

## Cross cultural web design: An examination of user attitudes

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### ABSTRACT

This paper investigates user satisfaction with websites from different countries. Geert Hofstede's cultural dimensions were used in determining whether or not individuals were more satisfied with websites from countries with similar cultural dimension rankings as their own country. Expert analyses were performed in determining if cultural dimensions are utilized in web design. China, Russia and the United States were the three countries assessed in the study. The study used Qualtrics Online Survey Software and CrowdFlower crowdsourcing platform to recruit participants and distribute the survey. Participants viewed identical screenshots of McDonald's and Burger King websites from the three countries; all participants completed the same survey on their satisfaction with each of the screenshots. Assessment of the results indicated there was no significant relationship between a participant's satisfaction of a website and the cultural dimension ranking of the website's country. The research did indicate that the cultural dimension ranking of a country has a profound impact on the web design.

Keywords: Marketing, Web Design, Branding, User Satisfaction, Cultural Dimensions

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## INTRODUCTION AND PROBLEM STATEMENT

Understanding the cultural identity of users of the Internet is essential in helping designers and developers create market strategies centered on the customers' lifestyles and needs (Jeyashoke, et al., 2014; Clemmensen and Plocher, 2007).

Numerous studies have assessed websites across cultures using Geert Hofstede's cultural dimensions. Hofstede is a Dutch cultural anthropologist who conducted interviews with hundreds of IBM employees across 53 countries from 1978-1983. He determined different patterns, similarities and differences among participants, creating a paradigm of cultural dimensions. His paradigm "describes how a society's culture impacts the values of its members," (Jeyashoke, et al., 2014). Hofstede's cultural dimensions are widely used in assessing web design across cultures. His study is one of the most comprehensive on how values are influenced by culture, and his framework helps in assessing and differentiating cultures, (Idler 2013). His results are a widely used framework in assessing culture across different countries.

Hofstede's five frameworks are power distance, individualism versus collectivism, masculinity versus femininity, uncertainty avoidance, and long-term versus short-term orientation. These are described as follows (Hofstede, 1984):

- The Power Distance Index (PDI) is defined as the extent to which the less powerful members of organizations and institutions (like the family) accept and expect that power is distributed unequally. A higher degree of the Index indicates that hierarchy is clearly established and executed in society, without doubt or reason. A lower degree of the Index signifies that people question authority and attempt to distribute power.
- The Individualism vs. Collectivism (IDV) index explores the degree to which people in a society are integrated into groups. Individualistic societies have loose ties that often only relate an individual to his/her immediate family. Its counterpart, collectivism, describes a society in which tightly-integrated relationships tie extended families and others into in-groups.
- In the Masculinity vs. Femininity (MAS) dimension, masculinity is defined as a preference in society for achievement, heroism, assertiveness and material rewards for success. Its counterpart represents a preference for cooperation, modesty, caring for the weak and quality of life. Women in the respective societies tend to display different values. In feminine societies, they share modest and caring views equally with men. In more masculine societies, women are more emphatic and competitive, but notably less emphatic than the men.
- The Uncertainty Avoidance Index (UAI) is defined as a society's tolerance for ambiguity, in which people embrace or avert an event of something unexpected, unknown, or away from the status quo. Societies that score a high degree in this index opt for stiff codes of behavior, guidelines, laws, and generally rely on absolute Truth, or the belief that one lone Truth dictates everything and people know what it is. A lower degree in this index shows more acceptance of differing thoughts/ideas.
- The Long-Term Orientation vs. Short-Term Orientation (LTO) dimension associates the connection of the past with the current and future actions/challenges. A lower degree of this index (short-term) indicates that traditions are honored and kept, while steadfastness is valued. Societies with a high degree in this index (long-term) views adaptation and circumstantial, pragmatic problem-solving as a necessity.

Hofstede ranked countries on a scale from zero to 100 for each cultural dimension. The ranking is based on his cultural study and also on other data about the countries, such as percentage of national income spent on social security, the legal obligation in countries for citizens to carry identity cards, etc. Hofstede recognizes that the scores are relative, meaning the scores are only meaningful by comparison (Hofstede, 1984).

With the increasing global market, international organizations need to create websites that appeal to more people across cultures. “Due to cultural and environmental differences, consumers in different countries may have different shopping preferences and experiences within the same types of stores,” (Kacen & Lee, 2002). Hofstede’s cultural framework can be used in assessing web design across different cultures.

The importance of cultural factors in communication leads to a research question that proposes that there are cultural differences between distinct, remote groups of consumers in how they perceive the quality of a similar website. The research work described in this paper aims to address this research question by analyzing the results of an experiment undertaken to specifically examine the differences in cultural attitudes towards food retailers. To achieve this, it was proposed that it is possible to predict the attitudes of remote, geographically specific consumers based on Hofstede’s five frameworks. Screenshots of two fast food chain websites from three different countries were used to test cultural differences of websites. Russia, China and the United States were chosen for this study as they were deemed to exhibit significant cultural differences, while each having the fast food operations under consideration operating in their country.

