

Cultural Usability in E-Commerce Website Design: Using Objective Characteristics

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ABSTRACT: *The increased communication speed has tremendously increased the usage of the internet and number of users. All the businesses are looking forward to build a presence in online arena through e-commerce websites. Usability of a website is the level of satisfaction and comfort that assures the acceptance by the users and attract maximum number of customers. As the internet is global market, customers of e-commerce websites belong to different regions and cultures. Every culture has its own characteristics, values and norms. For assuring usability, culture plays an important role in user interface which is lacking in most of the e-commerce websites and mostly ignored by website designers. The purpose of this research is to evaluate objective cultural usability for e-commerce websites in Pakistan. The study will also provide guidelines to the website designers for assuring the success of e-commerce websites in e-market.*

Keywords: Usability, Culture, Objective Culture, E-commerce

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1. Introduction

Culture is a collective phenomenon that has their own norms, values, priorities and depicts the thinking pattern of any society [5]. Culture differs geographically. Studies show that there is very important relation between culture and websites usability [6-8]. To assure the acceptance of a website with high usability, it needs to be designed in accordance with cultural preferences. As the e-commerce is spreading by leaps and bounds, majority of businesses are looking forward for online sites [9]. The e-commerce websites have a uniqueness of being the part of global market by default [10] and cover multiple cultures. Majority of e-commerce designs ignore the cultural feature of usability. Most of the websites are in international languages which makes it difficult for native users to surf over the website [11]. Language is one of the cultural issues, there are several issues related to the cultural. In order to design e-commerce website on the standards of cultural usability, first of all, the culture needs to be studied. The culture can be mainly categorized into two categories, subjective and objective [6, 12]. The subjective properties are intangible and the objective characteristics are tangible likewise color, text, language, symbols etc. [6]. The purpose of the study is to examine objective cultural characteristics that have an impact on the usability of e-commerce websites in Pakistan, which will finally help to provide guidelines to the website designers and developers. Guidelines will equally be helpful for international website designers that tend to target Pakistan's online market and researchers.

Culture there are many definition of culture but there is not a single definition that comprehend all, in some culture, it is behavior of human life, to some culture it is behavior, values and norms, to some it is communication. In short there are many different directions of culture.

According to Hofstede in [5], western nations civilization is considered as culture but culture is quite border terminology which [5] explains as “culture is the collective programming of the mind which distinguishes the members of one group or category of people from another”. The author in [5, 21] explains further that culture is group phenomenon because it is applied collectively on society not on individuals. In [22] discusses that culture consists of thought, feeling and actions learned through behavior, The author further discusses that for studying the culture it must be categorized first, a good method for classifying the culture is to divide it into layers depending on their variables.

In [22] the author discusses different method of categorizing cultures, one of which is objective and subjective cultural layers as the Figure.1shows.

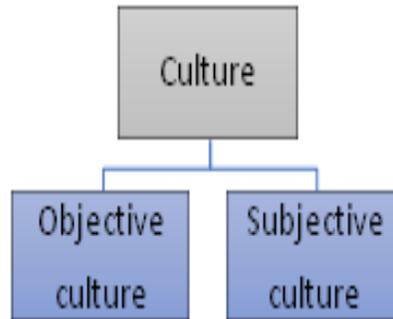


Figure 1. Categories of Culture

The artifact of the culture such as social customs, political systems, art craft and literature [22]. A culture based research study [6] defines Objective culture are the tangible, visible, easy to examine, the feature of culture such as language, color, metaphors, symbols.

2. Related Work

Usability itself very vast domain and it covers many dimension and culture is one of the important dimensions of usability. Culture has an important impact on usability of website [4, 6-9, 11, 13-19]. In [13] author explains that there is a relationship between the usability and culture, as culture has an effect on user perception of usability. Another research study by [8] concludes from different studies that in different cultures there is an important connection between the culture and e-commerce. In user interface culture it must be given importance and their work concludes that a designer must ensure acceptability in particular culture. [18] also concludes that the human social factor has also an effect on web usability. Author in [15] confers that there is no doubt in relation between the culture and usability of website, they performed a comparative study between the two different culture of Arab and UK, and the conclusion of the study elaborated clear fact that culture has an impact on usability. A research on chain’s website [7] explores that culture has potential relevance with usability and different culture have their own culture markers or symbols, they conclude that culture oriented evaluation for interface. A research by [16] discusses that different interface have different association with different cultures, they summarize that most of web designs take very minor interest in culture of customers and ignore very important issue. The author in [17] also points out a major issue that most of web design do not consider the culture of the culture where two different cultures Korean and Australian conforms the findings that both cultures have different choices. In a study [19] author investigate the impact of culture in user satisfaction in Chinese users, the results confer by positive impact. Author in [11] conducts a research on two entirely different cultures and assures by the result that there is quite clear impact of culture on communication with the websites. The authors in their study [20] confirms that there is clear impact of culture on website navigation. According to [6] culture can be utilized for designing more usable websites and determine by their findings are the cultural features of users are a key issue to of acceptance of a website user.

