: A comparison of country (SK and the UK) by year

Country　　　　　　　Year	SK		UK		ANONA Results (df=1)	
	Mean	SD	Mean	SD	F	P
2006	4.95	3.36	1.75	1.97	13.478	.001*
2012	3.65	2.89	2.80	3.19	.781	.383
Note: e.g. U2I composite score = the number of U2I interactive design features employed out of fifteen (0-15). * p< .01.						

In addition, we compared each country's use of U2I interactive design features to examine whether any changes have happened during the time gap of 6 years (2006 and 2012). The results of an ANOVA test in Table 29 show no statistical significance of mean differences in U2I interactivity composite score for 2006 and 2012 in each country. Therefore, the U2I interactive design features used by SK and the UK homepages in 2006 have not changed significantly in 2012.

Table 29. Composite score of U2I interactivity: A comparison of year by SK and the UK

Country \ Year	2006		2012		ANONA Results (df=1)	
	Mean	SD	Mean	SD	F	P
SK	4.95	3.364	3.65	2.889	1.719	.198
UK	1.75	1.970	2.80	3.189	1.569	.218
Note: e.g. U2I composite score = the number of U2I interactive design features employed out of fifteen (0-15). * p< .01.						

However, there are a few noteworthy findings in each country. Table 30 shows the frequency distribution and $\aleph^2$ results of U2I interactive design features of year by each country. The second column of Table 30 demonstrates the comparison of 2006 and 2012 for SK while the third column shows the comparison for the UK.

In the SK homepages, the use of animation ($\aleph^2$=12.907, p< .01) and audio ($\aleph^2$=8.485, p< .01) significantly decreased in 2012 compared to 2006. Although the use of the same features was not statistically significant, their use increased in 2012 in the case of the UK homepages. The use of video increased dramatically in the UK homepages when comparing 2006 with 2012 ($\aleph^2$=11.613, p< .01).

Text versions were still favoured by UK homepages in both years. The option for adjusting font size was found in 2012 more than in 2006 in the UK homepages, and that difference was statistically significant ($\aleph^2$=8.485, p< .01).

Unlike 2006 (N=0) the UK homepages prominently favoured the use of rollover navigational toolbars (N=6) in 2012, and this was statistically significant ($\aleph^2$=7.059, p< .01). Meanwhile text only navigational toolbars were less used in 2012 (N=6) compared with in 2006 (N=14) ($\aleph^2$=6.400, p< .01).

Table 30. The comparison of year for U2I interactive design features in SK and the UK

Country	SK				UK			
U2I interactivity design feature	2006	2012	$\aleph^2$	P	2006	2012	$\aleph^2$	P
	(n=20)		(df=1)		(n=20)		(df=1)	
Font type	0	0	-	-	0	0	-	-
Font size	0	1	1.026	.311	0	7	8.485	.004**
Text version	0	0	-	-	4	4	.000	1.000
Mobile version	0	0	-	-	0	0	-	-
Other language support	11	8	.902	.342	0	0	-	-
Links to donator's list	12	6	3.636	.057	1	0	1.026	.311
Links to how donation used	17	19	1.111	.292	7	13	3.600	.058
Animation	18	7	12.907	.000**	4	6	.533	.465
Audio	7	0	8.485	.004**	0	1	1.026	.311
Video	7	10	.921	.337	0	9	11.613	.001**
Pull down navigational toolbar	1	0	1.026	.311	5	4	.143	.705
Rollover navigational toolbar	13	14	.114	.736	0	6	7.059	.008**
Text only navigational toolbar	5	1	3.137	.077	14	6	6.400	.011*
Pop-up window	8	6	.440	.507	0	0	-	-
Visitor counter	0	1	1.026	.311	0	0	-	-
Total	99	73			35	56		
* p <.05. **p <.01.								

U2C Interactivity

The H2 states that "The UK websites exhibit more interactive design features related to the U2C interaction type than SK websites".

As shown in the third column in Table 31 both countries overall have similar use of U2C interactive design features and this is consistent with the *Charity 06 Study* (year 2006). With regard to site registration, the SK homepages showed more frequency than the UK homepages ($\aleph^2$=17.143, p <.01). The keyword search function was also significantly favoured by the UK homepages compared to the SK homepages ($\aleph^2$=15.824, p <.01).

Table 31. The comparison of U2C interactive design feature in SK and the UK by year (2006 and 2012)

Year	**2006**				**2012**			
U2C interactivity design feature	**SK**	**UK**	**$\aleph^2$**	**P**	**SK**	**UK**	**$\aleph^2$**	**P**
	(n=20)		**(df=1)**		**(n=20)**		**(df=1)**	
Site registration	16	5	12.130	.000**	20	8	17.143	.000**
Keyword search	4	17	16.942	.000**	7	19	15.824	.000**
Donation capability	13	9	1.616	.204	15	17	.625	.429
Total	33	31			42	44		
* p <.05. **p <.01.								

The results of an ANOVA test, available in the third row of Table 32 show no statistically significanct mean differences in U2I composite scores between the two countries. Therefore, the second hypothesis H2, stating that the UK website exhibit more interactive design features related to U2C interaction than SK websites, is not supported, and this result is in line with the *Charity 06 Study*.

Table 32. Composite score of U2C interactivity: A comparison of SK and the UK by year

Interaction type	**SK**		**UK**		**ANONA Results (df=1)**	
	Mean	SD	Mean	SD	F	P
2006	1.65	1.04	1.55	1.05	.092	.764
2012	2.10	.788	2.20	.834	.152	.699
Note: e.g. U2Icomposite score = the number of U2I interactivity design features employed out of sixteen (0-16). * p< .01.						

In addition, we compared each country's use of U2C interactive design features to examine whether any changes have happened during the time gap of 6 years (2006 and 2012). Both countries show increases in the use of U2C interactive design features between 2006 and 2012. However, the results of an ANOVA test in Table 33 show no statistically significant mean differences in U2C interactivity composite scores in each country. Therefore, the U2C interactive design features used by SK and the UK homepages in 2006 have not changed significantly in 2012.

Table 33. The comparison of year for U2C interactive design features in SK and the UK

Country	SK				UK			
U2C interactivity design feature	2006	2012	$\aleph^2$	P	2006	2012	$\aleph^2$	P
	(n=20)		(df=1)		(n=20)		(df=1)	
Site registration	16	20	4.444	.035	5	8	1.026	.311
Keyword search	4	7	1.129	.288	17	19	1.111	.292
Donation capability	13	15	.476	.490	9	17	7.033	.008
Total	33	42			31	44		
* p <.05. **p <.01.								

The results of an ANOVA test in Table 34 show statistically significanct mean differences in U2C interactivity composite scores from 2006 and 2012 in each country. In SK homepages (the first row from Table 34) the mean U2I composite score for 2012 (M=2.10) was higher than that for 2006 (M=1.65), but the result was not statistically significant. In contrast, in the UK homepages (the second row from Table 34) the mean U2I composite score for 2012 (M=2.20) was higher than those of 2006 (M=1.55), and the result was statistically significant (p < .05). Therefore, it is considered that U2I interactive design features have increased in the UK homepages but not in the SK homepages dugin the time gap of 6 years.

Table 34. Composite score of U2C interactivity: A comparison of year by country (SK and the UK)

Year / Country	2006		2012		ANONA Results (df=1)	
	Mean	SD	Mean	SD	F	P
SK	1.65	1.040	2.10	.788	2.379	.131
UK	1.55	1.050	2.20	.834	4.701	.036*
Note: e.g. U2I composite score = the number of U2I interactive design features employed out of fifteen (0-15). * p< .05.						

U2P Interactivity

The H3 states that "The UK websites exhibit more interactive design features related to U2P interaction than SK websites".

As shown in the second column of Table 35 the UK homepages overall tended to use more U2P interactive design features than did the SK homepages, which is inconsistent with the *Charity 06 Study*. For example, sign in newsletters ($\aleph^2$=15.000, p <.01), and email to webmaster ($\aleph^2$=7.033, p <.01) were significantly more frequently used in the UK homepages than the SK homepages. Like 2006, the U2P interactive design features such as chat room, electronic-form inquires and email to organisation agents were not found in both samples.

Table 35. The comparison of U2P interactive design feature in SK and the UK by year (2006 and 2012)

Year	2006				2012			
U2P interactivity design feature	SK (n=20)	UK	$\aleph^2$ (df=1)	P	SK (n=20)	UK	$\aleph^2$ (df=1)	P
Bulletin board systems	20	1	36.190	.000**	18	16	.784	.376
Chat room	0	0	-	-	0	0	-	-
Electronic-form inquiries	0	0	-	-	0	0	-	-
Online poll or survey	1	0	1.026	.311	2	2	.000	1.000
Sing in newsletter	0	0	-	-	2	14	15.000	.000**
Email to Webmaster	16	15	.143	.705	9	17	7.033	.008**
Email to organisation agent	0	0	-	-	0	0	-	-
Links to Web 2.0 sites	Was not examined				6	18	15.000	.000**
Total	37	16			37	67		
* p <.05. **p <.01.								

Due to Web 2.0 technology development the design features related to Web 2.0 capability such as blogs, wikis, and social networking links were additionally included for coding as U2P interactive design features. These however, were not included in the *Charity 06 Study* because they were not visible.

The use of links to Web 2.0 sites such as wikis, blogs and social networking sites was noticeably different between the two countries in 2012 (see the second column and eighth row from Table 35). The UK homepages (N=18) showed more frequency than the SK homepages (N=6), and the differences are statistically significant ($\aleph^2$=15.000, p <.01).

Table 36 shows the frequency distribution and $\aleph^2$ results of 12 Web 2.0 related interactive design features used by the two countries. The results show the most common Web 2.0 interactive design features were Twitter (N=18), Facebook (N=13) and YouTube (N=9) for the UK homepages whereas in Korea Naver blogs (N=8), Facebook (N=6) and Twitter (N=6) were prominently displayed on the SK homepages, and they were all statistically significant (p<.05).

Table 36. Web 2.0 features of U2P interactivity used by SK and the UK in 2012

Variable	SK	UK	$\aleph^2$	P
			(df=1)	
Blog	0	6	7.059	.008**
Facebook	6	13	4.912	.027*
Flickr	0	6	7.059	.008**
Google+2	0	2	2.105	.147
Me2day	3	0	3.243	.072
Naver Blog	8	0	10.000	.002**
Podcasts	0	2	2.105	.147
RSS	4	3	.173	.677
Share	0	1	1.026	.311
Twitter	6	18	15.000	.000**
Youtube	1	9	8.533	.003**
Vimeo	0	2	2.105	.147
Total	28	62		
* p <.05.				
**p <.01.				

As shown in the second row of Table 37 the mean of the U2P interactivity composite score for the UK homepages (M=3.35) was higher than the SK homepages (M=1.85), and they are statically significant in 2012 (F=10.809, p< .01).

Therefore, the H3, is supported, and this result is inconsistent with the *Charity 06 Study*.

Table 37. Composite score of U2P interactivity: A comparison of SK and the UK by year

Interaction type	SK		UK		ANONA Results (df=1)	
	Mean	SD	Mean	SD	F	P
2006	1.85	.489	.80	.523	42.969	.000*
2012	1.85	1.424	3.35	1.461	10.809	.002*
Note: e.g. U2Icomposite score = the number of U2I interactivity design features employed out of sixteen (0-16). * p< .01.						

In addition, we compared each country's use of U2C interactive design features to examine whether any changes have happened in each country during the time gap of 6 years (2006 and 2012).

Table 38. The comparison of year for U2P interactive design feature in SK and the UK

Country	SK				UK			
U2P interactivity design feature	2006	2012	$\aleph^2$	P	2006	2012	$\aleph^2$	P
	(n=20)		(df=1)		(n=20)		(df=1)	
Bulletin board systems	20	18	2.105	.147	1	16	23.018	.000
Chat room	0	0	-	-	0	0	-	-
Electronic-form inquiries	0	0		-	0	0		-
Online poll or survey	1	2	.360	.548	0	2	2.105	.147
Sing in newsletter	0	2	2.105	.147	0	14	21.538	.000
Email to Webmaster	16	9	5.227	.022	15	17	.625	.429
Email to organisation agent	0	0	-	-	0	0	-	-
Links to Web 2.0 sites	N/A	6			N/A	18		
Total	37	37			16	67		
* p <.05. **p <.01.								

The results of an ANOVA test in Table 39 show statistical significance of mean differences in U2P interactivity composite scores for 2006 and 2012 in each country.

In the SK homepages the mean U2P composite score was the same in 2006 and 2012 (M=1.85). In contrast however, for the UK homepages, the mean U2I composite score for 2012 (M=3.35) was higher than in 2006 (M=.80), and the result is statistically significant (p < .01). Therefore, it is considered that U2P interactivity has been increased in the UK homepages over time unlike the SK homepages in which no change was found.

Table 39. Composite score of U2P interactivity: A comparison of year by country (SK and the UK)

Country Year	2006		2012		ANONA Results (df=1)	
	Mean	SD	Mean	SD	F	P
SK	1.85	.489	1.85	1.424	.977	.329
UK	.80	.523	3.35	1.461	54.010	.000*
Note: e.g. U2I composite score = the number of U2I interactive design features employed out of fifteen (0-15). * p< .01.						

U2U Interactivity

Table 40 provides the frequency distribution and ℵ² results of U2U interactive design features between two countries in 2012. The SK homepages overall tended to use more U2U interactive design features than did the UK homepages, which is in line with the *Charity 06 Study*. Like the *Charity 06 Study* the only interactive design feature used in the SK and the UK homepages was the online community but this was not statistically significant.

Table 40. The comparison of U2U interactive design feature in SK and the UK by year (2006 and 2012)

Year			2006				2012	
U2U interactivity design feature	SK (n=20)	UK	$\aleph^2$ (df=1)	P	SK (n=20)	UK	$\aleph^2$ (df=1)	P
Bulletin board systems	0	0	-	-	0	0	-	-
Chat room	0	0	-	-	0	0	-	-
Online community	7	0	8.485	.004**	5	1	3.137	.077
Email to other visitors	0	0	-	-	0	0	-	-
Total	7	0			5	1		
* p <.05. **p <.01.								

The results of an ANOVA test (in the second row from Table 41) reveal that the mean U2U composite score for the SK homepages (M=.25) was higher than that for the UK homepages (M=.05) but they are not statistically significant. Therefore, we consider that the H4 stating that SK websites use more interactive design features related to U2U interaction than the UK websites, is considered to be not supported, which is inconsistent with the *Charity 06 Study*.

Table 41. Composite score of U2U interactivity: A comparison of SK and the UK by year

Interaction type	SK		UK		ANONA Results (df=1)	
	Mean	SD	Mean	SD	F	P
2006	.35	.489	.00	.000	10.231	.003*
2012	.25	.444	.05	.224	3.234	.080
Note: e.g. U2Icomposite score = the number of U2I interactive design features employed out of sixteen (0-16). * p< .01.						

With regard to the comparison of the two years in each country, the use of U2U interactive design features has shown little difference, as demonstrated in Table 42. Online community was the only U2U interactive design feature used in both countries. In the SK homepages its use decreased over the time period whereas the UK homepages increased their use although the difference was not statistically significant when comparing 2006 with 2012.

Table 42. The comparison of year for U2U interactive design feature in SK and UK

Country	SK				UK			
U2U interactivity design feature	**2006**	**2012**	$\aleph^2$	**P**	**2006**	**2012**	$\aleph^2$	**P**
	(n=20)		**(df=1)**		**(n=20)**		**(df=1)**	
Bulletin board systems	0	0	-	-	0	0	-	-
Chat room	0	0	-	-	0	0	-	-
Online community	7	5	.476	.490	0	1	1.026	.311
Email to other visitors	0	0	-	-	0	0	-	-
Total	7	5			0	1		
* p <.05. **p <.01.								

The results of an ANOVA test (Table 43) demonstrate no statistical significance in mean differences in U2U interactivity composite scores for 2006 and 2012 in each country. This means that the U2U interactive design features used by SK and the UK in 2006 have not changed significantly in 2012. Therefore, it is considered that U2U interactivity has not changed between the countries over time.

Table 43. Composite score of U2U interactivity: A comparison of year by country (SK and the UK)

Country \ Year	2006		2012		ANONA Results (df=1)	
	Mean	SD	Mean	SD	F	P
SK	.35	.489	.25	.444	.458	.503
UK	.00	.000	.05	.224	1.000	.324
Note: e.g. U2I composite score = the number of U2I interactive design features employed out of fifteen (0-15). * p< .05.						

5.3.4. Discussion

The purpose of the *Charity 12 Study* was to identify national cultural differences in the use of interactive design features of charity websites, which have been created by professional website designers. In addition, the results of the *Charity 06 Study* conducted in 2006 were compared with those of 2012 in order to determine whether there is evidence of cultural manifestation or homogeneity over time as a result of a mature and globalisation of the Internet environment. We firstly examined the 24 interactive design features in charity websites between the two countries as in the

Charity 06 Study, and then compared the results of 2006 (the *Charity 06 Study*) and 2012 of each country in order to detect any changes which might have happened over time in terms of interactive design features.

The overall results of the *Charity 12 Study* demonstrate that there have been some changes towards homogeneity between SK and the UK in 2012 compared to 2006 although there is still evidence of some cultural sensitivity with regard to charity website interactivity.

Overall, the 2012 results revealed that both countries used interactive design features similarly regarding the three interaction types (U2I, U2C, and U2U) but differently in the case of U2P interactivity. The UK websites used more U2P interactivity than did their SK counterparts, and the proposed hypothesis stating that the UK websites would exhibit more U2P interactive design features than SK websites was supported. The other three hypotheses with regard to U2I, U2C and U2U interactivity are not supported.

The SK websites exhibit more U2I interactive design features than the UK websites in 2006 but this was changed in 2012. The result revealed that similar use of U2I interactive design features were found in both the SK and the UK websites. However, there were noteworthy observations in each country. For example, SK websites utilised other language support option (e.g. English and Chinese) more than those in the UK websites in 2006 and 2012. The findings indicate that SK websites may have motivations for reaching out to a global audience (e.g. English speaking visitors living in SK or worldwide) or may follow global trend that English still dominates as the language of choice (Robbins & Stylianou, 2010). Although multimedia presentation was more prominently used in the SK websites than in the UK websites in both 2006 and 2012, there was a difference in each country. Overall the use of animation and audio was significantly decreased in the SK websites contrary to the UK websites in which all three design features (i.e. animation, audio and video) have increased. As shown Table 30, for example in SK websites the use of animation was significantly lower in 2012 than in 2006. In addition, no audio was found in the sample of the SK websites in 2012 compared with those (N=7) of 2006, and the different is significant ($\aleph^2$=8.485, p <.01). The UK websites, on the other hand

contained more usage of video in 2012 ($\aleph^2$=11.613, p <.01) compared with in 2006 (Table 30).

The *Charity 12 Study* found more similarities between the two countries in terms of multimedia presentation 2012, which is contrary to the *Charity 06 Study*. It is noteworthy that the SK websites used much less animation, audio and video in 2012 compared to 2006. This is somewhat surprising because some studies found that SK websites have stronger preferences for the use of animations and streaming video (Kim et al., 2009). Our *Pilot Study* and *Charity 06 Study* also supported the same view. Another interesting result was found in the UK websites where animation and video exhibited noticeably more in 2012 than in 2006. Perhaps this change was made by dramatic increase in Broadband infrastructure in the UK, reaching the 5th wired market in OECD countries in 2011 (OECD, 2011a). Website development is affected by the differences in technical development in countries (Singh & Baack, 2004).

As far as U2P interactivity is concerned, there was statistically significant difference between the two countries in both 2006 and 2012. Unlike 2006 the UK websites utilised more U2P interactive design features in 2012 compared to their SK counterparts as expected. Due to the rise of the Web 2.0 technology other interactive technologies such as blogs, wikis, and social networking sites (Jenkins, 2006; Perlmutter, 2008) were found to have employed in both countries. In 2006 these technologies were uncommon. Facebook and twitter were found to be the most popular features for both countries although Naver blogs were also commonly used in the SK websites. More than double the UK websites contained such features than did their SK counterparts.

Differences between the two countries are not as accentuated as expected with regard to the use of interactive design features between the two countries in 2012 compared to 2006. This is perhaps due to "cultural convergence" being occurred in the two countries examined. However, there are a few interactive design features that were used in SK websites more than in the UK and vice versa. For example, as a part of U2I interactivity, donator's list and donation's use continued to exhibit in the SK websites more than in the UK websites. So did the use of other language support option and pop-up. The clear preference for option of font size and text version in the

UK websites in both 2006 and 2012 may not be influenced by its high broadband penetration infrastructure. Text version removes all graphics on the website and provides a text only version using the 'text version' link on the page, which is normally used for a slow Internet connection environment. In addition, SK websites were more likely to include rollover menu and pop-ups than the UK websites. The result was consistent with the study conducted by Kim et al. (2009). Pop-up windows are used to attract user's attention (Edwards et al., 2002). They introduce new windows and require users to process extra windows at one time, providing multiple processing online experiences. One possible explanation for this difference is that SK is considered as polychromic culture, where multitasking is not uncomfortable (Hall, 1973). In online environment people from polychromic time orientation might be more tolerant to multiple tasks and presentation. On the contrary, the UK is considered a monochromic-time orientation culture, focusing on one task at a time and being less comfortable by other tasks.

Language is a distinctive cultural symbol. English is the leading Internet language (Internet World Stats, June 2012). However, there has been a long accepted notion that the language of the target market should always be exhibited in Internet global communication. Many companies create their websites with options for various languages (Nicovich & Cornwell, 1998). The language options were also found in Arabic websites in which most of the websites were bilingual Arabic/English or additional languages (52%), Arabic only (30%) and English only (18%). A fewer websites had other languages options such as Spanish and French. In our study, only SK websites were found to have other language options mainly English including Korean as the primary language. One SK website contained Chinese and English as a language option but the UK websites do not have other language option neither 2006 nor 2012. The fact that English and Chinese language option continued to be supported by SK websites suggesting that there was effort (or possibly perceived need) to internationalise information about the charity organisation more broadly. This may also be explained by following global trend that English still predominant language choice (Robbins & Stylianou, 2010).