To examine these cultural differences during this experiment, six research hypotheses were tested. These hypotheses apply a number of Hofstede’s frameworks to both the websites themselves and the individuals viewing the websites:

- H1: Websites from countries with high power distance will place more emphasis on leaders and nationalism in images and menu items compared low power distance countries.
- H2: Websites from countries with high uncertainty avoidance will have fewer menu items and fewer variations of color and typography compared to websites from countries with low uncertainty avoidance.
- H3: Individuals from high power distance countries will be more satisfied with websites from high power distance countries.
- H4: Individuals from low power distance countries will be more satisfied with websites from low power distance countries.
- H5: Individuals from collectivist countries will be more satisfied with websites from collectivist countries compared to websites from individualist countries.
- H6: Individuals from individualist cultures will be more satisfied with websites from individualist countries compared to websites from collectivist countries.

Instead of the convergence phenomena that could have been expected with the advent of information technologies availability and improved mechanisms of instantaneous communication (the ‘global village culture’), cultural differences are still significant today and diversity tends to increase. In order to be able to have respectful cross-cultural relations, there is a need to be aware of these cultural differences and the academic frameworks that underlie these differences.

Hofstede’s early research allowed these differences to be explained and his academic

framework can be used to give a general overview and an approximate understanding of other cultures, what to expect from them and how to behave towards groups from other countries (Hofstede, 1984). More recently, a number of academic researchers have investigated the applications of this framework in multiple fields including:

- International Communication (Wardrope, 2005 and Duranti & de Almeida, 2012)
- International Negotiation (Lebaron, 2003 and Huang, 2010)
- International Management (Williams et al, 1998, Bing, 2004 and Taras et al, 2010)
- International Marketing (Marcus and Gould, 2000, Cyr & Trevor-Smith, 2004 and De Mooij & Hofstede, 2010)

The academic work on international marketing is of particular relevance to this study; understanding the cultural impact of any particular website is crucial for commercial organizations that operate in multiple countries. Utilizing the Hofstede frameworks should allow designers and developers to create market strategies centered on the customers' lifestyles and needs (Jeyashoke, et al., 2014).

This study intends to provide results on current fast food chain websites and how they implement different features on their homepages depending on a country's cultural dimension rankings. It is hoped that this study will reveal any significant differences in user satisfaction with websites from other countries with different cultural dimensions. The experiment is designed to support the idea from Marcus & Gould (2000), that the cultural dimension ranking of a country influences a websites interface design.

## RELATED WORK

A number of other researchers have investigated the impact of cultural frameworks on consumer activity. The work of a number of these researchers is briefly outlined below.

Kacen & Lee (2002) studied the influence of culture on consumer impulsive buying behavior. They focused on individualism versus collectivism and hypothesized the relationship between impulsiveness would be stronger among people from individualist cultures compared to those from collectivist cultures. In a similar manner to the experiment in this study, their methods involved use of Hofstede's ranking system to find highly individualist and highly collectivist cultures. They found that the buying impulsiveness trait was more strongly associated with impulse buying behavior for individualist rather than for collectivist groups (Kacen & Lee, 2002).

In a piece of research analogous to the study presented in this paper, Cyr & Trevor-Smith (2004) studied three countries, Germany, Japan and the United States, and focused on four of Hofstede's cultural dimensions in assessing differences in Web design among cultures. The three countries represent diversity in cultural characteristics. Cyr & Trevor-Smith also focused on certain aspects of Web design: symbols, layout and spatial features, and language and script. Municipal websites were used in the study, meaning it was possible that webpage templates may have been used to create the sites. The problem with templates is the variability of "pure" results across cultures may have been limited (Cyr & Trevor-Smith, 2004).

Marcus & Gould (2000) also used Hofstede's dimensions to assess Web design among various websites from different countries. Aspects of this work are congruous with the work presented in this paper, as for each of the dimensions they also chose countries on opposite sides

of the ranking system (i.e. a country with low PDI and a country with high PDI, an individualist country and a collectivist country, etc.). However, unlike the experiment in this paper, they only considered two countries. Marcus & Gould used images to show the differences in Web design and found websites from low PDI countries place more emphasis on citizens or customers and high PDI countries place more emphasis on official seals and administration or leadership on websites. They also found websites from high UA place emphasis on simplicity and minimal variation of color. Marcus & Gould (2000) recommend further study into specific questions when designing a cross-cultural user interface (i.e. motivation).

One of the pieces of work that is closest to the work undertaken here, is that of Wurtz (2005), who studied individuals in high and low context cultures and assessed website design between two types of cultures using McDonald's websites. Wurtz's hypotheses focused on intercultural communication, minimally using Hofstede's cultural dimensions, only focusing on some power distance relationships and collectivism versus individualism. The study examined how those two cultural dimensions reflect the type of imageries chosen on websites. Results show websites in individualistic cultures chose imagery geared towards individuality of everyday life, and websites in collectivist cultures chose imagery reflective of relationships among people. Wurtz (2005) assessed the websites in different cultures, but did not test user attitudes towards those websites, which is a crucial part of the experiment reported in this paper.

Kim et al. (2009) studied the differences in navigational and graphical features between Korean and United States websites using Hofstede's dimension of individualism and collectivism. They found website designers in the United States and South Korea were knowledgeable of preferences related to cultural differences and this understanding is reflected in the kinds of design features that are implemented on the websites in the two countries (Kim et al., 2009).