Current design practices do not take cultural issues into account while designing e-commerce websites. The designers have ignored the impact of various characteristics of culture on number of transaction made day to day basis.

As discussed above, it is figured out that culture holds importance in the useable user interface design process of the e-commerce websites. Culture is a vast area, having many dimensions. Most of the social scholars divide and distribute culture in two basic categories, tangible and intangible, which further have multiple properties. In the study we have focused on the tangible properties commonly known as objective culture characteristics. i) color ii) language iii) number format.

Rest of the papers is organized as follows. In section 3, the proposed methodology is shown; results and discussion are given in section 4 and then conclusion.

3. Methodology

After review of the literature the next steps for this study is to survey development, inside the survey an important issue is to design the questionnaire and survey items. The fourth step is to collect data and related issues. Once data is collected, the next step would be to analyze the data against the research problems. The last step involved in this research is to analyze the study in order to give with recommendation and propose a framework to be followed by the web designers.

The objective properties are chosen as most commonly used cultural activities like language, color and number formats etc.

3.1 Color

Color is considered in the context of likeliness of bright or light colors. Culture of Pakistan would be examined against the sharp or bright and light colors.

3.2 Language

The national language of Pakistan is Urdu, so the national language will be tested against the international language English. The results would show whether the participants are comfortable with Urdu or English?

3.3 Number Format

Date and time have different formats all over the world and it is also the part of the culture [6] that is, some countries use 24 hour and others use 12 hour. Same is the case with the date format. This is the reason that number formats are put under study.

3.3.1 Primary data

The primary data is collected using survey and the survey is conducted with the help of a questionnaire,

3.3.2 Website

A sample website is also created which is attached with questionnaire and the user have to surf that particular website before going through the questionnaire. The purpose of using a dummy website as a prop is to create an ease for the participant to avoid uncertainty.

3.3.3 Sample and Population

As the research focuses on culture of Pakistan, so the population under the focus is, all the people of Pakistan who can use the internet because the usability of a website is needed to be evaluated. For this survey, random sampling is the best option because random sampling is used where a large number of population is available. In random sample each member of the population has an equal chance of participation [23]. In the case of very large population a small number of sample is equally useful [23] so a random sample of 1000 people is chosen for this study from all over the Pakistan. In order to get more accurate results, the sample is taken from different geographic regions of the population.

3.3.4 Data Collection

The data was collected using survey method of research, a way of gathering primary data from subjects. The survey is conducted through an online questionnaire accompanied by a mock website.

3.3.5 Pilot Test

Before conducting the survey the questions must be tested, for that a pilot test is adopted.

4. Results and Discussion

The questionnaire is analyzed by dividing properties of objective culture under study and its categories.

4.1 Language

The chart in Figure.2 depicts the likelihood of the native language on other hand many people disagree with the statement and like to surf website in English language rather than Urdu but majority preferred national language. The effect of national

language is shown in Figure.3which shows the navigation process is much easier in Urdu than English.