With regard to U2C interactivity, our observations regarding site registration requirements seem to point to increase both countries during the time period that we

studied although the differences in U2C interactivity were not significant between the two countries. The keyword search function was examined as one of the design features of U2C interactivity. The usage of keyword search function in SK websites was not as popular as in the UK websites either in 2006 or 2012 but both countries prefer to place in the top right of the page. T he result is not consistent with the study conducted by Kralisch & Berendt (2004). After examining a large log file of a widely frequented multilingual website, they found the clear preferences for search engines among the High Uncertainty Avoidance cultural group in which for example, SK is included. However, our results may be explained by the characteristics of Low Context cultures and Low Uncertainty Avoidance cultures introduced by Hall (1989) and Hofstede (1991). Members of Low Context cultures and Low Uncertainty Avoidance cultures such as the UK are more likely to include search engine than members of High Context and High Uncertainty Avoidance cultures do such as SK. Navigation through hypertext collection in contrast to keyword searching, contains many resources and various items' result, which thus reduce the ignorance or vagueness people may have about a certain topic (Rice et al., 2001). Marcus (2000) also argues that cultures with a Low Long Term Orientation such as the UK as opposed to cultures with a High level of Long Term Orientation, will expect the immediate results and achievement of goals. In the context of information searching, these Short Term Oriented cultures therefore should employ more often for the user of the search capability than Long Term Oriented cultures do. In contrast, Long Term Oriented cultures should prefer to hyperlink navigation that requires more tolerance to achieve navigational and functional goals (Rice et al., 2001).

The interactive design features related U2U interactivity were not utilised either SK or the UK websites. The results show that charities websites of both countries do not actively let visitors communicate with other visitors. The UK websites utilised more interactive design features, which allow users to communicate with the website provider (U2P interactivity) in 2012.

5.4.   Study of International Blogs

Owing to Web 2.0 technology, the separation between designers and consumers has become blurred. With Web 2.0 technology users are providers of information on the Web and they participate in and create their own online environments, rather than being restricted to passive consumer's (user's) positions. In particular, Web 2.0 focuses on collaborative design environment and social networks, characterised by "User-generated-content" (hence the new term emerged) in which "content" becomes a broad term. Users can create contents, which are artefacts, with existing tools (e.g., writing an article with a word processor) or changing the tools (e.g., adding macros to extend the word processor as a tool) (Boyd & Ellison, 2008; Fischer, 2009).

The results of *Charity 06* and *Charity 12 Studies* revealed some common trends towards the use of interactive design features in charity websites created by professional designers, which possibly indicate movement towards homogeneity in website design. However, there is also evidence of differences on the use of interactive design features between the two countries.

In this study, we focus on end-users and their way of deciding upon which particular interactive design features will be used in their online environment. The *Pilot*, *Charity 06* and *Charity 12 Studies* targeted websites, which are designed by professional practitioners (website designers). These studies could not address end-users' preference towards the usage of interactive design features, because professional designers or developers often follow the global-wide established and well-tested web design standards and conventions, and thus they may overlook cultural sensitivity in website design.

Therefore, the *Study of International Blogs* focuses on website design features, which can be chosen and used by end-users themselves. Blogging and micro-blogging would be an obvious choice.

The use of interactive design features in blogs is entirely under their owner's control. Hence, it is believed that blogs might reflect their preferences towards interactive design features related to their owner's cultural background, more accurately than any

other types of websites. It is acknowledged that the interface design of a blog remains primarily beyond a user's control because the interface design apparently functions in an arhetorical way, which is preformatted by the blog hosting sites, i.e. it allows users to post the desired content of the blog easily. Nevertheless, what users have control over is the content – content in this case are the words, photos, hyperlinks, videos, sounds and similar. Users in blogs remain limited to the predetermined options of interactive design features, but having a choice of design is clearly more empowering than having no choice (Arola, 2010). Most blog engines provide their own typical blog design and it can be also changed through templates, which provide a standard format of the interfaces with predefined columns, side bar orientation, background colours and images. Although the interface can be modified differently by a user's preferences to some extent, some of design features we examined in the *Charity 06* and *Charity 12 Studies* may not be directly applicable to the *Study of International Blogs*. This applies to page layout and the type and orientation of navigation, because it is not easy to detect whether they are chosen by the user or through the template provided by the blog site.

5.4.1. Aim of the Study

The study aims to investigate how end-users from different cultures make use of interactivity on website deisgn. Therefore, the purpose of the *Study of International Blogs* was to examine whether there are differences or preferences in the choice of interactive design features used in blogs between the two countries, SK and the UK.

Like the previous studies, we used content analysis in order to collect and compare data on the interactive design features in blogs in the UK and SK. The following sections describe the characteristics of blogs and methodology of the study. The measurement and sampling procedure will be discussed followed by an analysis of the findings and implications.

5.4.2. Method

As introduced in Chapter 4 and applied to the *Pilot, Charity 06* and *Charity 12 Studies*, the content analysis was applied to each homepage of the blogs from SK and the UK.

In subsection 4.1 we identified four interaction types and only three of them will be used in this study: B2I (Blogger to Interface), B2C (Blogger to Content) and B2B (Blogger to Blogger) interactivity. Blogger to Provider interactivity was not included because we explored the cultural differences within one internationally popular blog hosting site (Blogger.com). In other words, the provider is same to both SK and the UK in this context. Table 44 demonstrates the summary of interaction types, their definitions and proposed hypotheses for this study.

Table 44. Summary of type of interaction, its definition and hypotheses proposed

Interaction type	Definition	Hypotheses
B2I (Blogger to Interface)	Allowing a user to search or choose a range of interface features that are provided in the blogs	H1: SK blogs exhibit more interactive design features related to U2I interaction than the UK blogs.
B2C (Blogger to Content)	Allowing a user to input, modify or manipulate the content or messages of the website	H2. The UK blogs exhibit more interactive design features related to U2C interaction than SK blogs.
B2B (Blogger to User)	Allowing a user to communicate with other users who visited the website.	H3. SK blogs exhibit more interactive design features related to B2Binteraction than the UK blogs.

Measurement

The framework of interaction types from Table 21 lists the 12 interactive design features in its rightmost column. Their groupings are mapped to the four types of interaction (B2I, B2C and B2B interactivity), which are listed in the leftmost columns of Table 21. These 12 interactive design features will have to be 'measured' in terms of checking whether they are present or not in the chosen blogs. However, before we measure them, we have to clarify their meaning in order to perform better coding, as required by the content analysis. These clarifications will be applied when 'measuring' the presence of interactive design features coded as either "Y" or "N"

(and giving the number if the answer was "Y"). We illustrate these clarifications in Table (APPENDIX II). We have added the two rightmost columns from Table 21 for accommodating clarifications and codes for all interaction types.

The content of Table in APPENDIX II is self-explanatory. For example, for the B2I (Blogger to Interface) interaction type in the leftmost column (first column) of Table, we list all their interactive design features in the second column, and for each of these design features from the second column we give their clarifications in the third column. The fourth column shows examples of codes, which will have to be allocated for each design feature.

Sampling procedure

200 blogs from on international blog website (www.Blogger.com) owned by end-users from SK and the UK were selected. Data was collected by two independent coders. 100 blogs that are owned by the UK users and 100 blogs by SK users have been randomly selected from the Blogger. We excluded blogs that were either affiliated to or been created by commercial organisations or other institutions. Blogs that were posted within 30 days of the sampling were also excluded. The bloggers' country was identified through the location in each of the blogs. Only the front page of the selected blogs were downloaded and assessed. The unit of analysis was the front page of each blog. Two coders independently examined interactive design features from Table in APPENDIX II and enter codes by referring to their clarification.

The Blogger (blogger.com), one of the most popular blog hosting sites owned by Google was selected as it provides a worldwide service, including SK and the UK, so that the choice of interactive design features by the users from the two countries can be directly compared within the same environment.
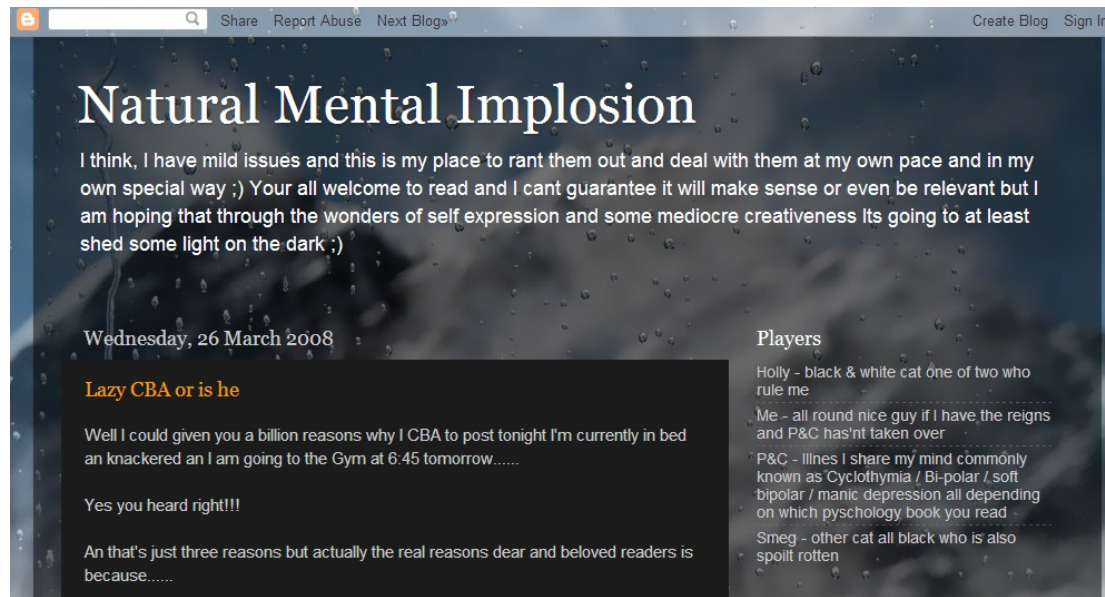
Figure 15 Sample of blogs, the UK blogger.com
(http://naturalmentalimplosion.blogspot.co.uk) captured on 26th March 2008

Two trained coders, who were both familiar with blogs and fluent in Korean and English, evaluated a sample of blogs. Training sessions have been used to reconcile the coding differences between the coders. For this purpose, the two coders coded the same 20 blog samples from SK and the UK. Then, the coding results were compared to see inter-coder reliability using Cohen's kappa (k) formula. The coders' reliability for each coding dimension for each country was above the acceptable indicator (that is, higher than 0.75 as discussed in (Banerjee et al., 1999)).

5.4.3. Data Analysis and Results

In order to test our hypotheses from Table 44 we analysed the data collected in the coding sheets. It is important to note we focused on interactive design features, which were coded in coding sheet (APPENDIX VI) for each of the 200 blogs. They address the U2I, U2C, and U2U interaction types.

The coding sheets were examined by counting results of coding and creating tables, which will enable us to analyse the results of the study. Therefore, we performed two ways of summarising data collected in the coding sheets:

1) We looked at <u>each interactive design feature</u> (the second column of Table in APPENDIX II) across all 200 blogs and count the number of "YES" codes for each feature. The "YES" code indicates that a particular interactive design feature is present in a particular blog. Therefore, counts of number of "YES codes" for each interactive design feature will give us an indication that a particular interactive design feature might be prevalent in a particular country;

2) We counted the number of "YES" codes <u>per each blog</u> and created its composite score. For example, if a blog contained all 5 interactive features, which belong to U2I interaction type, its composite score was 5. Therefore, the possible range of the U2I composite score was 0 to 5. Consequently, a particular composite score applies to a particular interaction type (it does not apply to all interaction types). There are NO composite scores for all interaction types because we are interested in each interaction type when testing our hypotheses.

To test the hypotheses we created cross-tabulation for each of the 14 interactive features using $\aleph^2$ tests, which were performed upon counts created in 1) and 2) above. An ANOVA test was performed upon composite scores from 2) above and between the two countries in order to examine the existence of mean differences in composite scores.

B2I Interactivity

Table 45 presents the frequency distribution and $\aleph^2$ results of B2I interactive design features between the two countries. The UK blogs were more likely to use B2I interactive design features than were their SK counterparts. For example, "link to blogroll" (N=5, $\aleph^2$=33.683, p <.01) and "visitor counter" (N=25, $\aleph^2$=12.054, p <.01) were more frequently observed in the UK blogs than in the SK blogs, and the differences are statistically significant. Similarly, the use of "animation" ($\aleph^2$=4.031, p <.05.) was significantly higher for the UK blogs than it was for the SK blogs. However, the use of "video" was much higher and significant for the SK blogs ($\aleph^2$=4.700, p <.05.) than for the UK blogs.

Table 45. B2I (Blogger to Interface) interactivity in SK and the UK blogs on Blogger (blogger.com)

B2I interactivity design feature	SK	UK	$\aleph^2$	P
	(n=100)		(df=1)	
Link to blogroll	5	39	33.683	.000**
Animation	3	10	4.031	.045*
Audio	4	2	.687	.407
Video	30	17	4.700	.030*
Visitor counter	7	25	12.054	.001**
Total	49	93		
* p <.05. **p <.01.				

Table 46 shows the statistical significance of mean differences in B2I composite score between the two countries. The result in the first row of Table 46 shows that the mean B2I composite score for the UK blogs (M=.93) was higher than those for the SK blogs (M=.49), and they are statistically significant (F=14.800, p< .01).

Therefore, the H1 stating that SK blogs exhibit more interactive features related to B2I interaction than the UK blogs, is not supported.

Please note that Table 46 has composite scores for ALL interaction types: B2I, B2C, and B2B interactivity, therefore we will refer to different rows of Table 46 throughout the following two subsections.

Table 46. Each interactivity composite score for SK and the UK blogs on Blogger (blogger.com)

Interaction type	SK		UK		ANONA Results (df=1)	
	Mean	SD	Mean	SD	F	P
B2I	.49	.659	.93	.935	14.800	.000*
B2C	1.04	.425	1.02	.284	.153	.696
B2B	.99	.810	.82	.657	2.655	.105

Note: e.g. B2I composite score = the number of B2I interactive design features employed out of three (0-5).
* p <.01.

B2C Interactivity

As shown in Table 47 both countries overall have similar use of B2C interactive design features. None of the B2C interactive design features were found to be statistically significant between the two countries. The result of an ANOVA test in the second row of Table 46 shows no statistical significance of mean differences in B2C composite scores between the two countries.

Therefore, the H2 stating that the UK blogs exhibit more interactive features related to B2C interaction than SK blogs, is not supported.

Table 47. B2C (Blogger to Content) interactivity in SK and the UK blogs on Blogger (blogger.com)

B2C interactivity design feature	SK	UK	$\aleph^2$	P
	(n=100)		(df=1)	
Template modification	1	0	1.005	.316
Keyword search	8	7	.072	.788
Comment capability	93	95	.355	.552
Trackback	2	0	2.020	.155
Total	104	102		

B2B Interactivity

Table 48 provides the frequency distribution and $\aleph^2$ results of B2B interactive design features between the two countries. The results show that the SK blogs, as compared to the UK blogs, used more B2B interactive design features. For example, "link to email to blogger" was more prominently displayed in the SK blogs than in the UK blogs, and the differences are statistically significant ($\aleph^2$=4.604, p <.05.). Although other B2B interactive design features except "link to blogger's personal homepage" were observed more in the SK blogs than in the UK blogs, and they are not all statistically significant.

The result of an ANOVA test in the third row of Table 46 shows no statistical significance of mean differences in B2B composite scores between the two countries.

Therefore, H4 stating that SK blogs use more interactive design features related to B2B interaction than the UK blogs, is considered to be not supported.

Table 48. B2B (Blogger to Blogger) interactivity in SK and the UK blogs on Blogger (blogger.com)

B2B interactivity design feature	SK	UK	$\aleph^2$	P
	(n=100)		(df=1)	
Guestbook	4	1	1.846	.174
Email to blogger	65	50	4.604	.032*
Chatroom	3	0	3.046	.081
link to blogger's personal homepage	25	30	.627	.428
Online poll or survey	2	1	.338	.561
Total	99	82		
* p <.05.				

5.4.4. Discussion

The aim of the study was to examine whether the use of interactive design features of SK blogs differs from those of the UK blogs. 100 blogs of Blogger (blogger.com) from each country were chosen to examine total of 12 interactive design features.

The results appear to be surprising. They indicate that none of our hypotheses were supported. There was a little difference in B2C and B2B interactivities between the two countries, except in B2I interactivity. Unlike in Charity 06 and *Charity 12 Study*, the UK blogs utilised more B2I interactive design features than the SK blogs. Link to blogroll and visitor counter were used more in the UK blogs than in their SK counterparts. With regard to multimedia presentation, the UK blogs used animation more than the SK blogs while video was displayed more in the SK than in the UK blogs.

Overall the results were not consistent with the previous studies. We looked for the reasons.

We observed that Blogger (blogger.com) is the international blog hosting site attracting users from many different countries. At the time the study was conducted, we noted that there were 18,600 blogs declared to be South Korean and 346,000 to be

the UK. We also noted that out of our sample of 100 South Korean blogs, 56 are exclusively in Korean, 35 combine English and Korean languages and 9 are exclusively in English. This may indicate that either South Korean bloggers may have been influenced by other cultures (e.g. English speaking countries) or they may want to post blogs on Blogger in order to reach out to a global audience. These observations led us to speculate that blogs posted by South Koreans on the Blogger site may not be typical of South Korean blogs because Blogger is an international blog hosting site.

Leaving aside the question of whether the question of cultural differences is irrelevant if most users use global websites to create their blogs, we looked at the obvious alternative. This led us to conduct another study (the *Study of SK and UK Blogs*) to examine a South Korean based blog hosting website that would presumably represent typical South Korean bloggers, and compare the differences with the British sample of the Blogger. Therefore, all the South Korean blogs from the the *Study of International blogs* have been replaced by blogs of a South Korean based hosting website for comparison.

5.5.   Study of SK and UK Blogs

We selected Naver blog (blog.naver.com), one of the most popular blog hosting sites in SK for the *Study of SK and UK Blogs*. One hundred blogs managed by South Korean users from Naver blogs were randomly selected. As in the *Study of International Blogs* only the front pages of the blogs were downloaded and analysed. These have then been compared with one hundred UK blogs used in the *Study of International Blogs*. We used the same sampling, coding procedure and measurement for the new 100 SK Naver blogs as did in the *Study of International Blogs*.

5.5.1. Data Analysis and Results

In order to test our hypotheses from Table 44 we analysed the data collected in the coding sheet. It is important to note that we focused on interactive design features,

which were coded in coding sheet (APPENDIX VI) for 100 SK Naver blogs and 100 UK Blogger blogs. They address the B2I, B2C, and B2B interaction types. We used the same analysis as the *Study of International Blogs* and the details are given in subsection 5.4.3.

As expected the results in the *Study of SK and UK Blogs* are different from those in the *Study of International Blogs* and statistical differences between the two samples are significant. Unlike the *Study of International Blogs*, the findings in the *Study of SK and UK Blogs* showed significant differences in overall interactive design features that were examined.

B2I Interactivity

Table 49 presents the frequency distribution and $\aleph^2$ results of B2I interactive design features between the two countries. SK blogs were more likely to use B2I interactive design features than were the UK blogs. For example, "link to blogroll" ($\aleph^2$=4.522, p <.05), "audio" ($\aleph^2$=82.721, p <.01) and "visitor counter" ($\aleph^2$=86.445, p <.01) were more prominently displayed in the SK blogs than in the UK, and their differences are all statistically significant.

Table 49. B2I (Blogger to Interface) interactivity in SK blogs on SK blogs (Naver) and the UK blogs on Blogger (blogger.com)

B2I interactivity design feature	SK	UK	$\aleph^2$	P
	(n=100)		(df=1)	
Link to blogroll	54	39	4.522	.033*
Animation	12	10	.204	.651
Audio	62	2	82.721	.000**
Video	8	17	3.703	.054
Visitor counter	90	25	86.445	.000**
Total	226	93		
* p <.05. **p <.01.				

Table 50 shows the statistical significance of mean differences in B2I composite score between the two countries. The result in the first row of Table 50 shows that

the mean B2I composite score for the SK blogs (M=2.26) was higher than those for the UK blogs (M=.93), and they are statistically significant (F=99.642, p< .01).

Therefore, the H1 stating that SK blogs exhibit more interactive design features related to B2I interaction than the UK blogs, is supported, and this is not consistent with the *Study of International Blogs*.

Please note that Table 50 has composite scores for ALL interaction types: B2I, B2C, and B2B interactivity, therefore we will refer to different rows of Table 50 throughout the following two subsections.

Table 50. Each interactivity composite score for SK blogs on Naverand UK blogs on Blogger (blogger.com)

Interaction type	SK		UK		ANONA Results (df=1)	
	Mean	SD	Mean	SD	F	P
B2I	2.26	.949	.93	.935	99.642	.000*
B2C	2.93	.624	1.01	.301	768.323	.000*
B2B	1.08	.307	.82	.657	12.840	.000*
Note: e.g. B2I composite score = the number of B2I interactive design features employed out of three (0-5). * p <.01.						

B2C Interactivity

Table 51 shows the frequency distribution and $\aleph^2$ results of B2C interactive design features between the two countries. Overall, the SK blogs were more likely to use B2C interactive design features than were the UK blogs. For example, regarding "template modification", 13 SK blogs used it, whereas none of the UK blogs did ($\aleph^2$=13.904, p <.01). "Keyword search" ($\aleph^2$=131.549, p <.01) and "trackback" ($\aleph^2$=188.350, p <.01) were also much more significantly displayed in the SK blogs than in the UK blogs.