Finally Lo & Gong (2005) examined 100 e-commerce websites, 50 from China and 50 from the United States to see the cultural impact of the design of e-commerce websites. The study only focused on characteristics of websites to determine whether there was evidence of cultural sensitivity among the websites selected. The characteristics included color usage, page layout, site content, and interactivity. They briefly discussed the relationship of their results with Hofstede's cultural dimensions, although this was not the main component of the work undertaken. The study focused on layout and design on websites across cultures, but only focused on the homepage of many of the websites (Lo & Gong, 2005).

It can be seen from the research reported above, that although there have been a number of studies undertaken examining the cross-cultural impact of websites, there is little work studying fast food marketing in the public domain. The fast food industry in the USA is worth approximately 200 billion dollars annually and continues to increase its turnover year upon year (Statistica, 2017). The massive impact fast food has to cultures and economies across the world makes the marketing of these products an important area for study.

Only one of the studies described above specifically examined fast food websites (Wurtz, 2005). However, the Wurtz study focused on intercultural communication and only nominally referred to Hofstede's cultural dimensions. Applying a stronger theoretical focus to this area will allow an examination of the specific dimensions identified by Hofstede (power, collectivism, gender, risk, orientation etc) while also studying the discrete cultures involved in the global marketing of fast food.

The previous work described above performs a range of assessments on websites in different cultures, but none of the previous work examines consumer attitudes towards those

websites, in a manner similar to the research reported in this paper. In this study consumer attitudes are a composite of a consumer's beliefs, feelings and behavioral intentions toward website - within the context of marketing a fast food brand. These components are viewed together as a consumer attitude since they are highly interdependent and together represent forces that influence how the consumer will react to the website. Changing attitudes is generally difficult, particularly when consumers suspect that the marketer has a self-serving agenda in bringing about this change - e.g., to get the consumer to buy more or to switch brands (Glasman and Albarracin, 2006). This project aims to identify individual factors that affect the differences in cultural attitudes towards food retailers and hence potentially predict the attitudes of remote, geographically specific consumers based on Hofstede's five frameworks.

## EXPERIMENTAL DESIGN

Webpages were captured as screenshots and edited using Adobe Photoshop. The homepages from McDonald's and Burger King in Russia, China and the United States were selected for examination. Visible text on the web pages was translated into English to avoid response bias. The Webpage snapshots were also edited to remove bias indicating the country or any clues to national symbolism (i.e. flags, social media accounts, languages). Minimal changes to the homepages were made, screenshots of the final webpages used in the experiment are shown in figures 1 through 6 (Appendix).

Participants included 74 individuals from Russia, China, and the United States (Table 1 in the Appendix). Participants were recruited using CrowdFlower and Amazon Mechanical Turk crowdsourcing platforms, and also from SUNY Oswego in New York, St. Petersburg State University in Russia, and Shanghai Normal University in China. Participants were asked to complete a 10-minute survey on their satisfaction with webpages (Figures 1 through 6 in the Appendix). Satisfaction was measured on a 5-point Likert scale from "Not at all satisfied" to "Extremely satisfied." The survey also included demographic questions. After, each participant received a debriefing statement.

The study included 26 participants from Russia, 24 from China, and 24 from the United States; all 74 participants' survey responses were included in the results. It could be argued that 74 participants is low for a cross-national study of three countries, the authors deemed the participant pool size satisfactory for this experiment and the participant count was statistically large enough to show significance if present to validate the hypotheses under investigation.

Qualtrics Online Survey Software was chosen as the survey software because participants could be directed to the survey using a direct link. The data from the online survey was downloaded in csv format and further analyzed using SPSS.

The CrowdFlower and Amazon Mechanical Turk crowdsourcing platforms were used to recruit participants from China and Russia. Participants received five cents for completing the survey when recruited from these platforms.

SPSS was used for the analysis of data. Since there were three independent groups, a Kruskal-Wallis test was used to compare differences in satisfaction levels of webpages between the three groups. The Kruskal-Wallis test is also known as a One-way ANOVA on ranks, this is a non-parametric method for testing whether samples originate from the same distribution. Post hoc rank comparisons were used to determine significant differences between the three groups (Table 2 in the Appendix).

It was expected that individuals from high power distance countries would be more

satisfied with websites from high power distance countries, and individuals from low power distance countries would be more satisfied with websites from low power distance countries. It was also expected that individuals from collectivist countries would be more satisfied websites with from collectivist cultures, and individuals from individualist cultures would prefer websites from individualist cultures.

In this study, Russia and China were used as high power distance and collectivist countries, while the United States was used as a low power distance and individualist country based on previous assessments of the cultural frameworks of the individual countries (Evanschitzky et al, 2014).

Website evaluation of McDonald's Russia, McDonald's China and McDonald's United States was conducted to determine differences in web design based on Hofstede's dimensions of Power Distance (PDI) and Uncertainty Avoidance (UA). The assessed cultural dimensions were provided from Geert Hofstede National Culture (2015).