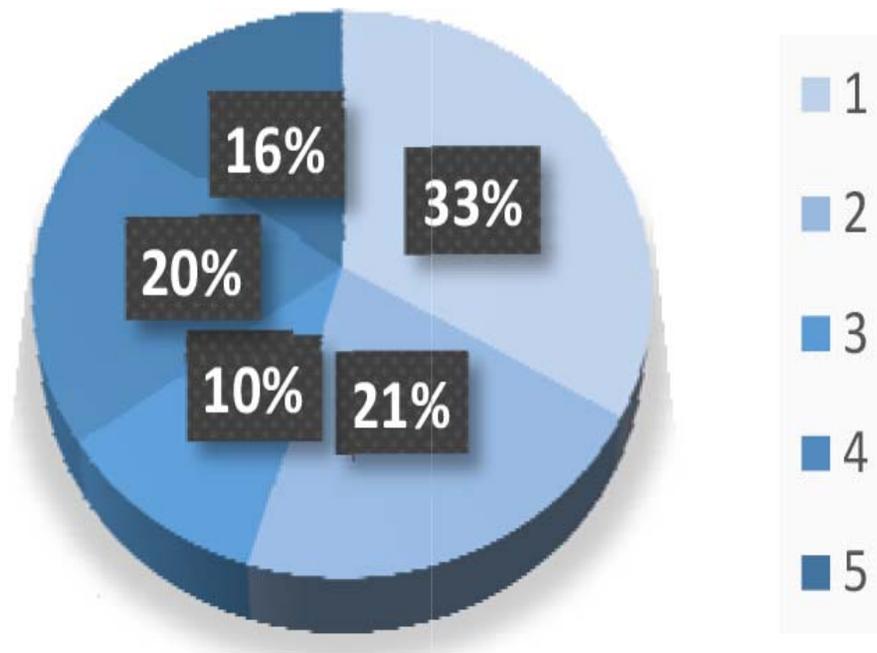


Figure. Error! No text of specified style in document.2 Likelihood of native language

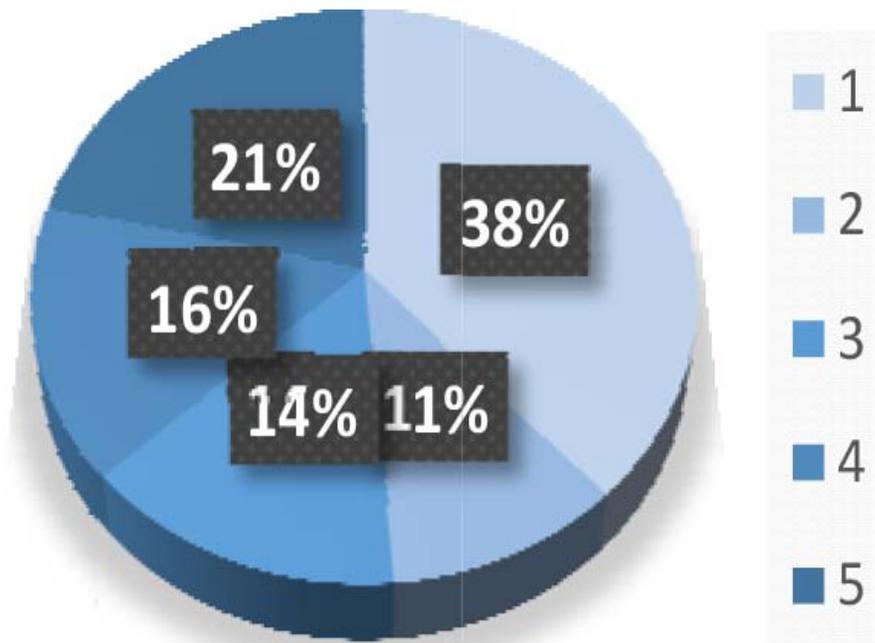


Figure 3. Ease in navigation with native language

The results regarding national language as culture usability shows a trend towards comfort and ease in usage of e-commerce website but still there is a proportion that disagree and tends to visit sites in English that might be due to education differences. On the other hand Pakistan is having a variety of domestic languages like Pashto, Sindhi, Punjabi, Balochi, Serayki and others which also has some influence but Urdu language is preferred the most.

4.1.2 Color

Most of the participants have agreed that the sharp colors attract them more than dull colors shown by chart in **Figure 4.**