The result of an ANOVA test in the second row of Table 50 shows that the mean differences in B2C composite scores for the SK blogs (M=2.93) was higher than

those for the UK blogs (M=1.01), and they are statistically significant (F=768.323, p< .01).

Therefore, the H2 stating that the UK blogs exhibit more interactive features related to B2C interaction than SK blogs, is not supported. This result is consistent with the *Study of International Blogs*.

Table 51. B2C (Blogger to Content) interactivity in SK blogs on SK blogs (Naver) and the UK blogs on Blogger (blogger.com)

B2C interactivity design feature	SK	UK	$\aleph^2$	P
	(n=100)		(df=1)	
Template modification	13	0	13.904	.000*
Keyword search	88	7	131.549	.000*
Comment capability	97	95	.521	.470
Trackback	97	0	188.350	.000*
Total	295	102		
* p <.01.				

B2B Interactivity

As shown in Table 52, SK blogs, as compared to the UK blogs, overall used more B2B interactive design features. For example, "guestbook" was more prominently displayed in the SK blogs than was in the UK blogs, and the differences are statistically significant ($\aleph^2$=192.080, p <.05.). However, other B2B interactive design features such as "email to blogger" ($\aleph^2$=45.369, p <.05.) and "link to blogger's personal homepage" ($\aleph^2$=29.167, p <.05.) were found to be more displayed in the UK blogs than in the SK blogs.

Table 52. B2B (Blogger to Blogger) interactivity in SK blogs on SK blogs (Naver) and the UK blogs on Blogger (blogger.com)

B2B interactivity design feature	SK	UK	$\aleph^2$	P
	(n=100)		(df=1)	
Guestbook	99	1	192.080	.000*
Email to blogger	7	50	45.369	.000*
Chat room	0	0	-	-
Link to blogger's personal homepage	2	30	29.167	.000*
Online poll or survey	0	1	1.005	.316
Total	108	82		
*p <.01.				

The result of an ANOVA test in the third row of Table 50 reveals that the mean B2B composite scores for the SK blogs (M=1.08) was higher than those for the UK blogs (M=.82), and they are statistically significant (F=12.840, p< .01). Therefore, H4 stating that the SK blogs use more interactive design features related to B2B interaction than the UK blogs, is considered to be supported but this is not in line with the *Study of International Blogs*.

5.5.2. Discussion

The study aimed to examine whether the use of interactive design features of SK blogs from Naver (blog.naver.com) differs from the UK blogs from Blogger (blogger.com). Each 100 blogs of Naver and Blogger was chosen for SK and the UK sample respectively in order to examine total 12 interactive design features. Two out of three hypotheses were supported. The SK Naver blogs used more interactive design features related to U2I and U2U interactions than the UK Blogger blogs.

All examined interactivities (B2I, B2C and B2B interactivity) were found to be more utilised in the SK Naver blogs than the UK Blogger blogs, and their difference is statistically significant (Table 50). In particular, in terms of B2I interactivity the use of audio (x^2=82.721, p < .01) was significantly higher for the SK Naver blogs than it was for the UK blogs. However, contrary to our expectation the use of video was much higher but not significantly for the UK blogs than for the SK Naver blogs as shown in Table 49. This was particularly surprising since in the *Study of International Blogs* the use of video was significantly higher for the SK blogs (x^2=4.700, p < .05) (Table 45).

With regard to B2C interactivity the use of trackback (x^2=188.350, p < .001) and search capability (x^2=131.549, p < .001) significantly differed between the two samples and they were used prominently more in the SK Naver blogs than in the UK Blogger blogs. SK Naver bloggers more often modified the template (N=13) than the UK Blogger bloggers (N=0) (x^2=13.904, p <.001). In addition, visitor counters were displayed significantly more in the SK Naver blogs (N=90) than the UK Blogger blogs (N=25) (x^2=86.445, p < .001), and this result does not consistent with the *Study of International Blogs*. SK Naver blogs utilised B2B interactive design features more

than the UK Blogger blogs and the difference is statistically significant. However, this result is biased by the overwhelming strength of the usage of guestbook by the SK bloggers ($\aleph^2$=192.100, p < .01). Other B2B interactive features such as email to blogger ($\aleph^2$=45.369, p < .01) and link to bloggers' personal homepage ($\aleph^2$=29.167, p < .01) were used more in the UK Blogger blogs than the SK Naver blogs.

Overall our two blog studies (*Study of Internaltional Blogs* and *Study of SK and UK Blogs*) have contradictory findings. The results of the *Study of International Blogs* that considered blogs from the Blogger site show more similarities than differences between SK and the UK. In contrast, the *Study of SK and UK Blogs* that considered SK blogs from Naver and the UK blogs from Blogger indicates some clear differences in the use of interactive design features of blogs between the two countries.

Although this result has at least shown some cultural effects, it is not reasonable to assume too much about any of the results. In this subsection we continue the discussion about possible differences and what may account for them.

We have observed that the SK blogs from Naver used far more interactive design features than the SK blogs from Blogger. SK, classified as a Collectivist and High Context culture, values the concept of harmony within groups and close relationship with people such as family, friends, and co-workers. In other words, individuals are expected to be aware of others to maintain their relationships and harmony within their concerned groups so that their social existence is acknowledged as a result (Choi, 2006). This is in line with the fact that SK bloggers used more B2C and B2B interactive design features such as trackbacks and comment capability, guestbook that encourage collaborative sharing of knowledge, opinions and create networks among various blogs. This finding is consistent with the finding by Kwon & Woo (2005) who asserted that social interaction is an important blogging motivation for South Korean. The findings have also confirmed the previous studies of cultural effect on website design by Marcus & Gould (2000) and Singh *et al*. (2005) who found that websites of a Collectivistic culture places emphasis on social relationships, depicting features such as online clubs, links to local companies and family themes.

With regard to multimedia presentation such as animation, audio and video as a part of B2I interactivity, both studies show that overall SK bloggers use more of those features than the UK bloggers as we predicted. This finding is consistent with the prior work of Choong & Salvendy (1998) who found that implicit menus with animations and icons over text based explanative menus are preferred by users from a High Context culture. Würtz (2005) also argued that those rich media and images are more prominent in the High Context cultures aiming for creation of visitors' experience. By using them, bloggers may find a style similar to face-to-face communication (Riegelsberger et al., 2003). High use of multimedia by SK may possibly be related to the early availability of high broadband in SK and highly positive attitude towards the use of technology (Choi, 2006). However, in the *Study of International Blogs* the UK bloggers used significantly more animation than SK bloggers and so did video in the *Study of SK and UK Blogs*.

There are however, contradictory findings from the two blog hosting sites of Blogger and Naver in terms of SK bloggers. The SK based users who post their blogs on Blogger used the designs more similar to the designs of users located in the UK than that of the users in Naver blog of SK. This gives a hint that the use of interactive design features of end-users is affected by social influence from the online society they belong to. Similarly Marolow (2006) observed that LiveJournal.com, a social networking site has its own practices which do not necessarily correspond to other blog hosting services.

In addition, SK blogs on Naver showed high cohesion by using of trackbacks, guest books and visitor counter more than those posted of Blogger. Markus & Kitayama (1991) argued that the dimension of Individualism and Collectivism corresponds to "self-construal", an individual-level cultural orientation. Members of Individualistic/Western cultures see "the self" as independent and aim to be unique and competent, and therefore, more motivated by "autonomy". On the other hand, individuals in Collectivistic/Eastern cultures see the self as interdependent and value the harmony of the group therefore; their behaviour are directed by "affiliation". As a result, people from Eastern cultures tend to agree to group values and imitate other people's behaviour (Morio & Buchholz, 2007). In this respect, one can infer that SK bloggers are more likely than the UK bloggers to follow the general patterns and to

mimic blogs from their neighbours. They consequently show a similar blogging style in their subscribed blog hosting site, which made the blogging style different between the SK bloggers of Naver and those of Blogger. However, it is not clear whether that commonality accidentally evolved from the design templates and other facilities of the blog hosting site or is culturally dependent on the background of SK bloggers and this needs to be investigated in future studies.

5.6.   Conclusion

The four empirical studies were conducted in order to find out cultural differences on websites' interactivity in terms of two perspectives of contexts; professional practitioners and end-users. Two of the included studies (the *Charity 06* and *Charity 12 Studies*) deal with interactive design features used in charity websites which have been created by website designers, and two (the *Study of International Blogs* and the *Study of SK and UK Blogs*) are focused on blogs which have been managed by end-users.

Web 2.0 website links such as UCG, SN websites, RSS, Twitter etc were utilised more in the UK than the SK websites in 2012, which allows users to communicate with the provider in different ways.

The aim of this study was to investigate cultural differences in the use of interactive design features and representation on the websites from the end-user perspective. By examining end-users' own managed web-based blogs, our study differentiates itself from the prior studies (the *Pilot, Charity 06* and *Charity 12 Studies*) and the other published research considering the influence of culture on website design that mostly targeted on the websites designed by website designers or developers.

Although some of the results show that the design of blogs may be influenced by culture, this is only within a certain context. Compared to British bloggers of Blogger, South Korean bloggers of Naver used more design features such as trackbacks, guest books, and animation and sound.

The findings also provide a valuable indication that there is a possibility that blogs from the same hosting site create a particular type of community. Within the context, bloggers are affected by social influence so they adopt a shared set of value, preferences and styles that would indicate almost a common culture. Therefore, the cultural differences stemming from their country of origin do not have that much impact.

Media convergence and broadband technology make the Web an ideal medium to interact with audio, video, graphic and text. Users interacting within the same blog provider service can be considered as being shared concern rather than shared location. The shift becomes the prominent defining feature of a group of people interacting with each other. It allows more people to get involved in and achieve local knowledge (Fischer, 2005). As noted by Scharff (2002) open source communities are one of the successful examples.

Similar behavioural patterns were observed in the study of Flickr. Dotan & Zaphiris (2010) investigated cultural differences on Flickr, a social photo sharing site, by comparing a representative sample of users from Iran, Taiwan, Israel, Peru and the UK. The results show more about "Flickr culture" than national cultures and the correlations between Horfsted's scores and quantitative data based on users' activities on Flickr was very weak.

Our speculation is that blog websites contribute to the development of virtual communities that share common values and follow similar design patterns. However, this assertion cannot be supported with our two studies that are conducted on the relatively small selections of blogs posted by the UK and SK bloggers on two blogs hosting websites. It would be therefore desirable to investigate whether such cultural similarities are also present among the bloggers from other countries posted on Blogger, for example. To confirm this type of converging trend, future research should also consider applying the same investigation to other international blog hosting websites to see if the outcomes would be similar.

In conclusion, our studies were relatively inconclusive about the big question of cultural differences. We suspect that a way of working with such end-users when they conduct their development is one of the few ways of answering the question.

CHAPTER 6. EVALUATION AND DISCUSSIONS

In this chapter we evaluate our studies and discuss main findings in the light of the research objectives. We also discuss about content analysis and our framework applied to the studies.

6.1 Overview of Studies and Their Results

Our set of studies, which starts with the *Pilot Study* and finishes with studies focused on blogs (the *Study of International Blogs* and the *Study of SK and UK Blogs*) are primarily dictated by

a) Research objectives: we had to distinguish between website designers and end-users with regard to interactive design features;

b) Results of individuals studies: (i) the *Pilot Study* proved that it is worthwhile examining interactive design features and therefore we were able to continue with the *Charity 06 Study* and the *Charity 12 Study* and (ii) the results of the *Study of International Blogs* required another study in order to test hypotheses in blogging websites, because the *Study of International Blogs* provided us with inconclusive results, which we were not able to explain. We understood the reasons which brought about such results, therefore a new study (the *Study of SK and UK Blogs*) had to be carried out to achieve all research objectives.

Table 53 summarises the overview of studies and their results. Readers might argue that the results of our studies might not be conclusive. Indeed, the *Charity 06 Study* and the *Charity 12 Study* give mixed results which have already been discussed in subsection 5.3.4. However, we could observe that the change in SK from supporting U2I and U2U in 2006 to not supporting interactive design features of the same interaction types in 2012, which indicates that there is still a difference in using interactive design features of both interaction types between the two countries in SK is favour, but the difference is categorised as "not significant" (hence hypothesis not supported) when analysing results. Moving from 'significant' difference in 2006 to

not significant in 2012 can be viewed as demonstrating that the two countries are now more similar in the way they use interactive design features for U2I and U2U.

However, it would be wrong to conclude that, in general, cultural impact on the use of interactive design features in website design is diminishing between the two countries, because U2P interaction type is significantly more prevalent in the UK than in SK in 2012. Furthermore, B2I and B2B are still prevalent in SK which strengthens our view that end-users in blogs still create and use interactive design features according to their cultural preferences. These might not be the differences which we expected in 2006 when the research was initiated, but the changes in the way end-users interact and affect the content of websites (in the form of blogs) were difficult to predict in 2006. If we wish to argue if there are still differences in the use of interactive design features in websites, we can claim that they are prevalent in blogs.

The findings indicate that there are some differences in the use of interactive design features in blogs by end-users in the two countries. However, the findings also indicate the possibility that the social influence of different blog hosting sites may have an impact, and this influence may sometimes be even greater than that of the cultural background of the blog owner. To determine whether these two effects can be separated may require some further investigation.

Table 53. Overview of main studies and their results

Study	Interaction Types/ Cultural Dimensions	Hypotheses	Results
Charity 06 Study	U2I (User to Interface)/ High vs. Low Context	H1: South Korean websites exhibit more interactive features related to U2I interaction than British websites.	Supported
	U2C (User to Content) High vs. Low Uncertainty Avoidance	H2. British website exhibit more interactive features related to U2C interaction than South Korean websites.	Not Supported
	U2P (User to Provider)/ High vs. Low Power Distance	H3. British websites exhibit more interactive features related to U2P interaction than South Korean websites	Not Supported
	U2U (User to User)/ Collectivism vs. Individualism	H4. South Korean websites exhibit more interactive features related to U2U interaction than British websites.	Supported
Charity 12 Study	U2I (User to Interface)/ High vs. Low Context	H1: South Korean websites exhibit more interactive features related to U2I interaction than British websites.	Not supported
	U2C (User to Content)/ High vs. Low Uncertainty Avoidance	H2. British website exhibit more interactive features related to U2C interaction than South Korean websites.	Not supported
	U2P (User to Provider)/ High vs. Low Power Distance	H3. British websites exhibit more interactive features related to U2Pinteraction than South Korean websites	Supported
	U2U (User to User)/ Collectivism vs. Individualism	H4. South Korean websites exhibit more interactive features related to U2U interaction than British websites.	Not supported
Study of International Blogs	B2I (Blogger to Interface)/ High vs. Low Context culture	H1. South Korean websites exhibit more interactive features related to B2B interaction than British websites.	Not supported
	B2C (Blogger to Content)/ High vs. Low Uncertainty Avoidance	H2. South Korean websites exhibit more interactive features related to B2B interaction than British websites.	Not supported
	B2B (Blogger to Blogger)/ Collectivism vs. Individualism	H4. South Korean websites exhibit more interactive features related to B2B interaction than British websites.	Not supported
Study of SK and UK Blogs	B2I (Blogger to Interface)/ High vs. Low Context	H1. South Korean websites exhibit more interactive features related to B2B interaction than British websites.	Supported
	B2C (Blogger to Content)/ High vs. Low Uncertainty Avoidance	H2. South Korean websites exhibit more interactive features related to B2B interaction than British websites.	Not supported
	B2B (Blogger to Blogger)/ Collectivism vs. Individualism	H4. South Korean websites exhibit more interactive features related to B2B interaction than British websites.	Supported

6.2   Research Objectives and Research Findings

This research set out to meet a number of research objectives described in Chapter 1, which were accomplished as follows:

OBJECTIVE 1:

To investigate if cultural differences in website design exist.

This objective was achieved through the *Pilot Study* in which the UK and SK broadcasting corporate websites were examined and compared in order to discover the presence of country-specific design features. The outcome was twofold. We have discovered that

1) The use of animation, images, type of navigation bar and comment posting is different in UK and SK and;

2) The design features from 1) above have suggested that (i) they are related to interactivity on websites and (ii) have different presence in the two countries, i.e. some of them are not present in both countries.

Consequently, the *Pilot Study* prompted further studies in order to find out if there are cultural differences in the use of interactive design features in websites between the two countries.

OBJECTIVE2:

To investigate if cultural differences in the use of interactivity in websites by web designers exist.

This objective was achieved through carrying out the *Chairty 06 Study*. In order to assess cultural differences in the use of interactive design features, four hypotheses were proposed based on four cultural dimensions of Hofstede (1991) and Hall (1989) and their possible relation to the interaction types.

The *Charity 06 Study* concluded that only H1 and H4 hypotheses were supported: the SK charity websites exhibited more interactive design features related to U2I and U2U Interactivity (types) than the UK websites. However, we could not find any differences in U2C Interactivity to support hypothesis H2. In U2P Interactivity, our hypothesis H3 has not been proved. In fact the opposite was true: in the U2P Interactivity, the SK website exhibited more interactive design features than their UK counterparts.

OBJECTIVE 3:

To investigate if cultural differences in the use of interactivity in websites change over time.

This objective was achieved through analysis of the *Charity 06 Study* and the *Charity 12 Study*. The *Charity 12 Study* was conducted upon the same selection of charity websites as in the *Charity 06 Study*, but 6 years later after the *Charity 06 Study*. The *Charity 12 Study* concluded that only H3 was supported: UK websites exhibited more interactive design features related to U2P interaction than the SK websites. This is interesting, because it is in fact opposite to the results of the *Charity 06 Study*. In other words, our H3 was based on cultural dimensions (High vs. Low Power Distance) and they indicated that the UK websites could have more U2P interactive design features than the SK, which was true in 2012 but not in 2006. The explanation for getting such results might be in the following:

- Cultural dimensions are a powerful way of systemising culture and its differences, but might not be suitable for extending their use towards website design (in spite of H3 being supported by the *Charity 12 Study* in year 2012);
- Cultural dimensions might change over time and consequently our hypotheses also might not be supported as expected;
- The lack of support for H3 in 2006 might be explained by the fact that UK was lagging in adopting broadband technologies: taking up of broadband technology by a large proportion of the UK population happened much later than with their SK counterparts as described in subsection 2.6.3.

Consequently, SK website designers use more U2I and U2U interactive design features than their UK counterparts, which means that U2C and U2P are not interaction types which would have different uses across the two countries. We can underpin this result by looking at cultural dimensions, because they indicate that SK is a Collectivist culture (U2U interactivity types) which also belongs to High Context culture (U2I).

In summary, by revisiting the same websites in the UK and SK with the 6 year gap, we discovered that the use of interactive design features on websites did change over time. The changes were geared towards more similarities in interactive design features and more homogenous website design. Differences in U2I and U2U interactivity types disappeared in 2012, and U2C has never exhibited any differences between the UK and SK.

The U2P Interactivity is the only one which exhibited differences between the two countries in 2006 and in 2012, but in 2006 SK was more dominant and in 2012 the UK took over. In particular, the results of multimedia presentation (U2I interactivity) of the UK and SK charity websites and blogs show that overall the SK charity websites used interactive design features related to multimedia much more frequently than websites in the UK for both in 2006 and 2012.

If we take into account that cultural dimensions dictate differences in the use of interactive design features, then the results of the *Charity 12 Study* are inconclusive. However, having almost no differences across countries in the use of interactive design features in 2012 except in cases of U2P interactivity prompted that:

1) Broadband penetration may have affected our results because its rate in 2012 was almost identical in both countries, compared to 2006, when SK was leading significantly. The average broadband speed does matter to employ high usage of multimedia because the speed of the connection will have a major impact on downloading and buffering times of streaming videos as well as on the quality of online experience. Therefore, it is important to have higher-speed networks if a country wants to get benefits from broadband technologies and emerging high bandwidth applications. SK is one of the

most wired countries on earth in terms of having the highest rate of broadband connectivity and the fastest average Internet connection speed throughout years. According to Table 13 from subsection 2.5.3, the broadband penetration rate in SK (29.0) was higher than that in the UK (21.4) in 2006. Its rate also shows a similar pattern in 2011 when SK (36.0) was higher than UK (32.6). Although multimedia presentation was more highly used in SK sites than in the UK websites for both 2006 and 2012, there was a profound difference in each country. In the UK charity websites all three design features (i.e. animation, audio and video) have increased in 2012 compared to 2006, the use of video especially showed a dramatic increase in 2012 (Table 30). Like the penetration rate, the average UK broadband connection speeds have been increased dramatically since 2006. In December 2006, the average UK broadband advertised speed was 3.8 Mbps, up from 1.6 Mbps in 2005 (Ofcom, 2007). Recent research showed that average broadband download speed continued to increase in the UK. In November 2011 the average actual broadband speeds was 7.6 Mbps, a 0.8 Mbps (11%) increase compared to the 6.8 Mbps in May 2011 (Ofcom, 2011). In addition, in 2009 the UK used broadband in business 88.3% whereas 98.6% was shown for SK in the same year. However, it is noteworthy that the UK has shown a dramatic increase in the business use of broadband since 2003 according to OECD (2010).

2) The *Charity 12 Study* looked at changes in each country separately over the period of 6 years, and therefore we could see the dramatic increase in the use of U2C and U2P interactivity in the UK from 2006 to 2012, which remained the same for SK over the same time. Therefore the differences between these two countries in fact disappeared with regard to the U2C and U2P Interactivity (when the UK reached the SK broadband penetration in 2012);

3) Cultural dimensions and the attitude towards adopting new technologies and services on the websites might be the reason for having constant differences in U2P interactivity between the two countries. The UK is Low Power Distance culture (U2P must prevail in the UK) and UK website users have been keener on adopting tweeting and blogging and utilising social networking sites linked from the charity websites than their SK counterparts (SK is a High Power Distance culture). However, it may also be true that such Web 2.0 technology sites implemented on the websites are simply new trends to enhance strong

online marketing strategies and relationships between users and providers as "the wave of the future "(Bolotaeva & Cata, 2011).