The assessed PDI and UA for the three countries are:

Russia :	PDI = 93	UA = 95
China :	PDI = 80	UA = 30
U.S. :	PDI = 40	UA = 46

In comparing the web design using PDI and UA, Hofstede's rankings were examined to determine the largest range between the three countries. The countries with the largest range in those dimensions were compared. Hence, Russia and the United States were compared on web design differences based on PDI. Russia and China were compared on web design differences based on UA.

## RESULTS

A series of six Kruskal-Wallis tests were conducted to determine significant differences in country of participant and satisfaction level of websites (Table 2 in the Appendix). Post hoc comparisons were conducted to determine significant differences between groups.

### Website Evaluation

Evaluation of McDonald's Russia, McDonald's China and McDonald's United States revealed differences in web design depending on PDI and UA ranks. Russia (high PDI) and the United States (low PDI) were compared on web design differences. Russia (high UA) and China (low UA) were compared on web design differences.

Research found McDonald's United States (Figure 7 in the Appendix) placed higher emphasis on customers of their brand and restaurant. Homepage imagery included a man eating a sandwich in his pick-up truck, friends bonding by the campfire, and a customer painting a picture. The McDonald's logo was minimally apparent on the homepage.

Imagery on McDonald's Russia (Figure 8 in the Appendix) focused on the McDonald's brand on their homepage, using images of their products offered and their current game promotion. McDonald's Russia also has little variation of color, using the primary McDonald's colors: red, white, and yellow.

McDonald's China (Figure 9 in the Appendix) had several menu items and complex content on their homepage. Color variation was also larger, using McDonald's colors: red, white and yellow; while also adding blues, greens and browns to their homepage design.

### **McDonald's China**

A first Kruskal-Wallis test was conducted to determine whether the participants' satisfaction level of web design of the McDonald's China website varied based on the participants' origin country. Results of that analysis indicated that whether the participant was from China, Russia or the United States was related to their satisfaction of the McDonald's China website,  $X^2(2) = 9.463$ ,  $p < 0.05$ .

A post hoc rank comparison test indicated that satisfaction level of US participants was significantly different than both satisfaction levels of Chinese participants,  $X^2 = 4.519$ ,  $p < 0.05$ , and Russian participants,  $X^2 = 8.570$ ,  $p < 0.05$ . However, participants from China and Russia did not significantly differ from one another in satisfaction level of McDonald's China website,  $X^2 = 1.063$ ,  $p > 0.05$ .

Mean satisfaction levels for McDonald's China indicate participants were on average moderately satisfied ( $M = 3.24$ ,  $SD = 0.84$ ).

### **McDonald's Russia**

A second Kruskal-Wallis test was conducted to determine whether the participants' satisfaction level of web design of the McDonald's Russia website varied based on the participants' origin country. Results of that analysis indicated that whether the participant was from China, Russia or the United States was not related to their satisfaction of the McDonald's Russia website,  $X^2(2) = 1.386$ ,  $p > 0.05$ .

Mean satisfaction levels for McDonald's Russia indicate participants were on average slightly to moderately satisfied ( $M = 2.58$ ,  $SD = 0.94$ ).

### **McDonald's United States**

A third Kruskal-Wallis test was conducted to determine whether the participants' satisfaction level of web design of the McDonald's United States website varied based on the participants' origin country. Results of that analysis indicated that whether the participant was from China, Russia or the United States was not related to their satisfaction of the McDonald's United States website,  $X^2(2) = 3.027$ ,  $p > 0.05$ .

Mean satisfaction levels for McDonald's United States indicate participants were on average slightly to moderately satisfied ( $M = 2.82$ ,  $SD = 1.08$ ).

### **Burger King China**

A fourth Kruskal-Wallis test was conducted to determine whether the participants' satisfaction level of web design of the Burger King China website was different based on the participants' origin country. Results of that analysis indicated that whether the participant was from China, Russia or the United States was not related to their satisfaction of the Burger King China website,  $X^2(2) = 4.364$ ,  $p > 0.05$ .

Mean satisfaction levels for Burger King China indicate participants were on average slightly to moderately satisfied ( $M = 2.68$ ,  $SD = 1.07$ ).

### **Burger King Russia**

A fifth Kruskal-Wallis test was conducted to determine whether the participants' satisfaction level of web design of the Burger King Russia website varied based on the participants' origin country. Results of that analysis indicated that whether the participant was from China, Russia or the United States was not related to their satisfaction of the Burger King Russia website,  $X^2(2) = 2.472, p > 0.05$ .

Mean satisfaction levels for Burger King Russia indicate participants were on average slightly to moderately satisfied ( $M = 2.86, SD = 1.02$ ).

### **Burger King United States**

A sixth Kruskal-Wallis test was conducted to determine whether the participants' satisfaction level of web design of the Burger King United States website varied based on the participants' origin country. Results of that analysis indicated that whether the participant was from China, Russia or the United States was not related to their satisfaction of the Burger King United States website,  $X^2(2) = 2.892, p > 0.05$ .

Mean satisfaction levels for Burger King United States indicate participants were on average moderately satisfied ( $M = 3.42, SD = 0.90$ ).