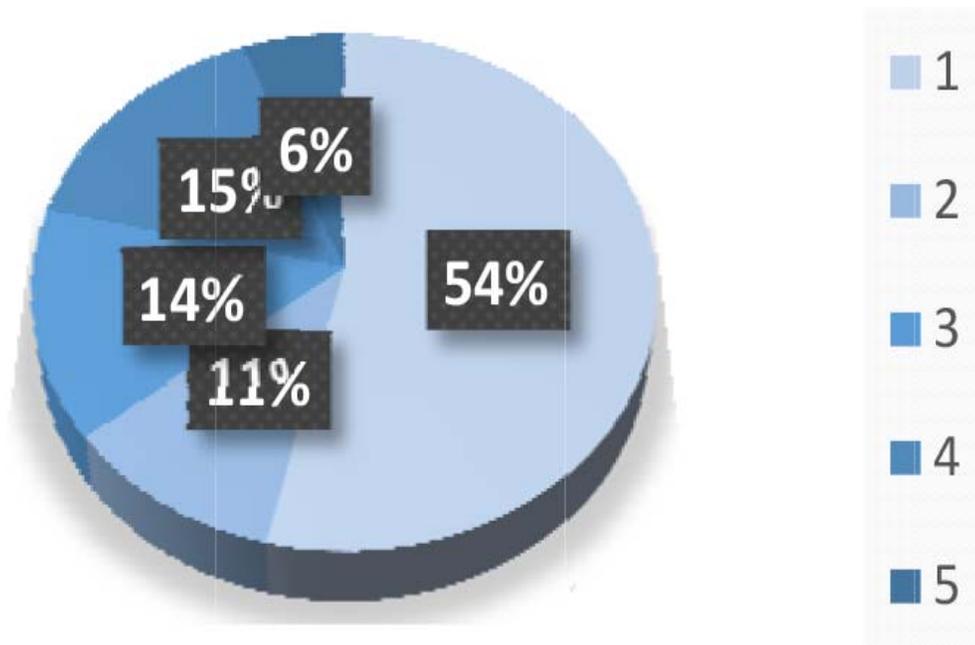


Figure 4. Likeliness of sharp colors

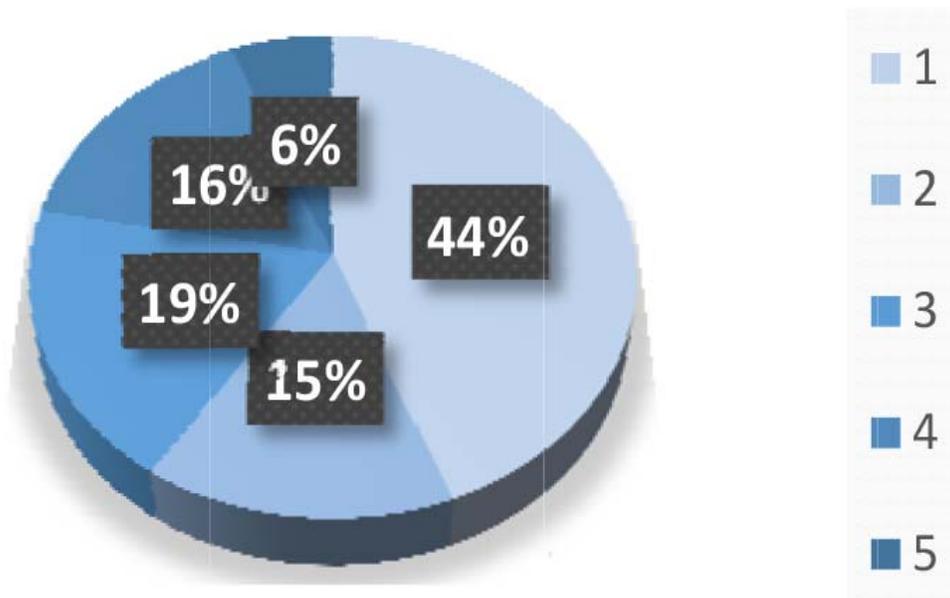


Figure 5. comfort in light colors

Figure 5 depicts that most of the subjects agree that light colors are more comfortable to use.

The color property results show that most of the people are comfortable with light colors while using and navigating but the only thing which is irregular, if a sudden attraction is required then sharp colors work better. It is also part of human nature that if contrast colors are used, it take quick response from the viewer. For long usage of any page, especially website eye relaxing colors are preferred. The sharp colors need to be used with keeping in mind the importance of attraction. Discount offers and alerts must be in shocking or catchy colors or they could have blinking effects.

4.1.3 Number Format

The results regarding the number formats show that Pakistani culture is used to DD/MM/YY not with MM/DD/YY in their daily life. In date if further detail is given such as name of the month as in example 25th June 2014 it is preferred. If focus is about the time Pakistan in majority is comfortable with 12 hour format. Time must contain am and pm specification to eradicate confusion. As the date format followed as official format in Pakistan is day-month-year, so most of the products and businesses also follow this. During order process in e-commerce transaction date and time is frequently used so it must be according to the expectations.

4.1.3.1 Guideline for Designers

Based on the research conducted, the following guidelines are outlined for the designers of the websites in Pakistan. The majority of websites in Pakistan are based on international language that is, English. The selection of national language Urdu for e-website could be a good choice which can increase the usability of website. Due to less education and low literacy particularly in the rural areas of Pakistan, Urdu language performs better than the English language.

The overall color, layout should be light that creates easiness for the users. If sharp colors are used for the layout, user may not use site for long. However, for the offers that must be eye-catching, the sharp colors should be used.

Most of the e-commerce sites need to use date and time for the transaction process, so they must set it according to the cultural trend of Pakistan that is, date should be in dd/mm/yyyy format. If month given in words, much better. For time, mostly Pakistani have chosen the 12 hour format, so 24 hour format is not suggested.