OBJECTIVE 4:

To investigate if cultural differences in the use of interactivity in websites by end-users exist.

This objective was achieved through carrying out the *Study of International Blogs* and the *Study of SK and UK Blogs*. It focuses on end-users and their use of interactive design features in blogs. Unfortunately, the *Study of International Blogs* did not support any hypotheses because the sampling of blogs was not suitable for SK users, which we could not predict. We have discovered that using the international blogging site, which actually offers the same platform for creating blogs, for both countries, resulted in the same way of using interactive design features in both countries. One of the explanations of not having differences in using interactive design features in the Blogger is that individuals in Collectivistic cultures such as SK, see themselves as interdependent individuals who value the harmony of their group (Triandis, 1989). Their behaviour guarantees that they will adopt group values and imitate other's people's behaviour, hence their use of interactive design features in blogs is likely to be followed by general patterns which exist across bloggers' websites.

In the *Study of SK and UK Blogs* we looked at different blogging sites for SK users and found that: two hypotheses out of three were supported: B2I and B2B interactivity. This is extremely interesting because it overlaps with the result of the *Charity 12 Study*, carried out on interactivity on charity websites in 2006. Firstly, these results are justifiable by looking at cultural dimensions, i.e. differences in B2I and B2B interactivities are expected because of the SK's High Context and Collectivist culture. However, the identical results for 2006 charity websites and 2008 blogging sites suggest that:

a) The way website designers and end-users use interactive design features in websites and blogs appears to be similar. The explanation might be in similarities of cognitive styles of website designers and end-users from the same culture. People from the same cultural group are likely to have similar cognitive conceptions of world elements (Sharifian, 2003) as well as perceive and process information in similar ways (Nisbett, 2003) (see subsection 2.2.2) and

b) The changes in the use of interactive design features have been prevalent in the UK but SK practices in website design did not change much over time (see the *Charity 06 Study* and the *Charity 12 Study*). However, the 2 year gap between 2006 (the *Charity 06 Study*) and 2008 (the *Study of SK and UK Blogs*) might not be long enough to demonstrate the same change in using interactive design features in blogs.

6.3   Evaluation of Framework

The framework introduced in Chapter 4 consists of six steps, which illustrate our own process of identifying interactive design features. In this subsection we evaluate the efficacy of our framework and assess our own way of applying it.

Firstly, we propose our own way of identifying interactive design features by (i) defining interaction types; (ii) identifying interactivity dimensions and mapping them to each interaction type and (iii) deriving a set of interactive design features for each interactivity dimension. Therefore, our outcome, i.e. a set of interactive design features heavily depends on our own classification or definition of interaction types and the way we map interactivity dimensions to these types. If any of these interactive types or dimensions changes, we will have to perform mapping from (ii) again and the outcome might be a different set of interactive design features. Consequently, we may have missed some interactive design features which could not be derived from the current interactivity dimensions offered in this thesis. In other words, although we have managed to derive 24 interactive design features for websites and 12 for blogs, which served us very well in our studies, we have to

acknowledge that there might have been some other interactive design features which could not be identified because they did not fit within our defined interaction types and interactivity dimensions.

Secondly, our division into four interaction types for websites and three for blogs is fairly detailed. However, some readers might point out that there is a subtle difference between U2I and U2C interaction types because users' interactions with interfaces (U2I) may overlap with interactions on websites (are websites interfaces?) when users actually interact and affect website content at the same time (U2C). In our research, we have a clear distinction between the two: the U2I case deals with interaction when user "clicks" on the existing menus or options, and the result of such an action cannot change the content of the website because all choices and options have already been prepared and defined (before user "clicked"). On the other hand, U2C case deals with user's inputs into the websites (such as entering required information, or entering keywords in the search box of the website) which may affect the website content. Consequently, we advocate that U2C interaction type always affects the content of websites.

Thirdly, our way of identifying interactivity dimensions relies on literature review and is solely based on Heeter (1989), Ha & James (1998) and Ghose & Dou (1998). These sources are relatively old and no other suitable sources were available at the time of identifying our interactivity dimensions. Consequently, all these authors are focused either on the Internet in general or on corporate and business websites, which might not be the best possible way of identifying interactivity dimensions in our research. This is particularly true if we think that our *Charity 06 Study* and *Charity 12 Study* focus on charity websites, and *Study of International Blogs* and *Study of SK and UK Blogs* focus on blogs. However, when inspecting all their interactivity dimensions, we have found that almost all of them are applicable on charity websites and blogs because a) the Internet consists of numerous websites and very often various authors refer to "Internet" but they actually mean "websites" and b) the functionality available on the Internet is solely delivered through websites.

Fourthly, we may exhibit a certain level of subjective decisions when deriving interactive design features. In other words, our way of identifying them might be bias.

For instance "donation capability" in our framework is U2C interactivity because we think that once the user makes a donation, he/she will definitely be able to change the website content, because the donation would be entered through the website and change the content (which might be a list of donor and donations). This example favours our idea of distinguishing between U2I and U2C as explained above, but it is a consequence of our own definition of interaction types. There might be authors who would disagree with us. The second example is our way of specifying "definitions" and "clarifications" in Table 17, Table 20 and Table 21. In all these cases we needed them in order to manage our process of observing or examining the presence of interactive design features on websites and blogs. Therefore the way we collected crucial words in definitions/clarifications is solely ours. In spite of relying on the literature in such cases, we took the liberty and created definitions and clarifications which could serve coders and anyone else involved in our studies and reading of this thesis.

Finally, our hypotheses have been a cornerstone of our studies. By trying to test them and find out whether or not there have been supported in our studies we could achieve research objectives in this thesis. However, all four hypotheses are based on cultural dimensions and interaction types and therefore using cultural dimensions to differentiate between two cultures (UK and SK) might have impacted the concepts of our hypotheses. If our hypotheses were created with a strong influence of cultural dimensions, we might argue that we have indirectly affected our studies by adopting the cultural dimensions. However, we have to emphasise that it would be difficult to measure whether website design features are influenced by a culture if we did not specify or define characteristics of the culture of each country, which could be feasible through well-known cultural dimensions. Any change in our perception of cultural dimensions would change our hypotheses, but would not affect our own way of deriving interactive design features through the framework. We might experience different results from studies, but not different sets of interactive design features.

6.4   Cultural Impacts on Interactivity in Websites

There are limited reports on the relationship between cultural influences and interactivity of websites. Despite the continued interest towards cultural differences and various types of interactivities of websites, little is understood about the way we use interactive design features from the perspectives of website creators and end-users, who are actually using them.

In the study of interactivity in cross-cultural website environments, Yoon & Cropp (1999) did not find any significant difference between the chosen United States and Korean websites. In contrast, Ju-Pak (1999) analysed commercial websites from the United States, the UK and South Korea and found a higher level of interactivity in Korean websites than their United States and UK counterparts. Similarly, Kim et al.'s (2009) analysis of Korean and United States websites revealed that Korean websites were more likely to use clickable images, pull-down bars, and hyperlinks compared to the United States websites. They claim that interactive features, which require active participation and manipulation from a user, are more likely to be used in cultures that have a polychromic time orientation culture such as SK. These results are somewhat consistent with our findings in which rollover navigational toolbar and pop-up windows (U2I interactivity) and site registration (U2C) were more favoured in the SK than the UK charity websites.

Based on the cultural dimensions of Hall and Hofstede, Cho & Cheon (2005) compared the websites from the United States, UK, Japan, and South Korea, which is similar to our studies. According to their study, websites from the United States, a Low Context culture, offer clearer, more explicit and greater amounts of information by having functions such as search engines, internal and external hyperlinks. They found that websites in the United States and UK tended to emphasise consumer-message interaction and consumer-marketer interaction. Websites in Korea and Japan in contrast are prone to utilising consumer-consumer interaction, probably due to Collectivist nature of these Eastern cultures. These results are in line with our findings of the *Charity 12 Study* in which U2P interactivity was more favoured in the UK than in SK charity websites although it was not true in the *Charity 06 Study*. The

interactive design features related to U2U and B2B interactivities were used more in the SK than the UK websites in our *Charity 06 Study* and *Study of SK and UK Blogs* respectively.   Consistent with the results Ko et al. (2006) studied customers' interactivity and motivations on websites in terms of cultural differences. The results showed that users from a Low Context culture had a higher degree of information and convenience motivation and perceived a higher degree of human-message interaction, whereas users from a High Context culture had a higher degree of social interaction motivation and human-human interaction.   The SK websites exhibit more U2I interactive design features than the UK websites in 2006 but this was changed in 2012. The result revealed that similar use of U2I interactive design features were found in both the UK and SK websites.   However, there were noteworthy observations in each country.   For example, SK websites utilised other language support option (e.g. English and Chinese) more than in the UK websites did in both 2006 and 2012. The findings indicate that SK websites may have motivations for reaching out to a global audience (e.g. English speaking visitors living in SK or worldwide) or may follow global trend that English still dominates as the language of choice (Robbins & Stylianou, 2010).

Singh et al. (2003) found that United States' websites were more likely to use personalisation than their Chinese counterparts because of the more Individualistic culture of America. This is contradictory to our findings because the site registration interactive design features were used more in the SK than the UK both in 2006 and 2012. In a more recent study, Voorveld et al. (2010) examined three dimensions of interactivity (e.g. active control, two-way communication, and synchronicity) in global brand's websites. They found that the Dutch version of websites had fewer interactive features than the United States version. Cultural differences in terms of interactivity features in online newspapers were studied (Hong et al., 2008). They examined the U.S. and South Korea online newspapers on the basis of users' activities. They found that Korean newspapers employ more active interactivity features than do their U.S. counterparts, whereas more inactive interactivity features were used in the U.S. newspapers compared to those from South Korea.

The *Charity 12 Study* found more similarities between the two countries in terms of multimedia presentation 2012, which is contrary to the *Charity 06 Study*.   It is

noteworthy that the SK websites used much less animation, audio and video in 2012 compared to 2006. This is somewhat surprising because some studies found that SK websites have stronger preferences for the use of animations and streaming video (Kim et al., 2009). Our *Pilot Study* and *Charity 06 Study* also supported this.

6.5   Content Analysis When Applied to Websites and Blogs

The Web 2.0 technologies allow users to create their own contents of websites, leading to a huge amount of user-generated-contents which enrich user interaction with other users as well as contents of websites. This event provides us with an opportunity of accessing previously unreachable or prohibitively extensive data through global networks. The methodology of content analysis can be employed to find out social and communicational trends and patterns generated by users. We found some issues need to be well considered and prepared for content analysis when applied to websites and blogs as discussed below.

Firstly, sampling and sampling size pose some challenges. In sampling, each unit must have the same chance as all other units of being represented (McMillan, 2000b). What units need to be identified for sample will be determined by research question or hypothesis. In our study, the sampling was fairly simple as it was already restricted with charity websites and blog sites and within two countries. But if one looks for a more complex sample, for example all web 2.0 sites, the task may become more complex. Careful consideration has to be given to determine the appropriate sampling size as well as whether the sample was representative enough (Bryman, A., 2012). It is certainly true that the effort of analysing an enormous amount of online data will be saved through an effective and efficient sampling size. Some studies selected sample size based on a certain duration (e.g. ten continues days or six days in April) (Li, 1998; Pashupati & Lee, 2003). However, we observed that studies do not always clearly state the rules used for sampling. To our knowledge, there are no sampling guidelines yet advising us how to choose representative samples and the appropriate sampling size when examining web based content.

Secondly, although there are established coefficient tools (e.g. Cohen's kappa (k), Holsti's method, Scott's Pi, etc.) that are used for checking intercoder reliability, training coders must be thoroughly performed so there is no discrepancy between their interpretation of data.

Thirdly, data collection also has potential problems. In our study, we downloaded the profile page of the charity websites and the blogs to get "frozen in time" using the software called LocalWebsite Archive because of the possible change of the content. However, this may be against copyright laws although the profile information of the charity websites and blogs is publicly available.

Lastly, in coding coders' biases must be carefully considered, especially when they are from different cultures. In our study we must acknowledge the coders' cultural biases that may have influenced the coding because being fluent in both 'language' is not the equivalent of being fluent in both 'cultures'.

In conclusion, despite its limitations, we found that applying the content analysis to websites is a relatively fuss free process that allows us to perform and prepare data at our convenience. In addition, the method provides a rich opportunity to identify users' styles, patterns or preferences without actually contacting them.

CHAPTER 7. CONCLUSIONS

Ubiquitous trait of Internet has removed geographical and time boundaries dramatically. It is certainly true that the decentralised nature of Internet and online environment provide any Web users to get exposed in other cultures without being physically relocated. However, at the same time, the international and multicultural nature of the Web poses many risks for miscommunication and misunderstanding of expectations and values across the globe. As people from different cultures often have different beliefs, attitudes and values, misunderstanding and miscommunication may occur in worldwide interaction through websites. Some argue that understanding cultural issues in website design is important in order to represent information appropriately and to make the sites attractive to the target culture. Furthermore, there are studies, which have emphasised that awareness of cultural differences during the development of a Web interface is critical for the reduction and/or elimination of cross-cultural miscommunication.

New opportunities in online communication are emerging globally. International users experience universal access to worldwide websites. At the same time, the fast change of online information delivery has enforced companies from various sectors to challenge the language barriers and a wide range of cultural varieties. In particular, advances in Web 2.0 technology enabled end-users to contribute to the websites easily, which help to build up personal relationships and communities across countries.

In this research, we explored cultural differences in the use of interactivity in websites from two countries, SK and the UK. At the same time, we used two perspectives of interactive website design features: one from the professional practitioners' point of view and the other from end-users'. We tried to achieve research objectives, which focused on the impact of web designers and end-user's cultural background on the use of interactive design features, which in turn helped us to discover if the use of website interactivity differ between these two cultures. Five studies were conducted

in order to address these objectives: one of them was a *Pilot Study*, and the other four dealt with interactive design features in websites and blogs respectively. All studies focus on cultural differences regarding the use of interactive design features of websites, but the *Charity 06 Study* and the *Charity 12 Study* focused on charity websites. In the *Study of International Blogs* and the *Study of SK and UK Blogs,* we dealt with blogs which have been created and managed by end-users.

In spite of having a set of hypotheses that claimed that there might be cultural preferences in interactive design features between the UK and SK, the results of our studies did not give straight forward answers and conclusive results. However, as we described in the previous chapter, it would be wrong to claim that cultural impact on the use of interactive design features in website design is diminishing between the two countries, because there are still differences between them, which are prevalent in blogs. We also claim that 'the social influence' of different blog hosting websites may have impacted them, and this influence may be sometimes even greater than that of the cultural background of the blog owner.

In this chapter, we summarise contribution of this research, itemise a set of limitation and highlight future works, which could address them.

7.1. Contributions

This research makes a valuable contribution to existing literature of cross cultural website design, and the use of interactive design features in websites and blogs between SK and the UK. Our findings are expected to assist the Web designers or developers, who have been working across SK and the UK, in their decision making when creating websites or blogs. We believe that our findings are guidelines for other researchers who wish to explore interactive design features from different cultures and for website developers who wish to be aware of cultural impact on their design decisions. We itemise our contribution in bullets below.

- Our research focuses on interactivity in website design, which might exist between SK and the UK. However, we are not aware of any similar study which focuses on both: interactive design features and their cultural differences when they are present in these two countries. Similar studies are mostly focused on the comparison between the United States and Asian environments such as SK, China or Japan. A few studies covered the UK and SK, such as Cho & Cheon (2005), but none of them takes into account the two perspectives on interactive design features in websites and blogs.

- Our proposed framework derived interactive design features by taking into account the impact of technologies and communication infrastructure, because they both influence the development of any country in the world. This aspect in cross cultural studies might not be seen as culturally specific, but in the *Charity 06 Study* and the *Charity 12 Study* we proved that the UK's late penetration of broadband technology made a difference in adopting interactive design features in websites between 2006 and 2012. The number of observed interactive design features increased in the UK and blurred the initial division between the two countries observed in 2006. We are not aware of any similar study which pays attention to broadband technologies and communication infrastructure. Other research associated a particular "country's technology infrastructure" with the high/low usage of multimedia presentation in websites (Ko et al., 2006; Kim, 2009). However not so many looked at the change of broadband penetration and its impact on the interactivity of websites.

- We offer our own framework, i.e. a specific way of identifying interactive design features by systemising types of interaction and mapping interactivity dimension to them. This has resulted in deriving a detailed set of interactive design features, grouped according to interactivity dimensions, which could be used in our main studies. There is a study which focused on interactivity and its implications for Web-based learning system (Chou, 2003) and they also propose a framework which included interactivity dimensions. However, they applied it solely in learning environments therefore their interaction types are different and websites they examined belonged to their own Web learning system.

- The *Study of International Blogs* and the *Study of SK and UK Blogs* focused on end-users and consequently we extended the testing of our hypotheses on blogs. Therefore, we addressed both aspects of creating and using interactive website design features: firstly by website designers and secondly by end-users, in separate studies. This makes the results of our studies more valuable (two aspects connected and one of them has not been exploited yet in the literature).

- Our proposed framework is reusable across cultures because none of the interaction types and interactivity dimensions are SK and the UK specific. We could use the proposed framework in assessing the power of user interfaces in smart phones or interactions of members in social networking websites.

- Our research and its result might encourage website designers to think about interactive design features before they make final decision on their presence in websites they create. If they have to reach a specific audience quickly and efficiently, they should look at the characteristics of interactive design feature typical of that audience, i.e. features which are expected by the targeted audience. Therefore, results from the *Study of International Blogs* and the *Study of SK and UK Blogs* are particularly important for the professional website designers. Professional designers often follow the global-wide established and well-tested web design standards and conventions, and may not take culture into consideration. The design features of blogs, and their use of interactive design features is entirely under their owner's control and thus blogs might more reliably reflect values and preferences relevant to their owners' cultural backgrounds.

Websites continue to develop and users become increasingly dependent on effective online communication. One may argue that designers should pay attention to task usability testing that can account for cultural context from which the website originated rather than homogeneous design models (Faiola & Matei, 2006). However, the findings from the *Charity 06 Study* and the *Charity 12 Study* showed that there are reductions of cultural manifestations in website design.

7.2.   Limitations in our Research

There are some limitations in our research. We acknowledge them in paragraphs below.

Cultural studies and cross cultural comparison research have many challenges as Livingstone (2003) acknowledged. Website design is influenced by various social and cultural factors and involves a high degree of complexity (Sanchez-Franco et al., 2009). Therefore, it cannot be thoroughly studied through merely examining the presence of 'design features'. Consequently, our framework which derives interactive website design features could have included social interactivity as another dimension which could have been used when deriving interactive design features. However, these social factors might have serious impact on our division of interactions into types and mapping of interactivity dimension into them. This means that more work should be done in order to integrate social with cultural factors in any research similar to ours.

Cultural dimensions of Hofstede (e.g. Uncertainty Avoidance, Power Distance and Collectivism versus Individualism) and Hall (e.g. High versus Low Context cultures) have been used in our framework in order to derive interactive design features, which in turn helped us to examine cultural impacts on charity websites and blogs between SK and the UK. The cultural dimensions we used in this research have been widely used in cross cultural studies and national comparisons. However, there are limitations when using these cultural models because of fast changing societies across the world, impact of technologies on our way of communications and the globalisation of our economies, which removed barriers between West and Asian countries. Cultures are changing radically enforced by internationalisation and globalisation (Cowen, 2002). National cultures were changing in the United States, Canada, and Mexico, "as well as most other countries around the world" (Gevorgyan & Porter, 2008). However, the cultural model used in this research served us very well. We have managed to see that the differences in cultural dimensions are still valid between East Asian and Western countries. They might not be what we

expected at the beginning of the research, but they are evident in cases where end-users are in charge of creating and using interactive design features.

Another limitation might be in the number of websites and blogs, which have been examined and analysed in our studies. Our sample might have been relatively small and a bigger number of websites might have given us more convincing results. However, we have managed to interpret shortcomings of some studies and find explanations for inconclusive results which highlighted the complexity of the problem and the level of challenges we faced as acknowledged in Livingstone (2003).

The websites selected for analysis were chosen on the basis of charity category for designers' perspective. Therefore, if a different website category was chosen (e.g. government, universities, commerce, and enterprises) different results could have been expected and we might have had variations in significance of these results.

We also have to comment on our own way of coding results of our observations of websites and blogs for the purpose of testing hypotheses. Our research unit for the measurement of the presence of interactive design features is a homepage of websites and first page of blogs, but not the entire websites and blogs. Furthermore, readers may argue that our sampling of websites and blogs cannot be representative of entire websites and blogosphere. Nevertheless, our findings provide the proof that there are differences (however small they may be) in the way interactive design features are used across the UK and SK.

Finally, we must acknowledge the limitation of using only one research method, the content analysis. The content analysis was a useful tool to our research, in particular for observing specific interactive design features for comparison and detecting changes of using interactive design features over time (*Charity 06* and *Charity 12 Studies*). However, it is also true that it can become a more powerful tool when combined with other research techniques such as interviews and surveys. In particular by undertaking interviews of developers and end-users could have provided an insight into the possible relations between the presence of interactive design features on websites and the reason for those features being present there specifically.

7.3.   Future Research

In our future research we should primarily address limitations from the previous section. However, there are a few other interesting leads from the outcome of this research.

If we agree that 'the social influence of different blog hosting websites' may have impacted interactive design features within them, and that this influence may be sometimes even greater than that of the cultural background of the blog owner, then more work should be done if we wish to determine whether social and cultural influences can be separated or integrated when designing websites.