## **DISCUSSION**

Cultural homogenization is an aspect of cultural globalization, this globalization or the trend of growing worldwide interconnectedness has been accompanied by several clashing notions of cultural difference (Ervin and Smith, 2008). The awareness of the world "becoming smaller" and cultural difference receding coincides with a growing sensitivity to cultural difference. Cultural homogenization specifically refers to the reduction in cultural diversity through the popularization and diffusion of a wide array of cultural symbols, not only physical objects but customs, ideas and values (Barker 2003).

The seemingly unstoppable and ever accelerating cultural homogenization around the world is being facilitated by the Internet and social networking. The Internet has broken down communication barriers between cultures in a way that could only be dreamed of in earlier generations.

Global homogenization has an impact on culture at many levels. It affects directly the production and use of consumer goods. People use the same kind of goods everywhere. But even such use is set in differing social contexts. For example, Burger King and McDonalds may be very popular in the USA; but in India, only the few rich can afford them and they become status symbols and in China, traditional Chinese restaurants are still dominant (Wang, 2007).

Some researchers consider the homogenization brought about by globalization to be superficial and is limited to the material level of the consumer goods used by people and a certain consumer culture that is artificially promoted by the media. It does not affect how people relate to each other and how they find meaning and purpose in life. It leaves largely untouched the freedom and agency of the subjects in the creating and changing culture, both as individual and as groups (Friedman, 1994).

Multinational fast-food chains such as Burger King and Mc Donald's are seen as exerting America's "soft power" on developing nations. Their "foreign" delicacies are often alleged to be

grabbing market share from indigenous food items, thus creating a fear of cultural displacement with respect to food.

But how far is that claim legitimate? Do multinationals really pose a risk to local culture and economy? Or do they contribute and enhance local culture through adapting to its sensitivity? This project attempted to investigate the cross-cultural impact of Fast Food websites and examine user attitudes towards those websites.

Data revealed there were no significant differences in user satisfaction with websites from other countries with different cultural dimensions, with the exception of McDonald's China. Participants were equally satisfied with websites from countries with different cultural dimension rankings as they were with their own country. However, for McDonald's China, participants from individualist and low PDI countries were significantly less satisfied with the website than users from collectivist and high PDI countries.

The five remaining websites did not yield significant results, which suggests that the current web design of McDonald's and Burger King websites are appealing to more individuals than only those of their own country. Furthermore, the results suggest that the websites were equally appealing to individuals from countries with different cultural dimension rankings than their own country. It is difficult to assume, however, that users were equally satisfied with the website as a whole because participants only viewed screenshots of homepages, and no other interaction was involved.

Zahed et al. (2000) studied differences in web design based on PDI. They proposed that countries with a higher PDI would prefer websites with that have references to status and authority. There were no significant results in this study that suggest user preference or satisfaction differed based on PDI. It is possible, however, that the choices of homepage imagery on McDonald's and Burger King websites in higher PDI countries do not directly reference status and authority, which could be why significant results were not obtained.

Analysis suggests that on average, participants were not extremely satisfied with any of the webpages. They were, on average, slightly to moderately satisfied with the webpages. This implies webpage design could be improved for each of the homepages to better satisfy users of the interface. Further investigation into what users want to see on a homepage is necessary.

Marcus & Gould (2000) found websites from low PDI countries place more emphasis on citizens or customers and high PDI countries place more emphasis on official seals and administration or leadership. Results from the website evaluation are similar to the results found by Marcus & Gould. McDonald's United States has low PDI (40), and used imagery reflective of customers and everyday citizens, while McDonald's Russia has high PDI (96), and used imagery reflective of the McDonald's brand and the company as a whole.

Marcus and Gould (2000) also found websites from high UA countries place emphasis on simplicity and use minimal variation of color, while websites from low UA countries utilize large color variation, with complexity on webpages and maximal content and choices on menus. McDonald's Russia has high UA (95), and uses simple design with minimal number of choices on the homepage. There is also minimal color variation on their homepage in comparison with low UA countries (China and United States), who use multiple color schemes on their websites.

These findings support H1 (websites from countries with high power distance will place more emphasis on leaders and nationalism in images and menu items compared low power distance countries), and H2 (websites from countries with high uncertainty avoidance will have fewer menu items and fewer variations of color and typography compared to websites from countries with low uncertainty avoidance), respectively.

Kim and Lee (2006) found there may be a difference in shopping preferences and experiences in people from different countries in the same types of stores. Kim and Lee (2006) hypothesized, “given the importance of cultural factors in communication, it is reasonable to expect that the cultural differences may exist between the two groups of consumers in how they perceive the quality of a similar website.” Their findings suggest that consumer websites can place emphasis on improving certain dimensions of their website to increase shopper satisfaction.

Kim and Lee’s (2006) hypothesis is similar to hypotheses H3, H4, H5 and H6, that individuals will be more satisfied with websites from similar cultural dimension rankings as their own country. These hypotheses (H3, H4, H5, and H6) were not supported from the data in this study. The data shows that there are no significant differences in user satisfaction of web design based on differences in the cultural dimensions of Power Distance (PDI) and Collectivism versus Individualism. Web design differed depending on cultural dimension rankings, however, user satisfaction did not. These results are similar to Kim and Lee (2006), who concluded that to increase consumer satisfaction, companies can highlight on certain cultural dimensions on their websites. This could result in more consumers being more satisfied with websites from countries with similar cultural dimension rankings as their own.