5. Conclusion

The outcomes were very productive and important for prospective design of commercial websites and for electronic transactions at the end. The results show that all the variables have profound impact on the success of electronic business. We observed that culture of a user is a key factor to determine the user's acceptance towards a website, particularly an e-commerce website. Acceptance by the user will assure the success of business. The culture of target market should reflect in use interface design which can improve not only the usability of websites but also customer satisfaction and productivity.

References

- [1] Nah, F. F.-H., Davis, S. (2002). HCI research issues in e-commerce," *Journal of Electronic Commerce Research*, 3, 98-113.
- [2] Ford, G., Kotzé, P. (2005). Designing usable interfaces with cultural dimensions, In: *Human-computer interaction-INTERACT 2005*, ed: Springer, 713-726.
- [3] Hofstede, G., Hofstede, G. J., Minkov, M. (2010). *Cultures and Organizations: Software of the Mind, Third Edition*: McGraw-Hill Education.
- [4] Daniel, A. O., Oludele, A., Baguma, R., Weide, T. (2011). Cultural issues and their relevance in designing usable websites, *International Journal of Innovative Technology and Creative Engineering*, 1, 20-29.
- [5] Chu, J., Zhu, X. (2010). Culture-oriented Evaluation Method for Interaction: Applied in Chinese E-commerce website design, In *Computer Science and Information Technology (ICCSIT), 2010 3rd IEEE International Conference on*, 331-335.
- [6] Sohaib, O., Kang, K. (2014). Cultural Aspects of Business-to-Consumer (B2C) E-commerce: A Comparative Analysis of Pakistan and Australia, *The Electronic Journal of Information Systems in Developing Countries*, 61.
- [7] Kang, K. (2010). *E-commerce*. Australia InTech.
- [8] Kang, K. S. (2007). Considering the Cultural Issues of Web Design in Implementing Web-Based E-Commerce for International Customers, In *the Fifth International Conference on Electronic Business*, 323-327.
- [9] Kang, K., Qian, Y. Y. (2010). Innovative communication in global tourism e-commerce sites-a cultural aspect, in *Advanced Communication Technology (ICACT), 2010 The 12th International Conference on*, 1440-1444.
- [10] Smith, A., Dunckley, L., French, T., Minocha, S., Chang, Y. (2004). A process model for developing usable cross-cultural

websites, *Interacting with computers*, 16, 63-91.

[11] Kang, K., Qian, Y. Y. (2010). Innovative communication in global tourism e-commerce sites-a cultural aspect, in *Advanced Communication Technology (ICACT), 2010 The 12th International Conference on*, 1440-1444.

[12] Smith, A., Dunckley, L., French, T., Minocha, S., Chang, Y. (2004). A process model for developing usable cross-cultural websites, *Interacting with computers*, 16, 63-91.

[13] Kang, K., Kovacevic, L. (2012). The Effect of Culture on Emotions and Trust of Websites, *Journal of Internet and e-Business Studies*, 12, 2012.

[14] Jing, P., Rong, G. (2010). Exploring Cross-Cultural Factors Affecting Mobile Commerce Adoption: Theories and Empirical Comparison between US and China, in *Information Management, Innovation Management and Industrial Engineering (ICIII), 2010 International Conference on*, 324-327.

[15] Khushman, S., Amin, S. (2011). The adoption of E-business websites within Arab and UK cultures (Comparison study), in *Developments in E-systems Engineering (DeSE)*, 2011, 333-338.

[16] Kang, K.-S. (2004). Challenging Web Design and Cultural Issues in International E-Commerce Sites.

[17] Kang, K. (2007). Considering Cultural Issues in E-Business Solutions, in *Asia-Pacific Service Computing Conference, The 2nd IEEE*, 33-39.

[18] Safavi, R. (2009). Human/social factors influencing usability of E-commerce websites and systems, in *Application of Information and Communication Technologies, AICT 2009. International Conference on*, 1-5.

[19] Chu, J., Yang, G. (2010). A culture-based study on information density of e-commerce websites," in *Computer Design and Applications (ICDDA), 2010 International Conference on*, 2010, pp. V4-60-V4-63.

[20] Kralisch, A., Eisend, M., Berendt, B. (2005). Impact of culture on website navigation behaviour, in *Proc. HCI-International*.

[21] Hofstede, G., Hofstede, G. J., Minkov, M. (1997). *Cultures and organizations*: McGraw-Hill New York.

[22] Nielsen, J. (1996). International user interfaces.

[23] Macdonald, S., Headlam, N., Strategies, C. f. L. E. (2008). *Research Methods Handbook: Introductory Guide to Research Methods for Social Research*: Centre for Local Economic Strategies.