We should also improve the way of analysing the content of websites and blogs and therefore other methods such as web mining and semantic web technologies may be used for automatic comparison of websites and blogs on a large scale. Our future research should also use multiple techniques (e.g. survey and experimental) in order to study how the national culture influences interactive design features, which would then enable us to ask users to rate the importance and preference of certain website interactive design features.   A combination of content analyses, surveys and experiments would allow researchers to assess the consistency between self-reported and actual preferences, eventually providing a deeper understanding of the relationship between culture and interactive website design features.

Our findings may have also been affected by other aspects such as the economic situation, technology infrastructure, and language. There could be other reasons for such interactive design features to be present beyond national culture - e.g. the presence of high-speed broadband. Therefore, further study is required to nuance the relations between culture and other factors in terms of the presence of interactive design features on websites. In addition, future research should consider how these aspects affect the choices of interactive design features and their influence on user satisfaction for each country. A qualitative study such as interviews with websites' users and bloggers of both countries may be helpful to identify their motivation for choosing specific hosting sites, design features, and their behaviour.

Whether or not the cultural sensitivity exists in website is difficult to answer. Our findings point to an overall minor movement towards less diversity, i.e. there has been a modest movement towards homogenization of websites across SK and the UK. We might conclude that cultural considerations on the websites are still important, but probably not as much as in the last decade. Multinationals need to monitor the changes recorded by this study, but in the meantime continue designing websites that are sensitive to the cultural differences that may exist in the markets they serve.

REFERENCES

Adler, N. J. (Ed.). (1991). Communicating across Cultural Barriers. Boston, MA PWS-KENT Publishing Company.

Akamai. (2011). State of the Internet Q4 2011 Retrieved 06 May, 2012, from http://www.akamai.com/stateoftheinternet/

Al-Olayan, F. S., & Karande, K. (2000). A Content Analysis of Magazine Advertisements from the United States and the Arab World. Journal of Advertising, 29(3), 69-82.

Alvarez, M. G.,Kasday, L., & Todd, S. (1998). How We Made the Web Site International and Accessible: A Case Study Paper presented at the 4th Conference on Human Factors and the Web, Basking Ridge, NJ, USA.

Arenas-Gaitána, J., Ramírez-Correab, P. E., & Rondán-Cataluñaa, F. J.(2011). Cross cultural analysis of the use and perceptions of web Based learning systems. Computers & Education. 57(2), 1762-1774.

Arola, K. L. (2010). The Design of Web 2.0: The Rise of the Template, The Fall of Design. Computers and Composition, 27, 4-14.

Aykin, N. (1999). Internationalization and localization of the Web sites. Paper presented at the Proceedings of HCI International '99 - the 8th Conference on Human Computer Interaction.

Badre, A. (2000). The effects of cross cultural interface design orientation on world wide web user performance. GVE Research Technical Reports.

Badre, A., & Laskowski, S. (2001). The Cultural Context of Web Genres: Content vs. Style. Proceedings of the 7th Conference on Human Factors and the Web.

Banerjee, M., Capozzoli, M., McSweeney, L., & Sinha, D. (1999). Beyond kappa: A review of interrater agreement measures. The Canadian Journal of Statistics, 27(1), 3-23.

Barber, W., & Badre, A. (1998). Culturability: The Merging of Culture and Usability. Proceedings of the 4th Conference on Human Factors & the Web Retrieved Feb 18, 2006, from http://research.microsoft.com/users/marycz/hfweb98/barber/index.htm

Barnouw, V. (1985). Culture and Personality. Homewood, Illinois: The Dorsey Press.

Barrett, C. (26 September, 1999). Anatomy of a weblog Retrieved October 06, 2007, from http://www.camworld.com/journal/rants/99/01/26.html

Baskerville, R. (2003). Hofstede never studied culture. Accounting, Organizations and Society, 28, 1-14.

Bauer, C. & Scharl, A. (2000). Quantitative evaluation of Web site content and structure. Internet Research: Electronic Networking Applications and Policy, 10, 31-43.

Baumgarten, M. (2003). Kids and the internet: a developmental summary. Computers in Entertainment (CIE) - Theoretical and Practical Computer Applications in Entertainment, 1(1), 11-11.

BBC. (2012a). History of the BBC Retrieved 20 August, 2012, from http://www.bbc.co.uk/aboutthebbc/insidethebbc/whoweare/

BBC. (2012b). South Korea's real-name net law is rejected by court. BBC Retrieved 07 September, 2012, from http://www.bbc.co.uk/news/technology-19357160, Reported on 23 August, 2012, Last updated at 19:24

Beba, A. (2011). Future of Asian Tiger economies lies in reviving entrepreneurship. Korea Times, 03-06-2011

Belk, RW , & Pollay, RW. (1985). Materialism and status appeals in Japanese and US print advertising. International Marketing Review.

Belkin, N.J., Marchetti, P.G., & Cool, C. (1993). Braque: Design of an Interface to Support Users Interaction in Information Retrieval. Information Processing & Management, 29(3), 325-344.

Berelson, B. (1952). Content Analysis in Communication Research. New York: Free Press.

Berger, A. (1991). Media research techniques: Newbury Park, CA: Sage.

Berger, P. L. , & Luckmann, T. (1966). The Social Construction of Reality: a Treatise in the Sociology of Knowledge. Garden City, NY: Anchor Books.

Berlo, D. K. (1960). The process of communication. New York: Holt, Rinehart and Winston.

Berners-Lee, T., Hendler, J., & Lassila, O. (2006). The Semantic Web. Scientific American, 284, 34-43.

Berthon, P., Pitt, L. F., & Watson, R. T. (1996). The World Wide Web as an Advertising Medium: Toward an Understanding of Conversion Efficiency. Journal of Advertising Research, 36(1).

BIS. (2010). Britain's Superfast Broadband Future Retrieved 9 May, 2012, from http://www.culture.gov.uk/images/publications/10-1320-britains-superfast-broadband-future.pdf

Blanka, G., & Reisdorf, B. C. (2012). THE PARTICIPATORY WEB: A user perspective on Web 2.0. Information, Communication & Society, 15(4), 537-554.

Blanchard, A. (2004). Blogs as virtual communities: identifying a sense of community in the Julie/Julia project. . Into the Blogosphere: Rhetoric, Community, and Culture of Weblogs.

Blattberg, R., & Deighton, J. (1991). Interactive Marketing: Exploring the Age of Addressability. Sloane Management Review, 33(1), 5-14.

Blood, R. (2002). The Weblog Handbook: Practical Advice on Creating and Maintaining Your Blog. Cambridge, MA: Perseus Publishing.

Blood, R. (07 September 2000). [Weblogs: A History and Perspective].

Bolotaeva, V., & Cata, T. (2011). Marketing Opportunities with Social Networks. Journal of Internet Social Networking and Virtual Communities, 2011(Article ID 409860).

Boyd, D. M., & Ellison, N. B. (2008). Social Network Sites: Definition, History and Scholarship. Journal of Computer-Mediated Communication, 13(1), 210-230.

Briley, D.A., Morris, M.W., & Simonson, I. (2002). Reasons as Carriers of Culture: Dynamiversus Dispositional Models of Cultural Influence on Decision Making. Journal of Consumer Research 27, 157-177.

Bryman, A. (2012) Social Research Methods. Oxford, NY: Oxford University Press.

Bucy, E. P.,Lang, A.,Potter, R.F., & Grabe, M. E. (1999). Formal features of cyberspace: Relationships between web page complexity and site traffic. Journal of the American Society for Information Science, 50, 1246-1256.

Callahan, E. (2005). Interface design and culture: Social informatics. Annual review of information science and technology, 39, 257-310.

Callahan, E. (2006). Cultural Similarities and Differences in the Design of University Web sites. Journal of Computer-Mediated Communication, 11, 239-273.

Carmines, E. G., & Zeller, R.A. (1979). Reliability and validity assessment. Beverly Hills: CA: Sage.

Central IntelligenceAgency. (2011). The World Factbook: United Kingdom. Retrieved March 11, 2011 from https://www.cia.gov/library/publications/the-world-factbook/geos/uk.html

CESifo. (2011). CESifo DICE Report. Journal for Institutional Comparisons, 9(3).

Chadwick-Dias, A., McNulty, M., & Tullis, T. (2003). Web usability and age: how design changes can improve performance. Paper presented at the Proceedings of the 2003 conference on Universal usability Vancouver, BC, Canada.

Chapman, C. N., & Lahav, M. (2008). International Ethnographic Observation of Social Networking Sites. Paper presented at the CHI 2008, April 5–10, Florence, Italy.

Chau, P. Y. K., Cole, M., Massey, A. P., Montoya-Weiss, M., & O'Keefe, R. M. (2002). Cultural differences in the online behavior of consumers. Communications of the ACM, 45(10), 138-143.

Chen, K., & Yen, D. C. (2004). Improving the quality of online presence through interactivity. Information & Management, 42(1), 217-226.

Chen, S. J, & Ford, N. (1998). Modeling user navigation behaviors in a hypermedia-based learning system: An individual differences approach. . International Journal of Knowledge Organization, 25(3), 67-78.

Chen, S. Y., & Macredie, R. D. (2004). Cognitive Modeling of Student Learning in Web-Based instructional Programs. International Journal Of Human-Computer Interaction, 17(3), 375-402.

Chinese Culture Connection. (1987). Chinese values and the search for culture-free dimensions of culture. Journal of Cross-Cultural Psychology, 18(2), 143-164.

Cho, B., Kwon, U., Gentry, J. W., Jun, S., & Kropp, F. (1999). Cultural Values Reflected in Theme and Execution: A Comparative Study of US and Korean Television Commercials. Journal of Advertising, 28(4).

Cho, C., & Cheon, H. J. (2005). Cross-Cultural Comparisons of Interactivity on Corporate Web Sites: The United States, the United Kingdom, Japan, and South Korea. Journal of Advertising, 34(2), 99-115.

Cho, C. H., & Cheon, H. S. (2003). Korean vs. American corporate Websites: interactivity, comparative appeals and use of technology. Journal of Korean Academy of Marketing Science 2003, 5, 79-102.

Cho, C. H., & Leckenby, J. D. (1999). Interactivity as a Measure of Advertising Effectiveness: Antecedents and Consequences of Interactivity in Web Advertising. Paper presented at the Proceedings of the 1999 Conference of the American Academy of Advertising, Gainesville, FL: American Academy of Advertising.

Cho, Y. H., Kim, J. K., & Kim, S. H. (2002). A personalized recommender system based on web usage mining and decision tree induction. Expert Systems with Applications, 23(3), 329-342.

Choi, J. H. (2006). Living in Cyworld: Contextualising Cy-Ties in South Korea. In
     Bruns, Axel, Jacobs & Joanne (Eds.), Uses of Blogs (pp. 173-186). New York:
     Peter Lang.

Choong, Y. Y., & Salvendy, G. (1998). Design of icons for use by Chinese in
     mainland China. Interacting with Computers, 9(4), 417-430.

Choong, Y. Y. (1996). Design of computer interfaces for the Chinese population.
     unpublished doctoral dissertation, Purdue University.

Chou, C. (2003). Interactivity and interactive functions in web-based learning systems:
     a technical framework for designers. British Journal of Educational
     Technology, 34(3), 265-279.

Chung, D. S. (2008). Interactive features of online newspapers: identifying patters and
     predicting user of engaged readers. Journal of Computer Mediated
     Communication, 13(3), 658-679.

Chung, H., & Zhao, X. (2004). Effects of Perceived Interactivity on Web Site
     Preference and Memory: Role of Personal Motivation. Journal of Computer-
     Mediated Communication, 10(1).

CIA. (2011). The World Factbook- Country Comparison: GDP-PER CAPITA
     (Purchasing Power Parity) Retrieved 08 May, 2012, from
     https://www.cia.gov/library/publications/the-world-
     factbook/rankorder/2004rank.html

Cook, W. A. (1994). Is It Interactive Media, or Hyperactive Media? Journal of
     Advertising Research, 34(1), 7-9.

Council Directive. (2000). 2000/31, art. 15. 2000 O.J. (L178) 1 (EC).

Cowen, T. (2002). Creative Destruction: How Globalization is Changing the World's
     Cultures. Princeton, N.J.: Princeton University Press.

Coyle, J. R., & Thorson, E. (2001). The effects of Progressive Levels of Interactivity
     and Vividness in Web Marketing Sites. Journal of Advertising, XXX(3), 65-77.

Cyr, D. (2013). Website design, trust and culture: An eight country investigation.
     Electronic Commerce Research and Applications, Online publication date: 1-
     Apr-2013.

Cyr, D., Bonanni, C, & Ilsever, J. (March 2004). Innovation, management & strategy:
     Design and e-loyalty across cultures in electronic commerce Proceedings of the
     6th international conference on Electronic commerce 60, 351-360.

Cyr, D., Head, M., & Larios, H. (2010). Colour appeal in website design within and
     across cultures: A multi-method evaluation. International Journal of Human-
     Computer Studies, 68(1-2), 1-21.

Cyr, D., & Trevor-Smith, H. (2004). Localization of Web design: An empirical
     comparison of German, Japanese, and United States Web site characteristics.
     Journal of the American Society for Information Science and Technology,
     55(13), 1199-1208.

D'Andrade, R. G. (1992). Schemas and motivation. Cambridge, UK: Cambridge
     University Press.

Dahl, S. (1998). Intercultural Skills for Business. London: ECE Publishing.

Day, G. S. (1998). Organizing for Interactivity. Journal of Interactive Marketing,
     12(1), 47-53.

De Angeli, A., Athavankar, U., Joshi, A., Coventry, L., & Johnson, G. I. (2004).
     Introducing ATMs in India: a contextual inquiry. Interacting with Computers,
     16(1), 29-44.

De Troyer, O. (1998). Designing well-structured websites: lessons to be learned from database schema methodology. Conceptual Modeling – ER '98, Lecture Notes in Computer Science, 1507, 51-64.

Del Galdo, E. M., & Nielsen, J. (1996). Culture and Design. In del Galdo, E. M. & Nielsen, J. (Eds.), International User Interfaces (pp. 74-87). New York: John Wiley & Sons Inc.

Deuze, M. (2003). The web and its journalisms: Considering the consequences of different types of newsmedia online. New Media & Society, 5(2), 203-230.

Dictionary, Collins English. (2009). "interactivity." Dictionary.com's 21st Century Lexicon Retrieved 25 August, 2012, from http://dictionary.reference.com/browse/interactivity

Dominick, J. R. (1999). Who Do You Think You are? Personal Home Pages and Self-Presentation on the World Wide Web. Journalism & Mass Communication Quarterly, 76, 646-658.

Dong, J. M., & Salvendy, G. (1999). Designing menus for the Chinese population: Horizontal or vertical? Behaviour and Information Technology, 18, 467-471.

Dong, Y., & Lee, K. P. (2008). A Cross-Cultural Comparative Study of Users' Perceptions of a Webpage: With a Focus on the Cognitive Styles of Chinese, Koreans and Americans. International Journal of Design, 2(2).

Dormann, C. (2005). Cultural representations in web design: differences in emotions and values. Paper presented at the Proceedings of human computer interaction 2005, Napier university, Edinburgh, 5-9 Sept 2005.

Dormann, C., & Chisalita, C. (September 8-11, 2002). Cultural values in Web site design. Paper presented at the Eleventh European Conference on Cognitive Ergonomics, Catania, Italy.

Dotan, A., & Zaphiris, P. (2010). A Cross-Cultural Analysis of Flickr Users from Peru, Israel, Iran, Taiwan and the United Kingdom. International Journal of Web Based Communities, 6(3), 284-302.

Downes, E.J. , & McMillan, S. J. (2000). Defining Interactivity: A Qualitative Identification of Key Dimensions. New Media and Society, 2(2), 157-179.

Dreze, X., & Zufreyden, F. (1997). Testing web site design and promotion content. Journal of Advertising Research, March/April, 77-91.

Drezner, D. W., & Farrell, H. (2004). The Power and Politics of Blogs. Paper presented at the APSA annual conference, September.

Duncan, S. (1989). Interaction, face to face. In Barnouw, E. (Eds.), International encyclopedia of communications (pp. 325-330). New York: Oxford University Press.

Dunckley, L., & Jheita, K. (2004). Formative Evaluation of International User Interfaces Based on Sorting Techniques. In Evers, V., del Galdo, E. M., Cyr, D. & Bonanni, C. (Eds.), Designing for Global Markets 6: Culture, Trust and Design Innovation: IWIPS' 2004 Proceedings. The Sixth International Workshop on Internationalization of Products and Systems (pp. 91-102). Vancouver, Canada: BondRepro Publication.

Dwyer, C. (2007). Digital relationships in the MySpace generation: results from a qualitative study. Proceedings of the 40th Annual Hawaii International Conference on System Sciences, New York: IEEE, 19.

Edwards, S. M., Li, H., & Lee, J. H. (2002). Forced Exposure and Psychological Reactance: Antecedents and Consequences of the Perceived Intrusiveness of Pop-Up Ads. Journal of Advertising, 31(3), 83-95.

Ellis, L. (1994). Research methods in the social sciences. Madison: WI: WCB Brown & Benchmark.

European Commission. (2009). eCommunications: Reforming the Current Telecom Rules Retrieved 13 March, 2009, from http://ec.europa.eu/information_society/policy/ecomm/tomorrow/index_en.htm.

Evans, J. R., & King, V. E. (1999). Business-to-Business Marketing and the World Wide Web: Planning, Managing, and Assessing Web Sites. Industrial Marketing Management, 28(4), 343-358.

Evers, V. (1999). Cultural Differences in Understanding Human-Computer Interfaces. CITE report No. 245: Centre for Information Technology in Education, The Institute of Educational Technology, The Open University. Milton Keynes, UK.

Evers, V. (2001). Cultural Aspects of User Interface Understanding; An Empirical Evaluation of an E-Learning Website by International User Groups. doctoral dissertation, The Open University, Milton Keynes, London.

Evers, V., & Day, D. (1997). The Role of Culture in User Interface Acceptance. Paper presented at the Proceedings, 6th IFIP Conference on HCI: IFIP TC 13 International Conference on Human Computer Interaction, London: Chapman & Hall.

Evett, L., & Brown, D. (2005). Text formats and web design for visually impaired and dyslexic readers—Clear Text for All. Interacting with Computers, 17(4), 453-472

Faiola, A., & Matei, S. A. (2006). Cultural Cognitive Style and Web Design: Beyond a Behavioral Inquiry into Computer-Mediated Communication Journal of Computer-Mediated Communication, 11(2006), 375-394.

Feather, N. T. (1995). Values, valences, and choice: the influence of values on the perceived attractiveness and choice of alternatives. Journal of personality and social psychology, 68(6), 1135-1151.

Ferguson, R., & Howell, M. (2004). Political Blogs - Craze or Convention? (Jul 2004). Hansard Society Retrieved 07 May, 2012, from http://www.hansardsociety.org.uk/blogs/downloads/archive/2007/07/27/political-blogs-craze-or-convention-july-2004.aspx

Fiaola, A., & MacDorman, K. F. (2008). The Influence of Holistic and Analytic Cognitive Styles on Online Information Design. Toward a communication theory of cultural cognitive design. Information, Communication & Society, 11(3), 46-72.

Fink, D., & Laupase, R. (2000). Perceptions of Web site design characteristics: a Malaysian/Australian comparison Internet Research: Electronic Networking Applications and Policy, 10(1), 44-55.

Fischer, G. (2001). User modeling in human-computer interaction User Modeling and User-Adapted Interaction, 11, 65-86.

Fischer, G. (2005). Distances and Diversity: Sources for Social Creativity. Proceeding C&C '05 Proceedings of the 5th conference on Creativity & cognition, 128-136.

Fischer, G. (2009). End-User Development and Meta-design: Foundations for Cultures of Participation. In Pipek, V., Rosson, M.B., de Ruyter, B., Wulf, V. (Eds.), IS-EUD 2009, LNCS 5435. Berlin Heidelberg: Springer-Verlag.

Fogg, B. J., & Iizawa, D. (2008). Online Persuasion in Facebook and Mixi: A Cross-Cultural Comparison. In H. Oinas-Kukkonen et al. (Eds.): PERSUASIVE 2008, LNCS 5033, 35-46.

Ford, G., & Gelderblom, H. . (2003). The effects of culture on performance achieved through the use of human computer interaction. In Proceedings of the 2003 Annual Research Conference of the South African Institute of Computer Scientists and Information Technologies on Enablement through Technology (SAICSIT), 218-230.

Ford, G., & Kotzé, P. (2005). Researching Culture and Usability - A Conceptual Model of Usability. Paper presented at the Proceedings of British Human Computer Interaction Conference 2005., Edinburgh, Scotland.

Ford, N., Miller, D., & Moss, N. (2005). Web search strategies and human individual differences: Cognitive and demographic factors, Internet attitudes, and approaches. Journal of the American Society for Information Science and Technology 56(7), 741-756.

Fortin, D. R., & Dholakia, R. R. (2005). Interactivity and vividness effects on social presence and involvment with a web-based advertisement. Journal of Business Research, 58(3), 387-396.

French, W., & Bell, C. (1995). Organization development. (5th ed.). Englewood Cliffs, NJ: Prentice-Hall International.

Frey, L. R, Botan, C. H , & Kreps, G.L. (2000). Investigating Communication: An Introduction to Research Methods (2nd ed.). Boston: Allyn & Bacon.

Frieden, R. (2005). Lessons from broadband development in Canada, Japan, Korea and the United States. Telecommunications Policy, 29, 595-613.

Galitz, W. O. (2007). The Essential Guide to User Interface Design: An Introduction to GUI Design Principles and Techniques. London: Wiley.

Gant, J. P., & Gant, D. B. (2002). Web portal functionality and State government E-services. Paper presented at the Proceedings of the 35th Hawaii international Conference on Systems Sciences.