Possible limitations include the survey language. The survey was distributed to participants in English. Although the survey used simple language, it may have been difficult for some participants to interpret. Other limitations include the demographics of participants. The large majority of participants are current college students, who may not be representative of the entire population. Toleva-Stoimenova & Christozoc (2013) found the sampling method and homogenous structure of participants for their research made the obtained results, regarding the usability of investigated websites, difficult to generalize to a larger population, which, in a similar manner, could have contributed to the results of this study.

Another possible limitation is that the survey only asked for satisfaction level of screenshots of homepages. Similarly Lo & Gong (2005) focused on layout and design on websites across cultures, but only focused on the homepage of many of the websites. Therefore, overall website satisfaction cannot be implied. Smith et al. (2003) studied usable cross-cultural websites and performed usability tests on different websites to assess satisfaction and usability. Their results were more in depth because they utilized more than the homepage and could test for interactivity.

## CONCLUSIONS

Understanding the cultural impact on the Web is essential in helping designers and developers create market strategies centered on the customers’ lifestyles and needs (Jeyashoke, et al., 2014). With the increasing global market, international organizations need to create websites that appeal to more people with cultural differences, who have different preferences (Kacen & Lee, 2006).

The importance of cultural factors in communication give reason to expect that there are cultural differences between groups of consumers in how they perceive the quality of a similar website, (Kacen & Lee, 2006). The research work described in this paper addressed this research question by analyzing the results of an experiment undertaken to specifically examine the differences in cultural attitudes towards food retailers. To achieve this, it was proposed that it is possible to predict the attitudes of remote, geographically specific consumers based on

Hofstede's five frameworks to assess Web design across different cultures.

This study provided meaningful results suggesting that current McDonald's websites do implement different features on homepages depending on a country's cultural dimension rankings. The results support the idea from Marcus & Gould (2000), that the cultural dimension ranking of a country influences a websites interface design.

Some commentators of global homogenization have stated that people become united through common brand experience rather than national belonging (Cayla and Eckhardt, 2008). Further, it is proposed that can lead to a deeper shared experience of globalization. The more people consume and interact in the same name brand culture (such as a fast food experience), they begin to feel connected despite the distance. Although people are far apart, there is a sense of a global community founded on sameness through global brand cultures rather than cultural diversity. However convincing the argument of the world inevitably being completely homogenized into one whole global village, this view may be too deterministic and limited.

Fast-food restaurants, and their websites, are not identical all across the globe. Steger (2013) states, "it is one thing to acknowledge the existence of powerful homogenizing tendencies in the world, but it is quite another to assert that the cultural diversity existing on our planet is destined to vanish". By examining at the different food items and design styles on the websites of fast-food restaurants, we see that many cultural styles have been appropriated—"the borrowing and changing the meanings of commodities, cultural products...by putting them into new contexts"—rather than replicated and marketed globally in the exactly same manner (Sturken and Cartwright, 2001).

Data from the study described in this paper showed some aspects of global homogenization. User satisfaction towards websites in different countries does not significantly differ depending on the cultural dimension rank. Participants were equally satisfied with websites from other countries who have different cultural dimension rankings as they were with their own country, with the exception of McDonald's China. Overall, user satisfaction of homepages on websites from different countries did not significantly differ between individuals from countries with different cultural dimension rankings.

This study is only an initial step towards defining the relationship between cultural differences and webpage perception. However, this study undertook an experiment, the results of which can be used or referenced in future studies. In order to make this study more useful, the recommendations proposed in this paper must be examined. For further study, more specific webpage design issues should be addressed. Suggested future areas of research for further investigating cross-cultural web design using Hofstede's cultural dimensions should potentially include:

- Implementing webpages that users can interact with (i.e. using clickable links, scrollable pages, etc.)
- Using multiple consumer and e-commerce websites
- Sampling more diverse countries in relation to Hofstede's ranking system
- Gather qualitative data on what users see or rank as more important in terms of web layout and design