Geertz, C. (1973). The Interpretation of Cultures. New York: Basic Books, Inc.

Gevorgyan, G., & Manucharova, N. (2009). Does Culturally Adapted Online Communication Work? A Study of American and Chinese Internet Users' Attitudes and Preferences Toward Culturally Customized Web Design Elements. Journal of Computer-Mediated Communication, 14(2), 393-413.

Gevorgyan, G., & Porter, L.V. (2008). One size does not fit all: Culture and perceived importance of web design features. Journal of Web Promotion, 3(1/2), 25-38.

Ghose, S., & Dou, W. (1998). Interactive functions and their impacts on the appeal of internet presence sites. Journal of Advertising Research, 38(2), 29-43.

González, F.J. M, & Palacios, T. M. B. (2004). Quantitative evaluation of commercial web sites: an empirical study of Spanish firms. International Journal of Information Management, 24(4).

Goode, W. J. (1964). The Family. New Jersey: Prentice Hall.

Gould, E. W., Zakaria, N., & Yusof, S. A. M. (2000). Applying culture to website design: a comparison of Malaysian and US websites. IPCC/SIGDOC '00 Proceedings of IEEE professional communication society international

professional communication conference and Proceedings of the 18th annual ACM international conference on Computer documentation: technology & teamwork.

Greer, T. H., & Murtaza, M. M. (2003). Web Personalization: The Impact of Perceived Innovation Characteristics on the Intention to Use Personalization. Journal of Computer Information Systems, Spring 2003, 50-53.

Gudykunst, W. B., & Kim, Y. Y. (1997). Communicating With Strangers: An Approach to Intercultural Communication. New York: McGraw-Hill.

Gudykunst, W. B., & Nishida, T. (1986). Attributional Confidence in Low-and High-Context Cultures. Human Communication Research, 12(4), 525-549.

Gunter, B. (2000). Overview of media research methodologies: Media output Media Research Methods (pp. 55-70). London: Sage Publications.

GVU Center. (1997). GVU's 8th WWW user survey Retrieved April 7, 2007, from http://www.gvu.gatech.edu/user_surveys/survey-1997-10/

Ha, L. (2003). Crossing Offline and Online Media: A Comparison of Online Advertising on TV Web Sites and Online Portals. Journal of Interactive Advertising, 3(2).

Ha, L., & James, E. L. (1998). Interactivity Reexamined: A Baseline Analysis of Early Business Web Sites. Journal of Broadcasting & Electronic Media, 42(4), 457-474.

Haeckel, S. H. (1998). About the Nature and Future of Interactive Marketing. Journal of Interactive Marketing, 12(1), 13-22.

Hall, E. T. (1966). The hidden dimension. New York: Doubleday and Company.

Hall, E. T. (1973). The silent language. Garden City, NY: Anchor Books.

Hall, E. T. (1976). Beyond Culture. Garden City, New York: Doubleday & Company.

Hall, E. T. (1983). The Dance of Life: The Other Dimension of Time. Garden City, New York: Anchor Press, Doubleday.

Hall, E. T. (1989). Beyond Culture. New York: Anchor books.

Hall, E. T., & Hall, M. R. (1990). Understanding Cultural Differences: Germans, French and Americans. Yarmouth, Maine: Intercultural Press.

Han, Y. H., Schweitzer, J. C., Bates, B. J., & Smith, T. V. (1992). Reflections of Culture: An Analysis of Taiwanese and American Advertising Appeals. Paper presented at the the Association for Education in Journalism and Mass Communication annual conference, Montreal Quebec, Canada.

Harwood, T., & Garry, T. (2003). An Overview of Content Analysis. The Marketing Review, 3, 479-498.

Hashim, N. H., Hasan, H. M., & Sinnapan, S. (2007). Australian Online Newspapers: A Website content analysis approach to measure interactivity. Paper presented at the 18th Australasian Conference on Information Systems (ACIS), 5-7 Dec 2007.

Heeter, C. (1989). Implications of new interactive technologies for conceptualizing communication. In Salvaggio, J. L. & Bryant, J. (Eds.), Media use in the information age: emerging patterns of adoption and consumer use (pp. 217–235). Hillsdale, NJ: Lawrence Erlbaum Associates.

Heimgärtnera, R. (2013) Reflections on a Model of Culturally Influenced Human–Computer Interaction to Cover Cultural Contexts in HCI Design. International Journal of Human-Computer Interaction, 29(4), 205-219.

Herring, S. C., Kouper, I., Paolillo, J. C., Scheidt, L. A., Tyworth, M.,Welsch, P., Wright, E., & Yu, N. (2005). Conversations in the Blogosphere: An Analysis" From the Bottom Up. Proceedings of the 38th Hawaii International Conference on System Sciences (HICSS'05).

Herring, S. C., Scheidt, L. A., Bonus, S., & Wright, E. (2004). Bridging the gap: A genre analysis of weblogs. Paper presented at the System Sciences, 2004. Proceedings of the 37th Annual Hawaii International Conference (HICSS'04).

Herring, S. C., Scheidt, L. A., Bonus, S., & Wright, E. (2005). Weblogs as a bridging genre. Information, Technology & People, 18(2), 142-171.

Higgins, E.T. (1996). Knowledge Activation: Accessability, Applicability and Salience. In Higgins, E. T. & Kruglanski, A.W. (Eds.), Social Psychology: Handbook of Basic Principles (pp. 133-168). New York: Guilford Press.

Hoffman, D. L., & Novak, T. P. (1996). Marketing in hypermedia computer-mediated environments: Conceptual foundations. Journal of Marketing, 60(3), 50-68.

Hofstede, G. (1980). Culture's consequences: International differences in work-related values. Beverly Hills, CA: Sage.

Hofstede, G. (1991). Cultures and Organisations: Software of the mind: Intercultural Coorperation and its Importance for Survival. New York: McGraw Hill.

Hofstede, G. (2001). Culture's Consequences: Comparing values, behaviors, institutions, and organizations across nations (2nd ed.). London: Sage Publications, Inc.

Hofstede, G., & Bond, M. H. (1988). The Confucius connection: from cultural roots to economic growth. Organizational Dynamics, 16(4), 4-21.

Hoft, N. L. (1996). Developing a Cultural Model. In Del Galdo, E. M. & Nielsen, J. (Eds.), International users interfaces (pp. 41-73). New York: John Wiley & Sons, Inc.

Holsti, O. R. (1969). Content Analysis for the Social Sciences and Humanities. Reading, MA: Addison-Wesley Publishing.

Hong, M., McClung, S., & Park, Y. (2008). Interactive and cultural differences in online newspapers. CyberPsychology & Behavior, 11(4), 505-509.

Hong, Y., & Chiu, C. (2001). Toward a paradigm shift: From cross-cultural differences in social cognition to social-cognitive mediation of cultural differences. Social Cognition, 19(3), 181-196.

House, R. J., Hanges, P. J., Javidan, M., Dorfman, P.W., & Gupta, V. (2004). Culture, leadership and organizations: The Globe study of 62 societies. London: Sage Publications, Inc.

Hu, J., Shima, K., Oehlmann, R., Zhao, J., Takemura, Y., & Matsumoto, K. (2004). An empirical study of audience impressions of B2C web pages in Japan, China and the UK. Electronic Commerce Research and Applications, 3(2), 176-189.

Huang, S., & Tilley, S. (2001). Issues of content and structure for a multilingual web site. ACM Special Interest Group for Design of Communications archive, Proceedings of the 19th annual international conference on Computer documentation Page, 103-110.

Huffaker, D. A., & Calvert, S. L. (2005). Gender, identity, and language use in teenage blogs. Journal of Computer-Mediated Communication, 10(2).

Internet World Stats. (June 2012). World Internet Usage and Population Statistics. Retrieved 30 January 2013, from Miniwatts Marketing Group http://www.internetworldstats.com/stats7.htm

ITU. (2003). ITU Internet Reports: Birth of Broadband Retrieved 02 January, 2012,
         fromhttp://www.itu.int/osg/spu/publications/sales/birthofbroadband/exec_sum
         mary.html

ITU. (2009). World Telecommunication/ICT Indicators Database Retrieved 05 May,
         2012, from http://www.itu.int/ITU-D/ICTEYE/Indicators/Indicators.aspx

ITU. (2011a). Measuring the Information Society Retrieved 10 May, 2012, from
         http://www.itu.int/net/pressoffice/backgrounders/general/pdf/5.pdf

ITU. (2011b). The World in 2011: ICT Facts and Figures, Retrieved 08 May, 2012,
         from http://www.itu.int/ITU-
         D/ict/facts/2011/material/ICTFactsFigures2011.pdf

Jackel, M. (1995). Interaktion. Soziologische Anmerkungen zu einem Begriff.
         Rundfunk und Fernsehen, 4.

Jacksona,L. A., & Wangb,J.L. (2013) Cultural differences in social networking site
         use: A comparative study of China and the United States. Computers in Human
         Behaviour, 29(3), 910-921.

Jenkins, H. (2006). Convergence Culture. New York: New York Uni. Press.

Jensen, J. F. (1998). Interactivity: Tracking a Mew Concept in Media and
         Communication Studies. Nordicom Review, 19(1), 185-204.

Jerz, D. G. (17 February 2003). On the Trail of the Memex: Vannevar Bush, Weblogs
         and the Google Galaxy.   Retrieved 06 October, 2007, from
         http://www.dichtung-digital.org/2003/issue/1/jerz/index.htm

Jiang, Z., Chan, J., Tan, B. C. Y., & Chua, W. S. (2010). Effects of Interactivity on
         Website Involvement and Purchase Intention. Journal of the Association for
         Information Systems, 11(1), 34-59.

Jones, S., Kennelly, C., Mueller, C., Sweezy, M., Thomas, B. , & Velez, L. (1991).
         Developing International User Information. Bedford, Mass: Digital Press.

Ju-Pak, K. H. (1999). Content dimensions of web advertising: A cross-cultural
         comparison. International Journal of Advertising, 18 (2), 207-231.

Kahn, R., & Kellner, D. (2004). New media and Internet activism: from the battle of
         Seattle to blogging. New Media & Society, 6(1), 87-95.

Karat, J., & Karat, C. (1996). World-wide CHI: Perspectives on design and
         internationalization. SIGCHI Bulletin, 28, 39-40.

Kayany, J. M., Wotring, C. E., & Forrest, E. J. (1996). Relational Control and
         Interactive Media Choice in Technology-Mediated Communication Situations.
         Human Communication Research, 22(3), 399-421.

KBS. (2011). KBS Introduction Retrieved 30 August, 2012, from
         http://world.kbs.co.kr/english/about/about_kbsworld.htm

Keegan, W. J. (1989). Global marketing management. Englewood Cliffs, NJ: Prentice-
         Hall.

Kersten, G. E., Kersten, M. A., & Rakowski, W. M. (2002). Software and Culture:
         Beyond the Internationalization of the Interface. Journal of Global Information
         Management, 10(4), 86-101.

Khashman, N., & Large, A. (2011). Measuring Cultural Markers in Arabic
         Government Websites Using Hofstede's Cultural Dimensions. LECTURE
         NOTES IN COMPUTER SCIENCE, 6770, 431-439.

Khushman, S., & Amin, S. (2011) The Adoption of E-Business Websites within Arab
         and UK Cultures (Comparison Study). Paper presented at the Proceedings of

Developments in E-systems Engineering (DeSE). 6-8 Dec. 2011, Dubai, 333-338

Kim, H., Coyle, J. R., & Gould, S. J. (2009). Collectivist and Individualist Influences on Website Design in South Korea and the U.S.: A Cross-Cultural Content Analysis. Journal of Computer-Mediated Communication, 14, 581-601.

Kim, H., & Papacharissi, Z. (2003). Cross-cultural differences in online self-presentation: A content analysis of personal Korean and US home pages. Asian Journal of Communication, 13, 100-119.

Kim, J. S. (2004). Blogs' social and cultural advances and issues. Korea Telecommunications Policy Review, 16(8), 18-36.

Kim, Y. M. (January, 2007). Busy websites need real name registration, The Korea Herald. Retrieved from Retrieved February 20, 2009 from http://www.koreaherald.co.kr/archives/result_contents.asp

Kinnear, T. C., & Taylor, J. R. . (1991). Marketing Research: An Applied Approach (4th ed.). London: McGraw-Hill Inc.

Kiousis, S. (2002). Interactivity: a concept explication. New Media Society, 4(3), 355-383.

KISA. (2011). 2011 Korea Internet White Paper Retrieved 9 May, 2012, from http://isis.kisa.or.kr/eng/ebook/2011/2011WhitePaper/2011WhitePaper.html

Kluckhorn, F. R., & Strodtbeck, F. L. (1961). Variations in value orientations. Evanston, IL: Row, Peterson.

Ko, H., Roberts, M.S., & Cho, C. H. (2006). Cross-Cultural Differences in Motivations and Perceived Interactivity: A Comparative Study of American and Korean Internet Users. Journal of Current Issues & Research in Advertising, 28(2), 93-104.

Koehler, W. (1999). An Analysis of Web Page and Web Site Constancy and Performance. Journal of the American Society for Information Science, 50(2), 162-180.

Kolbe, R. H., & Burnett, M. S. (1991). Content analysis research: an examination of applications with directives for improvement research reliability and objectivity. Journal of Consumer Research, 18(Sept), 243-250.

Kondratova, I., & Goldfarb, I. (2006). Cultural Interface Design: Global Colors Study. In Meersman, R., Tari, Z. & Herrero, P. (Eds.), OTM Workshops 2006, LNCS 4277 (pp. 926-934). Berlin Heidelberg: Springer-Verlag.

Kralisch, A. (2005). The Impact of Culture and Language on the use of the Internet: Empirical Analyses of Behaviour and Attitudes. PhD, Humboldt-Universität zu Berlin.

Kralisch, A., & Berendt, B. (2004). Cultural determinants of search behaviour on websites. Paper presented at the Proceedings of the IWIPS 2004 Conference on Culture, Trust, and Design Innovation, Vancouver, Canada.

Kralisch, A.,Berendt, B., & Eisend, M. (2005). The Impact of Culture on Website Navigation Behaviour. Paper presented at the Proceedings of the 11th International Conference on Human Computer Interaction, Las Vegas.

Krippendorff, K. (1980). Content analysis: An introduction to its methodology. London: Sage Publications.

Krishnamurthy, S. (2002). The Multidimensionality of Blog Conversations: The Virtual Enactment of September 11. Paper presented at the AOIR Internet Research 3.0: Net/Work/Theory, Maastricht, The Netherlands, October 13-16.

Kroeber, A. L., & Parsons, T. (1958). The concepts of culture and of social systems American Sociological Review, 23, 582-583.

Kweon, S. H., Cho, E. J., & Kim, E. M. (2008). Interactivity dimension: Media, content, and user perception. Proceedings of the 3rd International Conference on Digital Interactive Media in Entertainment and Arts, Athens, Greece.

Kwon, S. H. , & Woo, J. S. (2005). Blog Media Research: a Study of Motivation, Gratification and Cognitive Styles of Blog Media. The Korean Journal of Broadcasting, 19(2), 419-460.

Larson, K., & Czerwinski, M. (1998). Web page design: implications of memory, structure and scent for information retrieval. Paper presented at the Proceedings of the SIGCHI conference on Human factors in computing systems.

Larsson, A. O. (2012). Interactivity on Swedish newspaper websites: What kind, how much and why? Convergence: The International Journal of Research into New Media Technologies, 18.

Lasica, J. D. (2001). Blogging as a Form of Journalism. USC Annenberg Online Journalism Review.

Lasswell, H., Lerner, D., & Pool, I. (1952). The comparative study of symbol: an introduction: Stanford University Press, Hoover Institute and Library on War, Revolution and Peace.

Laurel, B. (1990a). Interface agents: Metaphors with character. In Laurel, B. (Eds.), The Art of Human-Computer Interface Design (pp. 355-365). Reading, MA: Addison-Wesley.

Laurel, B. (1990b). Users and Contexts. In Laurel, B. (Ed.), The Art of Human-Computer Interface Design (pp. 91-93). Reading, MA: Addison-Wesley Publishing Company, Inc.

Lee, J. H. (2004). Interface design in Blog (Web+Log) service. Journal of Korean Society of Basic Design & Art, 5(1), 87-95.

Li, X. (1998). Web Page Design and Graphic use of Three U.S. Newspapers. Journalism & Mass Communication Quarterly, 75(Summer), 353-365.

Lincoln, S. R. (2009). Mastering Web 2.0: transform your business using key website and social media tools. London, UK: Kogan Page.

Liu, Y., Lin, F., & Wang, X. (2003). Education practice and analyzing behaviour of students in a Web-based learning environment: an exploratory study from China. Online Information Review, 27(2), 110-119.

Liu, Y., & Shrum, L. J. (2002a). What is Interactivity and Is It Always Such a Good Thing? Implications of Definition, Person, and Situation for the Influence of Interactivity on Advertising Effectiveness. Journal of Advertising, 31(4).

Liu, Y., & Shrum, L. J. (2002b). What Is Interactivity and Is It Always Such a Good Thing? Implications of Definition, Person, and Situation for the Influence of Interactivity on Advertising Effectiveness. Journal of Advertising, 31(4), 53-64.

Livingstone, S. (2003). On the challenge of cross-national comparative media research. European Journal of Communication, 18, 477-500.

Lo, B. W. N, & Gong, P. (2005). Cultural Impact on the Design of E-Commerce Websites: Part I-Site Format and Layout. Issues in Information Systems, VI(2), 182-188.

Lombard, M., & Snyder-Duch, J. (2001). Interactive Advertising and Presence: A Framework. Journal of Interactive Advertising, 1(2).

Lowry, P. B.,Spaulding, T.,Wells, T. M., Moody, G., Moffit, K., & Madariaga, S. (2006). A Theoretical Model and Empirical Results Linking Website Interactivity and Usability Satisfaction. Paper presented at the Proceedings of the 39th Annual Hawaii International Conference on System Sciences (HICSS-39 2006), Kauai, Hawaii USA.

Luna, D., Peracchio, L. A., & de Juan, M. D. (2002). Cross-cultural and cognitive aspects of web site navigation. Journal of the Academy of Marketing Science, 30(4), 397-410.

Maass, S. (1983). Why systems transparency? . In Green, T.R., Payne, S.J. & van der Veer, G.C. (Eds.), The Psychology of Computer Use (pp. 19-28). London: Academic Press.

Macnamara, J. (2005). Media content analysis: Its uses; benefits and best practice methodology. Asia Pacific Public Relations Journal, 6(1), 1-34.

Mahemoff, M. J., & Johnston, L. J. (1998). Software Internationalisation: Implications for Requirements Engineering. Paper presented at the the Third Australian Workshop on Requirements Engineering, Deakin University: Geelong.

Mandl, T. (2009). Comparing Chinese and Gernan Blogs. Paper presented at the 20th ACM Conference on Hypermedia and hypermedia, June 29 - July 1, Torino, Italy.

Marcus, A.,Baumgartner, V., & Chen, E. (2003). User-Interface Design vs. Culture. Paper presented at the Designing for Global Markets 5, Proceedings of the Fifth International Workshop for Internationalisation of Products and Systems, Berlin, Germany: University of Kaiserslautern.

Marcus, A., & Gould, E. W. (2000). Cultural Dimensions and Global Web User-Interface Design: What? So What? Now What? In Proceedings of the 6th Conference on Human Factors and the Web in Austin, Texas.

Marcus, A., & Gould, E. W. (2000). Crosscurrents: Cultural Dimensions and Global Web User-Interface Design. Interactions, 7(4), 32-46.

Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. Psychological Review, 98(2), 224-253.

Marlow, C. (2006). Investment and attention in the weblog community. Paper presented at the Proceedings of the AAAI Spring Symposium on Computational Approaches to Analysing Weblogs, Palo Alto, CA.

Marsico, M. D., & Levialdi, S. (2004). Evaluating web sites: exploiting user's expectations. Int. J. Human-Computer Studies, 60(3), 381-416.

Marsland, D. (1995). In Difference of British Values: Freedom, The Work Ethic, and the Family. London: Libertarian Alliance.

Massey, B. L., & Levy, M. R. (1999). Interactivity, Online Journalism, and English-Language Web Newspapers in Asia. Journalism and Mass Communication Quarterly, 76(1), 138-151.

Maynard, M., & Tian, Y. (2004). Between global and glocal: content analysis of the Chinese Web Sites of the 100 top global brands. 30(3), 285-291.

McBurney, H. D. (1994). Research methods (3rd ed.). . Belmont, CA: Wadsworth.

McMillan, S., & Hwang, J. S. (2002). Measures of Perceived Interactivity: An Exploration of the Role of Direction of Communication, User Control, and Time in Shaping Perceptions of Interactivity. Journal of Advertising, 31(3), 29-42.

McMillan, S. J. (1998). Who Pays for Content? Funding in Interactive Media. Journal of Computer-Mediated Communication, 4(1).

McMillan, S. J. (2000a). Interactivity is in the Eye of the Beholder: Function, Perception, Involvement, and Attitude toward the Web Site. Paper presented at the Proceedings of the American Academy of Advertising, East Lansing, MI: Michigan State University.

McMillan, S. J. (2000b). The Microscope and the Moving target: The Challenge of Applying Content Analysis to the World Wide Web. Journalism and Mass Communication Quarterly, 77(1), 80-98.

McMillan, S. J. (2002a). Exploring Models of Interactivity from Multiple Research Traditions: Users, Documents, and Systems. In Lievrouw, L. & Livingston, S. (Eds.), Handbook of New Media (pp. 162-182). London: Sage.

McMillan, S. J. (2002b). A four-part model of cyber-interactivity: Some cyber-places are more interactive than others. New Media Society, 4(2), 271-291.

McMillan, S. J. (2005). The researchers and the concept: moving beyond a blind examination of interactivity. Journal of Interactive Advertising, 5(2).

McMillan, S. J., Hoy, M. G., Kim, J., & McMahan, C. (2008). A Multifaceted Tool for a Complex Phenomenon: Coding Web-Based Interactivity as Technologies for Interaction Evolve. Journal of Computer-Mediated Communication, 13(4), 794-826.

McMillan, S. J., Hwang, J. S., & Lee, G. (2003). Effects of structural and Perceptual Factors on Attitudes toward the Website. Journal of Advertising Research, 43(4), 400-409.

McSweeney, B. (2002). Hofstede's model of national cultural differences and their consequences: A triumph of faith-A failure of analysis. Human Relations, 55(1), 89-118.

Mesquita, B., Frijda, N. H., & Scherer, K. R. (1997). Culture and emotion. In Dasen, P. & Saraswathi, T. S. (Eds.), Handbook of Cross-Cultural Psychology (Vol. 2, pp. 255-297). Boston, MA: Allyn & Bacon.

Middleton, C. A. (2002). Exploring Consumer Demand for Networked Services: The Importance of Content, Connectivity, and Killer Apps in the Diffusion of Broadband and Mobile Services. Proceedings of the Twenty-Third International Conference on Information Systems, 391-398.

Mitra, A., & Cohen, E. (1999). Analysing the Web; Directions and Challenges. In Jones, S. (Eds.), Doing Internet Research Critical Issues and Methods for Examining the Net (pp. 179-202). Thousand Oaks, CA: Sage.

Morio, H., & Buchholz, C. (2007). How anonymous are you online? Examining online social behaviors from a cross-cultural perspective. AI & Society, 1-11.

Morris, M., & Ogan, C. (1996). The Internet as Mass Medium. Journal of Communication, 46(1), 39-50.

Mueller, B. (1987). Reflections on culture: an analysis of American and Japanese advertising appeals. Journal of Advertising Research, 27(3), 51-59.

Mullet, K., & Sano, D. (1995). Designing Visual Interfaces: SunSoft Press.

Munson, J. M., & McIntyre, S. H. (1979). Developing Practical Procedures for the Measurement of Personal Values in Cross-Cultural Marketing Journal of Marketing Research, 16(1), 48-52.

Musser, J., & O'Reilly, T. (2006). Web 2.0 - Principles and Best Practices. Sebastopol, CA: O'Reilly Media.

Myers, M., & Tan, F. (2002). Beyond models of national culture in information systems research. Journal of Global Information Management, 10(1), 24-32.

Nardi, B. A., Schiano, D. J., & Gumbrecht, M. (2004). Blogging as social activity, or, would you let 900 million people read your diary? Paper presented at the Proceedings of the 2004 ACM conference on Computer supported cooperative work, Chicago, USA, 6-10 November.

Nardi, B. A., Schiano, D. J.,Gumbrecht, M., & Swartz, L. (2004). Why we blog. Communications of the ACM, 47(12), 41-46.

National Statistics. (2010). Internet Access 2010: Households and Individuals. Retrieved January 13, 2011 from http://www.statistics.gov.uk/pdfdir/iahi0810.pdf

National Statistics. (2012). Internet Access Quarterly Update 2011 Q4 Retrieved 08 May, 2012, from http://www.ons.gov.uk/ons/search/index.html?newquery=Internet+users

Nawaza, A. & Clemmensena, T. (2013). Website Usability in Asia "From Within": An Overview of a Decade of Literature. International Journal of Human-Computer Interaction, 29(4), 256-273.

Neuendorf, K. A. (2002). The Content Analysis Guidebook. London: Sage Publications.

Neuman, R. (1991). The Future of the Mass Audience. Cambridge: Cambridge University Press.

Neuman, W. (1997). Social research methods:qualitative and quantitative approaches. MA: Allyn & Bacon.

Newhagen, J. E, & Rafaeli, S. (1996). Why communication researcher should study the internet: a dialogue. Journal of Communication, 46, 4-13.

Newhagen, J. E.,Cordes, J. W., & Levy, M. R. (1995). "Nightly@nbc.com: Audience Scope and the Perception of Interactivity in Viewer Mail on the Internet. Journal of Communication, 45(3), 164-175.

Nicovich, S., & Cornwell, T. B. (1998). An Internet culture? Implications for marketing. Journal of Interactive Marketing, 12(4).

NIDAK. (2011). 2011 Internet Usage Retrieved 08 May, 2012, from http://isis.nida.or.kr

Nielsen, J. (2000). Designing Web Usability: The Practice of Simplicity. Indianapolis: New Riders Publishing.

Nielsen, J., & Del Galdo, E. M. (1996). International User Interfaces. In Nielsen, J. & Del Galdo, E. M. (Eds.). New York: John Wiley & Sons Inc.

Nielsen, J., & Loranger, H. (2006). Prioritizing Web Usability. Berkeley, CA: New Riders.

Nielsen, J., & Tahir, M. (2001). Homepage Usability. Indianapolis, Indiana: New Riders Publishing.

Nisbett, R. E. (2003). The Geography of Thought: how Asians and Westerners think differently and why. London: Nicholas Brealey Publishing.

Nisbett, R. E., & Masuda, T. (2003). Culture and point of view. Paper presented at the Proceedings of the National Academy of Sciences of the United States of America.

Nisbett, R. E., & Norenzayan, A. (2002). Culture and cognition. In Medin, D. & Pashler, H. (Eds.), Stevens' handbook of experimental psychology (3rd ed.). New York: John Wiley & Sons.

Nisbett, R. E., Peng, K., Choi, I., & Norenzayan, A. (2001). Culture and Systems of Thought: Holistic Versus Analytic Cognition. Psychology Review, 108(2), 291-310.

Nisbett, R.E. (2004). Cognition and Perception East and West. Paper presented at the 28th International Congress of Psychology in Beijing.

NMIncite. (2012). Buzz in the Blogosphere: Millions more bloggers and blog readers Retrieved 07 May, 2012, from http://www.nmincite.com/?p=6531

O' Reilly, T. (2005). What is Web 2.0? Design Patterns and Business Models for the Next Generation of Software Retrieved 05 May, 2012, from http://www.oreillynet.com/lpt/a/6228

OECD. (2006). OECD Broadband Statistics to December 2006 Retrieved 12 March, 2008, from http://www.oecd.org/document/7/0,3746,en_2649_34225_38446855_1_1_1_1,00.html

OECD. (2007). The Communications Market: Broadband Digital Progress Report Retrieved 13 May, 2012, from http://www.oecd.org/dataoecd/62/7/40781696.pdf

OECD. (2010). OECD Broadband Portal. OECD Broadband Portal Retrieved 08 May, 2012, from http://www.oecd.org/document/54/0,3746,en_2649_34225_38690102_1_1_1_1,00.html

OECD. (2011a). Five largest OECD fixed (wired) broadband markets, OECD Broadband Statistics Retrieved 07 May, 2011, from http://www.oecd.org/dataoecd/22/16/39574815.xls

OECD. (2011b). OECD historical fixed (wired) broadband penetration rates, OECD Broadband Statistics Retrieved 07 May, 2012, from http://www.oecd.org/dataoecd/22/12/39574779.xls

Ofcom. (2007). The Communications Market: Broadband Digital Progress Report Retrieved 13 May, 2012, from http://stakeholders.ofcom.org.uk/binaries/research/cmr/broadband_rpt.pdf

Ofcom. (2011). UK fixed-line broadband performance, November 2011 Retrieved 13 May, 2012, from http://stakeholders.ofcom.org.uk/market-data-research/other/telecoms-research/broadband-speeds/bb-speeds-nov-11

Okazaki, S. (2004). Does Culture Matter?: Identifying Cross-national Dimensions in Japanese Multinationals' Product-based Websites. Electronic Markets, 14(1), 58-69.

Okazaki, S., & Rivas, J. A. (2002). A content analysis of multinationals' Web communication strategies: cross-cultural research framework and pre-testing. Internet Research: Electronic Networking Applications and Policy, 12(5), 380-390.

ONI. (2010). Country Profile Retrieved 12 December, 2010, from http://opennet.net/research

Palmer, J. W. (2002). Web Site Usability, Design, and Performance Metrics. Information Systems Research, 13(2), 151-167.

Pan, P., & Xu, J. (2007). Cultural Differences Make Differences: An Investigation of Online Strategic Communication of Corporate Websites in the United States and China. Paper presented at the the annual meeting of the NCA 93rd Annual Convention, TBA, Chicago, IL.

Park, C., & Jun, J. (2003). A cross-cultural comparison of Internet buying behaviour: Effects of Internet usage, perceived risks and innovativeness. International Marketing Review, 20(5), 511-528.

Pashupati, K., & Lee, J. H. (2003). Web Banner Ads in Online Newspapers: A Cross-National Comparison of India and Korea. International Journal of Advertising, 22, 531-564.

Paul, M. J. (2001). Interactive Disaster Communication on the Internet: A Content Analysis of Sixty-Four Disaster Relief Home Pages. Journalism & Mass Communication Quarterly, 78(4), 739-753.

Pavlik John, V. (1996). New Media Technology: Cultural and Commercial Perspectives. Boston, MA: Allyn and Bacon.

Peng, K., Ames, D., & Knowles, E. (2001). Culture and human inference: perspectives from three traditions. In Masumoto, D. (Ed.), Handbook of Culture and Psychology (pp. 243-263). New York: Oxford University.

Perlmutter, D. D. (2008). Blog Wars. New York: Oxford Univ. Press.

Pfeil, U., Zaphiris, P., & Ang, C. (2006). Cultural Differences in Collaborative Authoring of Wikipedia. Journal of Computer Mediated Communication, 12, 88-113.

Plocher, T., Rau, P. P., & Choong, Y. Y. (2012). Cross-Cultural Design. In Salvendy, G. (Eds.), Handbook of Human Factors and Ergonomics (pp. 162-191), Hoboken, New Jersey: John Wiley & Sons.

Potter, R. F. (1999). Measuring the "Bells and Whistles" of a new medium: Using content analysis to describe the structural features of cyberspace. Paper presented at the the Mass Communication Division of the International Communication Association for their annual conference, San Francisco, CA.

Potter, W. J, & Levine-Donnerstein, D. (1999). Rethinking validity and reliability in content analysis. Journal of Applied Communication Research, 27, 258-284.

Prabhu, G., & Harel, D. (1999). GUI Design Preference Validation for Japan and China-A Case for KANSEI Engineering? Paper presented at the Proceedings of the 8th International Conference on Human-Computer Interaction (HCI International '99).

Preece, J. (1994). Human-Computer Interaction. Wokingham: EN: Addision-Wesley.

Privacy International. (2007). PHR2006 - United Kingdom of Great Britain and Northern Ireland.   Retrieved 13 February, 2011 from http://www.privacyinternational.org/article.shtml?cmd[347]=x-347-559479

Qian, H., & Scott, C. R. (2007). Anonymity and Self-Disclosure on Weblogs. Journal of Computer-Mediated Communication, 12(4), 1428-1451.

Rafaeli, S. (1988). Interactivity: From new media to communication. In Hawkins, R. P., Wiemann, J. M., & Pingree, S. (Eds.), Advancing communication science: Merging mass media and interpersonal process, 110-134.

Rafaeli, S., & Sudweeks, F. (1997). Networked Interactivity. Journal of Computer-Mediated Communication, 2(4).

Ramen, N. V., & Leckenby, J. D. (1995). Advertising on interactive media: Some issues, some suggestions. In Madden, C. S. (Ed.), The Proceedings of the 1995 Conference of the American Academy of Advertising (pp. 247-251). Waco, TX: Baylor University.

Ratner, C., & Hui, L. (2003). Theoretical and Methodological Problems in Cross-cultural Psychology. Journal of the Theory of Social Behavior, 33, 67-94.

Recabarren, M., & Nussbaum, M. (2010). Exploring the feasibility of web form adaptation to users' cultural dimension scores. User Modeling and UserAdapted Interaction, 20(1), 87-108.

Rice, R. E. (1984). New Media Technology: Growth and Integration. In Rice, R. E. (Eds.), The New Media: Communication, Research and Technology (pp. 33-54). Beverly Hills, CA: Sage Publications.

Rice, R. E., & Williams, F. (1984). Theories old and new: The study of new media. In Rice, R. E. (Eds.), The new media: Communication, research, and technology (pp. 55-80). Beverly Hills, CA: Sage.

Rice, R. E., McCreadie, M., & Chang, S. J. L. (2001). Accessing and Browsing Information and Communication. Cambridge, MA: MIT Press.

Riding, R., & Rayner, S. G. (1998). Cognitive styles and learning strategies: Understanding style differences in learning and behaviour. . London: D. Fulton Publishers.

Riegelsberger, J., Sasse, A., & McCarthy, J. (2003). Shiny Happy People Building Trust? Photo on e-Commerce Websites and Consumer Trust. CHI "03 extended abstracts on Human factors in computing systems, 5(1), 121-128.

Riffe, D., Lacy, S., & Fico, F. G. (1998). Analyzing media messages: Using quantitative content analysis in research. Mahwah, NJ: Lawrence Earlbaum Associates.

Robb, J. M., McCarthy, J. C., & Sheridan, H. D. (1997). Intelligent Interactivity. Interactive Technology Strategies, 1(12).

Robbins, S. S., & Stylianou, A. C. (2002). A study of cultural differences in global corporate Websites. Journal of Computer Information Systems, 42, 3-9.

Robbins, S. S., & Stylianou, A. C. (2010). A Longitudinal study of cultural differences in global corporate web sites. Journal of International Business and Cultural Studies, May, 2010.

Rokeach, M. (1968). Beliefs, Attitudes and Values San Francisco: Jossey-Bass.

Rokeach, M. (1973). The nature of human values. New York: Free Press.

Russo, P., & Boor, B. (1993, April 24-29). How fluent is your interface? Designing for international users. Paper presented at the Proceedings of the SIGCHI conference on Human factors in computing systems, INTERCHI'93, Amsterdam, The Netherlands.

Sachau, L.L., & Hutchinson, S.R. (2012). Trends in culturally relevant interface design features for Latino Web site users. Educational Technology Research and Development, 60(6), 1033-1050.

Sanchez-Franco, M. J., Martinez-Lopez, F. J., & Martin-Velicia, F. A. (2009). Exploring the impact of individualism and uncertainty avoidance in web-based electronic learning: An empirical analysis in European higher education. Computer & Education, 52(4), 588-598.

Sarkar, T. D. (2012). Impact of online interactivity dimensions on library website quality, Annals of Library and Information Studies (ALIS), 59(4), 231-239.

Scharff, E. (2002). Open Source Software, a Conceptual Framework for Collaborative Artifact and Knowledge Construction, Ph.D. Dissertation, . University of Colorado, Boulder.

Schmid-Isler, S. (2000). The language of digital genres: A semiotic investigation of style and iconology on the World Wide Web. Paper presented at the Proceedings of the 33rd Hawai'i International Conference on System Sciences (HICSS 20001).

Schmidt, K. E., Bauerly, M., Liu, Y., & Sridharan, S. (2003) Web page aesthetics and performance: a survey and an experimental study. Paper presented at the Proceedings of the 8th Annual International Conference on Industrial Engineering – theory, applications and practice, Las Vegas, Nevada, USA.

Schneiderman, B. (1998). Designing the User Interface: Strategies for Effective Human-Computer Interaction (3rd ed.). Reading, MA: Addison-Wesley Publishing Co.

Schultz, T. (2000). Mass Media and the concept of interactivity: an exploratory study of online forums and reader email. Media, Culture & Society, 22(2), 205-221.

Schwartz, S. H. (1994). Beyond individualism/collectivism: New cultural dimensions of values. In Kim, U., Triandis, H. C. & Yoon, G. (Eds.), Individualism and collectivism: Theory, Method, and Applications. London: Sage.

Serfaty, V. (2004). The Mirror and the Veil: an overview of American online diaries and blogs. New York: Rodopi.

Shannon, C. E., & Weaver, W. (1949). The mathematical theory of communication. Urbana: University of Illinois Press.

Shannon, P. (2000). Including language in your global strategy for B2B e-commerce. World Trade, 13(9), 66-68.

Sharifian, F. (2003). On cultural conceptualisations. Journal of Cognition and Culture, 3(3), 187-207.

Shedroff, N. (1999). Information interaction design: A unified field theory of design. In Jacobson, R. (Eds.), Information Design (pp. 267-292). Cambridge: Massachusetts Institute of Technology.

Shen, S.,Woolley, M., & Prior, S. (2005). Towards culture-centred design. Interacting with Computers, 18, 820-852.

Sheppard, C., & Scholtz, J. (1999). The effects of cultural markers on web site use. Paper presented at the Fifth Conference on Human Factors and the Web.

Sheridan, E. F. (2001). Cross-cultural web site design: Considerations for developing and strategies for validating locale appropriate on-line content. MultiLingual Computing & Technology 43, 12(7).

Shih, C. E. (1998). Conceptualizing consumer experiences in cyberspace. European Journal of Marketing, 32(7/8), 655-663.

Shin, D. (2010). Analysis of online social networks: a cross-national study. Online Information Review, 34(3), 473-495.

Shin, D., & Kim, W. (2008). Applying the technology acceptance model and flow theory to Cyworld user behavior. CyberPsychology and Behavior, 11(3), 378-382.

Simon, S. J. (2001). The Impact of Culture and Gender on Web Sites: An Empirical Study. Data Base for Advances in Information Systems, 32(1), 18-37.

Cultural Impacts on Web: An Empirical Comparison of Interactivity
in Websites of South Korea and the United Kingdom
Inhwa Kim

Singh, N., & Baack, D. W. (2004). Web Site Adaptation: A Cross-Cultural Comparision of U.S. and Mexican Web sites. Journal of Computer-Mediated Communication, 9(4).

Singh, N., Fassott, G., Zhao, H., & Boughton, P. D. (2006). A Cross-cultural analysis of German, Chinese and Indian consumers' perception of web site adaptation. Journal of Consumer Behaviour, 5, 56-68.

Singh, N., & Matsuo, H. (2004). Measuring cultural adaptation on the Web: a content analytic study of US and Japanese Web sites. Journal of Business Research, 57(8), 864-872.

Singh, N., Zhao, H., & Hu, X. (2003). Cultural adaptation on the web: A study of American companies' domestic and Chinese websites. International Journal of Global Information Management, 11(3), 63-80.

Singh, N., Zhao, H., & Hu, X. (2005). Analyzing the cultural content of web sites: A cross-national comparison of China, India, Japan, and US. International Marketing Review, 22(2), 129-146.

Sivakumar, K., & Nakata, C. (2001). The stampede toward Hofstde's framework: Avoding the sample design pit in corss-cultural research. Journal of International Business Studies, 32(3), 555-574.

Smith, A., Dunckley, L., French, T., Minocha, S., & Chang, Y. (2004). A process model for developing usable cross-cultural websites. Special issue of Interacting with Computers - Global Human-Computer Systems: Cultural Determinants of Usability 16(1), 63-91.

Snyder, I. (1997). Hypertext: The Electronic Labyrinth. New York: New York University Press.

Sondergaard, M. (1994). Hofstede Consequences- A Study of Reviews, Citations and Replications, Special Issue on Cross-national Organization Culture. European Group for Organizational Studies, 15(3), 447-456.

Søruma, H., Andersenb, K.N., & VatrapubPublic, R. (2012). websites and human–computer interaction: an empirical study of measurement of website quality and user satisfaction. Behaviour & Information Technology, 31(7), 697-706.

Steinwachs, K. (1999). Information and culture - the impact of national culture on information processes. Journal of Information Science, 25(3), 193–204.

Steuer, J. (1992). Defining virtual reality: Dimensions determining telepresence. Journal of Communication, 42(4), 73-93.

Stewart, E. C., & Bennett, M. J. (1991). American Cultural Patterns: A Cross-Cultural Perspective. Yarmouth, Maine: Intercultural Press.

Stone, P., Dunphy, D., Smith, M., & Ogilvie, D. (1966). The general inquirer: a computer approach to content analysis. First Paperback Edition, The MIT Press.

Sun, H. (2001). Building a Culturally Competent Web Site: An Exploratory Study of Cultural Markers in Multilingual Web Design. Paper presented at the SIGDOC '01: Proceedings of the 19th annualinternational conference on Computer documentation, Sante Fe, New Mexico, USA.

Sundar, S. S. (2004). Theorizing interactivity's effects. The Information Society, 20, 385-389.

Sundar, S. S. (2007). Social psychology of interactivity in human website interaction. In Joinson, A. N., McKenna, K. Y. A., Postmes, T. & Reips, U. D. (Eds.), The Oxford handbook of internet psychology (pp. 89-104). Oxford, UK: University Press.

Sundar, S. S., Xu, Q., & Bellur, S. (2010). Designing Interactivity in Media Interfaces: A Communications Perspective Paper presented at the CHI 2010: Perspectives on Design, April 10–15, 2010, Atlanta, GA, USA.

Szuprowicz, B. O. (1995). Implementing multimedia for business. Charleston, NC: Computer Technology Research Corporation.

Szuprowicz, B.O. (1996). Interactive Communications: New Technologies and Future Directions.: Computer Technology Research Corp., SC.

Tajfel, H., & Turner, J. C. (1979). An Integrative Theory of Intergroup Conflict. In Austin, W. G. & Worchel, S. (Eds.), The Social Psychology of Intergroup Relations. Monterey. CA: Brooks-Cole.

Tan, G. W., & Wei, K. K. (2006). An empirical study of web browsing behavior: towards an effective website design. Electronic Commerce Research and Applications, 5(4), 261-271.

Taylor, D. (1992). Global software: developing applications for the international market. New York: Springer-Verlag.