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APPENDIX

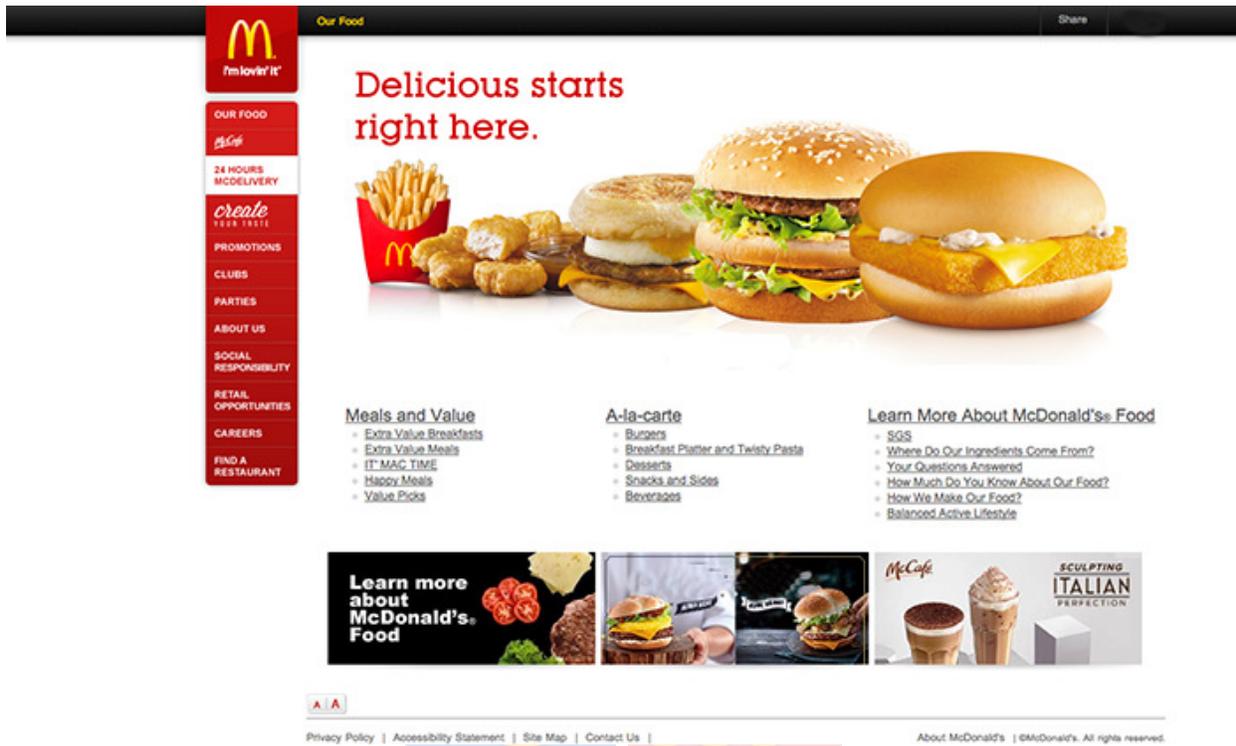


Figure 1 McDonald's China homepage

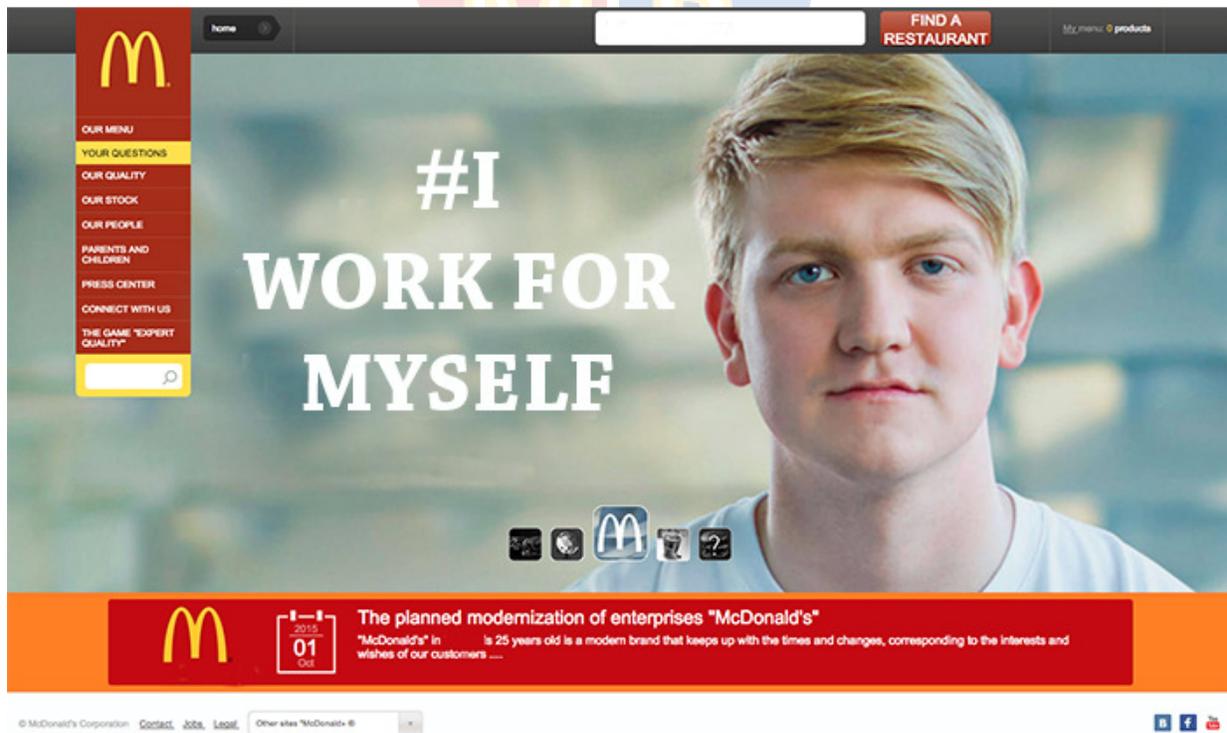


Figure 2 McDonald's Russia homepage



Figure 3 McDonald's United States homepage

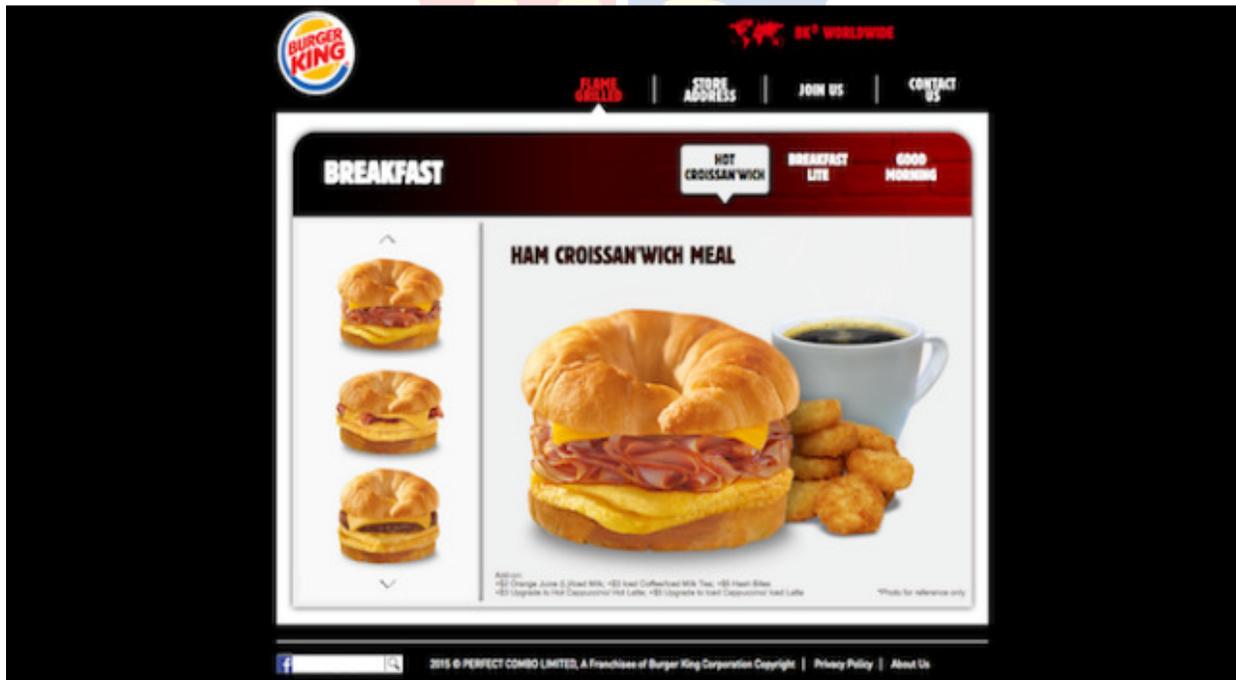


Figure 4 Burger King China homepage



Figure 5 Burger King Russia homepage



Figure 6 Burger King United States homepage



Figure 7 Low PDI country website, placing emphasis on customers of product



Figure 8 High PDI and High UA country website, placing emphasis on company brand, using minimal color variation



Figure 9 Low UA country website, large color variation with maximal content and choices

	<u>Russia</u> <i>N (%)</i>	<u>China</u> <i>N (%)</i>	<u>United States</u> <i>N (%)</i>	<u>Total</u> <i>N (%)</i>
<b>Gender</b>				
Male	11(42.3)	9(37.5)	4(16.7)	24(32.4)
Female	15(57.7)	15(62.5)	20(83.3)	50(67.6)
<b>Age</b>				
18-24	5(19.2)	21(87.5)	18(75.0)	44(59.5)
25-34	13(50.0)	2(8.3)	6(25.0)	21(28.4)