Technorati. (2004). Blogosphere Size from State of the Blogosphere, 2004 Retrieved January 17, 2008, from http://technorati.com/state-of-the-blogosphere/

Technorati. (2007). State of the Live Web from State of the Blogosphere, 2007 Retrieved March 20, 2008, from http://technorati.com/state-of-the-blogosphere/

Teo, H. H.,Oh, L. B., Liu, C., & Wei, K. K. (2003). An empirical study of the effects of interactivity in web user attitude. International Journal of Human-Computer Studies, 58(3), 281-305.

Teo, H. H.,Oh, L. B., Liu, C., & Wei, K.K. (2003). An empirical study of the effects of interactivity on web user attitude. International Journal of Human-Computer Studies, 58(3), 281.

Thatcher, B. (1999). Cultural and Rhetorical Adaptations for South American Audiences. Technical Communication, 46(2), 177-195.

Tixier, M. (2005). Globalization and Localization of Contents: Evolution of Major Internet Sites Across Sectors of Industry. Thunderbird International Business Review, 47(1), 15-48.

Tong, M., & Robertson, K. (2008). Political and Cultural Representation in Malaysian Websites. International Journal of Design, 2(2), 6-79.

Trammell, K. D., & Keshelashvili, A. (2005). Examining the new influencers: A self-presentation study of A-list blogs. Journalism & Mass Communication Quarterly, 82(4), 968-982.

Triandis, H. C. (1972). The Analysis of Subjective Culture, New York: Wiley.

Triandis, H. C. (1982). Review of culture's consequences: International differences in work-related values. Human Organization, 41, 86-90.

Triandis, H. C. (1986). Collectivism vs. individualism: A reconceptualization of a basic concept in cross-cultural social psychology. In Bagley, C. & Verma, G. K. (Eds.), Personality, cognition and values: Cross-cultural perspectives of childhood and adolescence. London: Macmillan.

Triandis, H. C. (1989). The self and social behavior in differing cultural contexts. Psychological Review, 96(3), 506-520.

Trompenaars, F. (1994). Riding the waves of culture: Understanding diversity in global business. Burr Ridge, IL: Irwin Professional Publishers.

Tse, D. K., Belk, R. W., & Zhou, N. (1989). Becoming a Consumer Society: A Longitudinal and Cross-Cultural Content Analysis of Print Ads from Hong

Kong, the People's Republic of China, and Taiwan. The Journal of Consumer Research, 15(4), 457-472.

Tsikriktsis, N. (2002). Does Culture Influence Web Site Quality Expectations?: An Empirical Study. Journal of Service Research, 5(2), 101-112.

UN data. (2010). World Population Prospects. from United Nations Population Division Retrieved February 19, 2011 from http://data.un.org/Data.aspx?q=population+2010&d=PopDiv&f=variableID%3a12%3btimeID%3a1061

U.S. Department of State. (2010). Bureau of European and Eurasian Affairs, Background Note: United Kingdom, from Retrieved May 01, 2011, from http://www.state.gov/r/pa/ei/bgn/3846.htm

Viégas, F. B. (2005). Bloggers'expectations of privacy and accountability: An initial survey. Journal of Computer-Mediated Communication, 10(3), 12.

Vishwanath, A. (2003). Comparing online information effects: A cross-cultural comparison of online information and uncertainty avoidance. Communication Research, 30(6), 579-598.

Vishwanath, A. (2004). Manifestations of Interpersonal Trust in Online Interaction. New Media & Society, 6(2), 219-234.

Voorveld, H. A., Neijens, P. C., & Smit, E.G. (2010). The Interactive Authority of Brand Web Sites. Journal of Advertising Research, 50(3), 292-304.

Walker, J. (2003). Final version of weblog definition (28 June, 2003) Retrieved October 06, 2007, from http://jilltxt.net/archives/blog_theorising/final_version_of_weblog_definition.html

Walther, J. B, & Burgoon, J. K. (1992). Relational communication in computer-mediated interaction. Human Communication Research, 19(1), 50-88.

Waters, R. D., & Lo, K. D. (2012). Exploring the Impact of Culture in the Social Media Sphere: A Content Analysis of Nonprofit Organizations' Use of Facebook. Journal of Intercultural Communication Research, 41(3), 297-319.

Weare, C., & Lin, W.Y. (2000). Content analysis of the World Wide Web - Opportunities and challenges. Social Science Computer Review, 18(3), 272-292.

Weber, R. (1990). Basic content analysis (2nd ed.). Newbury Park, CA: Sage.

Wells, W., Burnett, J., & Moriatry, S. (1995). Advertising principles and practice. Englewood Cliffs, NJ: Prentice Hall.

Wiedmann, K.P., Buxel, H., & Walsh, G. (2002). Customer profiling in e-commerce: Methodological aspects and challenges. Journal of Database Marketing, 9(2), 170-184.

William, A. P.,Trammell, K.D.,Postelnicu, M.C., Landerville, K.D, & Martin, J.D. (2005). blogging and hyperlinking: use of the Web to enhance viability during the 2004 US campaign. Journalism Studies, 6(2).

Williams, F., Rice, R. E., & Rogers, E. M. (1988). Research Methods and the New Media. New York: The Free Press.

Williamson, D. (2002). Forward from a Critique of Hofstede's Model of National Culture. Human Relations, 55(11), 1373-1395.

Wright, S. (2000). Community and Communication: The Role of Language in Nation State Building and European Integration. Clevedon: Multilingual Matters Ltd.

Wu, G. (1999). Perceived Interactivity and Attitude toward Web Sites. Paper presented at the American Academy of Advertising annual conference, Albuquerque, NM.

Wu, G. (2000). The Role of Perceived Interactivity in Interactive Ad Processing. Unpublished Doctoral Dissertation, The University of Texas at Austin.

Würtz, E. (2005). A cross-cultural analysis of websites from high-context cultures and low-context cultures. Journal of Computer-Mediated Communication, 11(1)(article 13).

Yeo, A. (1996). Cultural User Interfaces: A Silver Lining in Cultural Diversity. SIGCHI Bulletin, 28(3), 4-7.

Yoo, S. J., & Huang, W.H. D. (2011). Comparison of Web 2.0 Technology Acceptance Level based on Cultural Differences. Educational Technology & Society, 14(4), 241-252.

Yoon, D., & Cropp, F. (1999). Cultural differences in Internet advertising: a content analysis of Internet advertising between the United States and Korea Roberts, M.S. (Eds.), Paper presented at the Proceedings of the 1999 Conference of the American Academy of Advertising, University of Florida, Gainesville, FL, 89-95.

Yum, J. O. (1988). The impact of Confucianism on interpersonal relationships and communication patterns in East Asia. Communication Monographs, 55, 374–388.

Yun, G. W. (2007). Interactivity concepts examined: Response time, hypertext, role taking, and multimodality. Media Psychology, 9, 527-548.

Zhang, G., & Herring, S. C. (2012) Globalization or Localization? A longitudinal study of successful American and Chinese online store websites. Paper presented at the Proceedings of Cultural Attitudes Towards Communication and Technology 2012. Murdoch University, Murdoch.

Zhao, W., Massey, B. L., Murphy, J., & Fang, L. (2003). cultural dimensions of website Design and Content. Prometheus, 21(1), 75-84.

APPENDIX I:

CHARITY WEBSITES INTERACTIVE DESIGN FEATURES BY INTERACTION TYPE, AND THEIR CLARIFICATIONS AND CODES THAT HAVE BEEN APPLIED TO CHARITY 06 AND CHARITY 12 STUDIES

Interaction type	Interactive design feature	Clarification	Code
U2I (User to Interface)	Font type	Options for different font types.	Y/N
	Font size	Options for different font size.	Y/N
	Text version	Options for text-based version of the website.	Y/N
	Mobile version	Options for mobile version of the website.	Y/N
	Other language support	Options for other language versions like English, Chinese etc.	Y/N (Y then describe)
	Links to donator's list	Links to the list of people who made a donation.	Y/N (Y then Numerical)
	Links to how donation used	Links to information on how donations was used	Y/N (Y then Numerical)
	Animation	As an actual part of the website with the rapid movement of a sequence of graphics/pictures/text when opens.	Y/N (Y then Numerical)
	Audio	Any sound that is generated automatically in website – when clicking button or automatically playing.	Y/N (Y then Numerical)
	Video	As an actual part of website one-way video playing –when clicking button or automatically playing.	Y/N (Y then Numerical)
	Pull down navigational toolbar	When a link is clicked on, organised sub-links appear.	Y/N
	Rollover navigational toolbar	When the mouse pointer is moved over the chosen link, sub-links appear.	Y/N
	Text only navigational toolbar	No graphic, images, underlines or square brackets that connect the links.	Y/N
	Pop-up window	A small window suddenly appears in the foreground of the interface.	Y/N (Y then Numerical)
	Visitor counter	Options for indicating how many visitors have been visited the blog so far.	Y/N

Interaction type	Interactive design feature	Clarification	Code
U2C (User to Content)	Site registration (e.g. sign in)	A function that allows visitors to sign in the site to experience differential levels of service.	Y/N
	Keyword search	A function that allows visitors to type keywords to view the result of their request.	Y/N (Y then Numerical)
	Donation capability of website	A function that allows visitors to make donation through the website.	Y/N (Y then Numerical)
U2P (User to Provider)	Bulletin board systems (BBSs)	A function that allows a provider and visitors to post information.	Y/N (Y then Numerical)
	Chat room	A function that allows a provider and visitors to chat synchronously.	Y/N (Y then Numerical)
	Electronic-form inquiries	A function that allows visitors to fill out e-form to express their opinions about the organisation and the website.	Y/N (Y then Numerical)
	Online poll or survey	E-form poll or survey in which visitors are asked their opinions/comments on the content and design of the website.	Y/N (Y then Numerical)
	Sing in newsletter	A function that allows visitors to subscribe regular newsletter through opt-in emails.	Y/N
	Email to Webmaster	A function that allows visitors to email to the webmaster.	Y/N
	Email to organisation agent	A function that allows visitors to email to the organisation agent.	Y/N
	Links to Web 2.0 sites (e.g. facebook, youtube etc)	A function that allows visitors to access Web 2.0 sites like YouTube, twitter, blog, wiki, NewsFeeds (XML or RSS), Facebook.	Y/N (Y then Numerical)
U2U (User to User)	Bulletin board systems (BBSs)	A function that allows visitors to post information.	Y/N (Y then Numerical)
	Chat room	A function that allows visitors to chat synchronously.	Y/N (Y then Numerical)
	Online community	A function that allows visitors to share their interests, ideas or concerns with others.	Y/N (Y then Numerical)
	Email to other visitors	A function that allows visitors to email to other visitors.	Y/N (Y then Numerical)

APPENDIX II:

BLOG INTERACTIVE DESIGN FEATURES BY INTERACTION TYPE, AND THEIR CLARIFICATION AND CODE THAT HAVE BEEN APPLIED AS IN STUDY OF INTERNATIONAL BLOGS AND STUDY OF SK AND UK BLOGS

Interaction type	Interactive design feature	Clarification	Code
B2I (Blogger to Interface)	Link to blogroll	A list of links to blogs recommended by the blogger, usually located in the blog's sidebar.	Y/N (Y then Numerical)
	Animation	As an actual part of blog the rapid movement of a sequence of graphics of pictures or text when blog opens.	Y/N (Y then Numerical)
	Audio	Any sound that is generated automatically in blog – when clicking button or automatically playing.	Y/N (Y then Numerical)
	Video	As an actual part of blog one-way video playing –when clicking button or automatically playing.	Y/N (Y then Numerical)
	Visitor counter	Options for indicating how many visitors have been visited the blog so far.	Y/N
B2C (Blogger to Content)	Template modification	Layout, background colour or images has (not) been modified from the typical design format.	Y/N
	Keyword search	A function that allows a visitor to type keywords to view the result.	Y/N (Y then Numerical)
	Comment capability	A function which allows a visitor to add comment on each post.	Y/N (Y then Numerical)
	Trackback	A function that allows a visitor to view who has seen the original post and has written another post regarding it.	Y/N (Y then Numerical)
B2B (Blogger to Blogger)	Guestbook	A function that allows a visitor to make a comment on the blog or to the blog owner.	Y/N (Y then Numerical)
	Email to blogger	A link to write email to the blog owner.	Y/N
	Instant messenger	Synchronous on-line chat with visitors or blog owner using chatting programs.	Y/N (Y then Numerical)
	link to blogger's personal homepage	A link to access to the personal homepage created by the blog owner.	Y/N (Y then Numerical)
	Online poll or survey	E-form poll or survey on which visitors are asked their opinions or comments on the blog and any particular topic or issues.	Y/N (Y then Numerical)

APPENDIX III: CODEBOOK FOR CHARITY WEBSITES

This codebook is designed to help you in the process of coding design features of each homepage. Each variable is defined based on its use in this study. You are to refer to these definitions only while you are coding. You may know of other definitions of these words or features, but those do not apply to this study. Additionally, you are to code the design features based on the instructions that stated in the description. You may have previous experience in research or coding but because each study is different you are to code only according to these instructions.

Instructions:

This study aims to investigate how website designers from two different countries (South Korea and the United Kingdom) used interactive and other design features on their websites.

Your job here is to look at homepage of each selected charity website and identify design features as described. After identifying them you will code them in Y (present) or N (not present), numerical value or describe them on the corresponding code sheet.

Please firstly read through the list to familiarise yourself with the variables and their descriptions. If you do not understand the descriptions, please ask me to explain.

V1 Country

This variable refers to the specific country that the website is targeting, judging from the dominant language on the website.

V2 to V16

These variables represent various U2I (User to Interface) Interactivity related design features present anywhere on the homepage.

V2 Font type: Options for different font types.

V3 Font size: Options for different font size.

V4 Text version: Options for text-based version of the website.

V5 Mobile version: Options for mobile version of the website.

V6 Other language support: Options for other language versions like English, Chinese etc.

V7 Links to donator's list: Links to the list of people who made a donation.

V8 Links to how donation used: Links to information on how donations was used

V9 Animation: As an actual part of the homepage with the rapid movement of a sequence of graphics/pictures/text when opens.

V10 Audio: Any sound that is generated automatically in homepage – when clicking button or automatically playing.

V11 Video: As an actual part of homepage one-way video playing –when clicking button or automatically playing.

V12 Pull down navigational toolbar: When a link is clicked on, organised sub-links appear.

V13 Rollover navigational toolbar: When the mouse pointer is moved over the chosen link, sub-links appear.

V14 Text only navigational toolbar: No graphic, images, underlines or square brackets that connect the links.

V15 Pop-up window: A small window suddenly appears in the foreground of the interface.

V16 Visitor counter: Options for indicating how many visitors have been visited the website so far.

V17 to V19

These variables represent various U2C (User to Content) Interactivity related design features present anywhere on the homepage.

V17 Site registration (e.g. sign in): A function that allows visitors to sign in the site to experience differential levels of service.

V18 Keyword search: A function that allows visitors to type keywords to view the result of their request.

V19 Donation capability of homepage: A function that allows visitors to make donation through the homepage.

V20 to 27

These variables represent various U2P (User to Provider) Interactivity related design features present anywhere on the homepage.

V20 Bulletin board systems (BBSs): A function that allows a provider and visitors to post information.

V21 Chat room: A function that allows a provider and visitors to chat synchronously.

V22 Electronic-form inquiries: A function that allows visitors to fill out e-form to express their opinions about the organisation and the website.

V23 Online poll or survey: E-form poll or survey in which visitors are asked their opinions/comments on the content and design of the website.

V24 Sing in newsletter: A function that allows visitors to subscribe regular newsletter through opt-in emails.

V25 Email to Webmaster: A function that allows visitors to email to the webmaster.

V26 Email to organisation agent: A function that allows visitors to email to the organisation agent.

V27 Links to Web 2.0 sites (e.g. facebook, youtube etc): A function that allows visitors to access Web 2.0 sites like YouTube, twitter, blog, wiki, NewsFeeds (XML or RSS), Facebook.

<u>V28 to V31</u>

These variables represent various U2U (User to User) Interactivity related design features present anywhere on the homepage.

V28 Bulletin board systems (BBSs): A function that allows visitors to post information.

V29 Chat room: A function that allows visitors to chat synchronously.

V30 Online community: A function that allows visitors to share their interests, ideas or concerns with others.

V31 Email to other visitors: A function that allows visitors to email to other visitors.

APPENDIX IV: CODING SHEET FOR CHARITY WEBSITES

Name of the charity organisation: _____

V1 Country of homepage: 1 = South Korea   2 = the United Kingdom

For Variables V2 to V31 : Y = Present (give the number or describe if the answer is Y)

N = Not present

- U2I (User to Interface) Interactivity (V2 to V16)

V2 Font type	Y/N
V3 Font size	Y/N
V4 Text version	Y/N
V5 Mobile version	Y/N
V6 Other language support	Y/N (Y then describe)
V7 Links to donator's list	Y/N (Y then Numerical)
V8 Links to how donation used	Y/N (Y then Numerical)
V9 Animation	Y/N (Y then Numerical)
V10 Audio	Y/N (Y then Numerical)
V11 Video	Y/N (Y then Numerical)
V12 Pull down navigational toolbar	Y/N
V13 Rollover navigational toolbar	Y/N
V14 Text only navigational toolbar	Y/N
V15 Pop-up window	Y/N (Y then Numerical)
V16 Visitor counter	Y/N

- **U2C (User to Content) Interactivity (V17 to V19)**

V17 Site registration (e.g. sign in)	Y/N
V18 Keyword search	Y/N (Y then Numerical)
V19 Donation capability of website	Y/N (Y then Numerical)

- **U2P (User to Provider) Interactivity (V20 to V27)**

V20 Bulletin board systems (BBSs)	Y/N (Y then Numerical)
V21 Chat room	Y/N (Y then Numerical)
V22 Electronic-form inquiries	Y/N (Y then Numerical)
V23 Online poll or survey	Y/N (Y then Numerical)
V24 Sing in newsletter	Y/N
V25 Email to Webmaster	Y/N
V26 Email to organisation agent	Y/N
V27 Links to Web 2.0 sites (e.g. facebook, youtube etc)	Y/N (Y then Numerical)

- **U2U (User to User) Interactivity (V28 to V31)**

V28 Bulletin board systems (BBSs)	Y/N (Y then Numerical)
V29 Chat room	Y/N (Y then Numerical)
V30 Online community	Y/N (Y then Numerical)
V31 Email to other visitors	Y/N (Y then Numerical)

APPENDIX V: CODEBOOK FOR BLOGS

This codebook is designed to help you in the process of coding design features of each blog. Each variable is defined based on its use in this study. You are to refer to these definitions only while you are coding. You may know of other definitions of these words or features, but those do not apply to this study. Additionally, you are to code the features based on the instructions that stated in the description. You may have previous experience in research or coding but because each study is different you are to code only according to these instructions.

Instructions:

This study aims to investigate how bloggers from two different countries (South Korea and the United Kingdom) used interactive design features on their blogs.

Your job here is to look at first page of each selected blog and identify design features as described. After identifying them you will code them in Y (present) or N (not present), numerical order or describe them on the corresponding code sheet.

Please firstly read through the list to familiarise yourself with the variables and their descriptions. If you do not understand the descriptions, please ask me to explain.

V1 Country

This variable refers to the specific country that the website is targeting, judging from the dominant language on the website.

V2 to V6

These variables represent various Blogger to Interface interaction related design features present anywhere on the blog. They can be

V2 Link to blogroll: A list of links to blogs recommended by the blogger, usually located in the blog's sidebar.

V3 Animation: As an actual part of blog the rapid movement of a sequence of graphics of pictures or text when blog opens.

V4 Audio: Any sound that is generated automatically in blog – when clicking button or automatically playing.

V5 Video: As an actual part of blog one-way video playing –when clicking button or automatically playing.

V6 Visitor counter: Options for indicating how many visitors have been visited the blog so far.

V7 to V10

These variables represent various Blogger to Content interaction related design features present anywhere on the blog. They can be

V7 Template modification: Layout, background colour or images has (not) been modified from the typical design format of the blog.

V8 Keyword search: A function that allows a visitor to type keywords to view the result.

V9 Comment capability: A function which allows a visitor to add comment on each post.

V10 Trackback: A function that allows a visitor to view who has seen the original post and has written another post regarding it.

V11 to 15

These variables represent various Blogger to Blogger interaction related design features present anywhere on the blog. They can be

V11 Guestbook: A function that allows a visitor to make a comment on the blog or to the blog owner.

V12 Email to blogger: A link to write email to the blog owner.

V13 Instant messenger: Synchronous on-line chat with visitors or blog owner using chatting programs.

V14 link to bloggers personal homepage: A link to access to the personal homepage created by the blog owner.

V15 Online poll or survey: E-form poll or survey on which visitors are asked their opinions or comments on the blog and any particular topic or issues.

APPENDIX VI: CODING SHEET FOR BLOGS

Name of Blog: _____

V1 Country of homepage: 1 = South Korea   2 = the United Kingdom

For Variables V2 to V31 : Y = Present (give the number if the answer is Y)

                                     N = Not present

- B2I (Blogger to Interface) Interactivity

V2 Link to blogroll	Y/N (Y then Numerical)
V3 Animation	Y/N (Y then Numerical)
V4 Audio	Y/N (Y then Numerical)
V5 Video	Y/N (Y then Numerical)
V6 Visitor counter	Y/N

- B2C (Blogger to Content) Interactivity

V7 Template modification	Y/N
V8 Keyword search	Y/N (Y then Numerical)
V9 Comment capability	Y/N (Y then Numerical)
V10 Trackback	Y/N (Y then Numerical)

- B2B(Blogger to Blogger) Interactivity

V11 Guestbook	Y/N (Y then Numerical)
V12 Email to blogger	Y/N
V13 Instant messenger	Y/N (Y then Numerical)
V14 link to blogger's personal homepage	Y/N (Y then Numerical)
V15 Online poll or survey	Y/N (Y then Numerical)