35-44	7(26.9)	1(4.2)	0(0.0)	8(10.8)
45-54	1(3.8)	0(0.0)	0(0.0)	1(1.3)
55-64	0(0.0)	0(0.0)	0(0.0)	0(0.0)
65+	0(0.0)	0(0.0)	0(0.0)	0(0.0)
<b># Hours on Internet</b>				
< 1	0(0.0)	0(0.0)	0(0.0)	0(0.0)
1-2	1(3.8)	1(4.2)	3(12.5)	5(6.8)
2-3	4(15.4)	5(20.8)	7(29.2)	16(21.6)
3-4	10(38.5)	8(33.3)	5(20.8)	23(31.1)
4+	11(42.3)	10(41.7)	9(37.5)	30(40.5)

**Table 1** Participant Demographics

N (Total) = 74  
 N (USA) = 24  
 N (Russia) = 26  
 N (China) = 24

Brand	<u>Russia</u>		<u>China</u>		<u>United States</u>		<i>chi-square</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
McDonald's Russia	2.73	.919	2.58	.776	2.42	1.10	1.386	500
McDonald's China	3.50	.949	3.33	.702	2.88	.741	9.463	009
McDonald's USA	2.62	1.203	2.75	.794	3.13	1.154	3.027	220
Burger King Russia	3.12	1.033	2.79	.977	2.67	1.049	2.472	291
Burger King China	2.92	1.093	2.79	.977	2.29	1.083	4.364	113
Burger King USA	2.96	1.113	3.29	.908	3.46	.977	2.892	235

**Table 2** Satisfaction levels of webpages by country

N (Total) = 74  
 N (USA) = 24  
 N (Russia) = 26  
 N (China) = 24