

ASEAN PERSPECTIVES ON THE INTERFACE DESIGN OF LOCATION OF WEB OBJECTS

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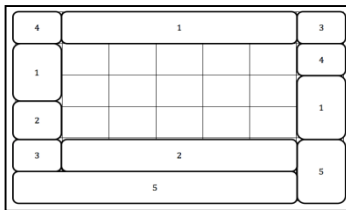
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Graphical abstract



Abstract

The majority of web users are constructed with a single standard in mind, or a limited number of user profiles, usually from one country or culture. In order to accommodate the international growth of the Internet, this mono-cultural bias website design must change. If these important steps of a user-centered user-interface (UI) Web Development omitted, the website will be less successful, or may even be dysfunctional. People from different countries and cultures have certain expectations of a particular site that may differ significantly from other countries/ cultures. This study involves the analysis of user perspectives where individuals from different countries and cultures expect a specific web-related object to be located on an interface design. Based on previous studies and is named after its location on the object analysis of user perspectives for the interface design with 94 individuals from 10 ASEAN countries, this paper aims to investigate location of web objects, "Internal links", "External links", "Search", "Login" and "Advertisements". This study will hope to be able to improve the accuracy of regional perspectives are now recorded. The method of adaptivity from previous studies was used, contains an overview of the browser window, six horizontal and seven vertical grid-based namely, Geometric 42 Grids, on the expected location of the web objects interface design. The goal of the user tests was to examine the perspective of users with different cultural backgrounds. When comparing the final results with previous studies, the following results became clear.

Keywords: Perspective, culture, design, interface, user expectation, web object

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1.0 INTRODUCTION

Originally, the World Wide Web (WWW) claimed only a selective group of users: primarily male researchers and military project-managers located in a small area of the USA. Just a decade ago, the Web community was a male-dominated, Western-oriented society, with the design of websites reflecting the homogenous audience. Now, a wide variety and more diverse group of users, from all demographics, are accessing Internet on a regular basis [1]. Costa (2010) added that user-interface goes beyond regional boundaries, it may use different languages and have different styles based on its culture environments [2]. There are also designers' and

software engineers' cultures that have to be considered. In this respect, issues such as a content of the interface and interface design will arise. Interface designers must be aware of the cultural diversity of users and must be able to respond to this challenge. Only a few studies have considered how cultural differences affect users' expectation [2, 3]. The Web offers easy access to knowledge-based products [4], more accurate and faster information retrieval, as well as greater satisfaction with the site [5, 6, 7] among all people in all countries worldwide [1].

The rapid international expansion of the Internet requires that the current homogenous Website design be changed. Currently, many websites have a form designed to appeal to North Americans. According to

Simon (2001), the WWW is a creation of technology developed primarily in the USA and Europe that exemplifies the values and norms of these advanced industrial countries [8]. The value systems of these countries favor rationality, technology, speed, time-saving, profit, individuality, and a democratic, egalitarian political model [1]. In addition, Reinecke (2011) stated that applications culture is a good example of how technical support has increased user satisfaction and performance [9].

According to Cook and Finlayson (2005), recognizing only differences such as language, geographic location, and religious orientation is not sufficient [10]. Although these differences play a role, differences in attitudes, expectations, and the nature and structure of social relations should be given attention. Users also differ in their design preferences and in their perspective at the country level [11, 12, 7].

The presence of cross-cultural differences suggests that there is a need to change the design of the user-interface depending on the culture/ country users [1]. This study examines the differences in expectations for the location of web objects web design participants from ten different countries in ASEAN.

This study is derived from the previous efforts [13, 5, 14, 15, 16, 17, 2, 6]. This study analyzed comparisons from users from 10 ASEAN countries (Cambodia, Malaysia, Myanmar, Indonesia, Brunei, Vietnam, Lao PDR, Philippines, Thailand and Singapore), where they would expect it to be found on an informational web page and found similar expectations on the location of the web objects. It is, therefore, possible that the influence of multinational websites and cross-regional web browsing have significantly shaped the web page layout expectations of typical web users.

2.0 RESEARCH QUESTION

The available evidence about user perspective for localized or globalized interface design websites is limited at present and there is a gap of more than six years since the last study was conducted on 2006. This study intends to fill this gap by presenting empirical evidence that enables user-interface designers to develop more culturally appropriate web designs. In addition, the study aims at identifying the expectations and preferences of members of various cultures concerning website design.

The goal of the tests was to examine users expectations with culturally different backgrounds experience is consistent or not.

Research questions addressed in this study are:

- (1) What are the current ASEAN's layout expectations in interface design?
- (2) Are there any regional differences in the expectations of users for the location of web objects for an interface design?

3.0 METHODOLOGY

The browser window contains six horizontal and seven vertical grid-based, where participants are required to number the location of web objects as preferred. The test was comprised of the web objects included "Advertisements", "Internal links", "External links", "Login" and "Search".

3.1 Participants and Procedure

Based on previous research conducted by Bernard (2000, 2001, 2002), Shaikh & Lenz (2006), Adkisson (2002), Bernard & Sheshadri (2004), Costa (2010) and Vasantha & Harinarayana (2011), the study developed a demographic questionnaire that relates to the preference. This questionnaire consists of two parts - the first part about demographic variables and the second section contains an overview of the browser window six horizontal and seven vertical grid-based on the location expected of the web objects interface design.

A total of 94 participants consisting of 60 males and 34 females from ten ASEAN countries (Figure 1) completed the survey on the expected location of each of the ten web objects. Seventy-one percent of the participants were above the age of 30 and 80% indicated that they used the computer daily.

The participants selected for this experiment ranged from students to professionals, with an age range of 17-58, all living in ASEAN country. Criteria for the selection of participants are; (1) Respondent must be resident or have stayed more years in an ASEAN country than in other country/countries, (2) Respondent must be computer literate and be familiar with websites.

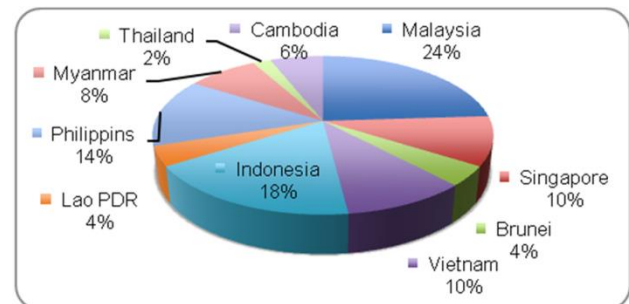


Figure 1 Distribution of participants from different countries

The parameter used in the analysis is the number of participants selecting a particular grid, i.e., frequency. A darker shade indicates a higher frequency. Figure 2 illustrates the distribution grid representing the square grid area when selecting a site for the location of the object. The figures show that most of the participants have anticipated location for each web object is presented.

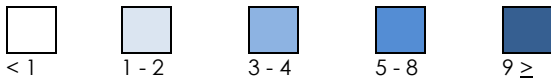


Figure 2 The frequencies of respondents selected the location of the webs object

4.0 RESULTS AND DISCUSSION

As shown in Figure 3, participants from all countries expect the **"Internal links"** object to be located in the left, top or right of the website.

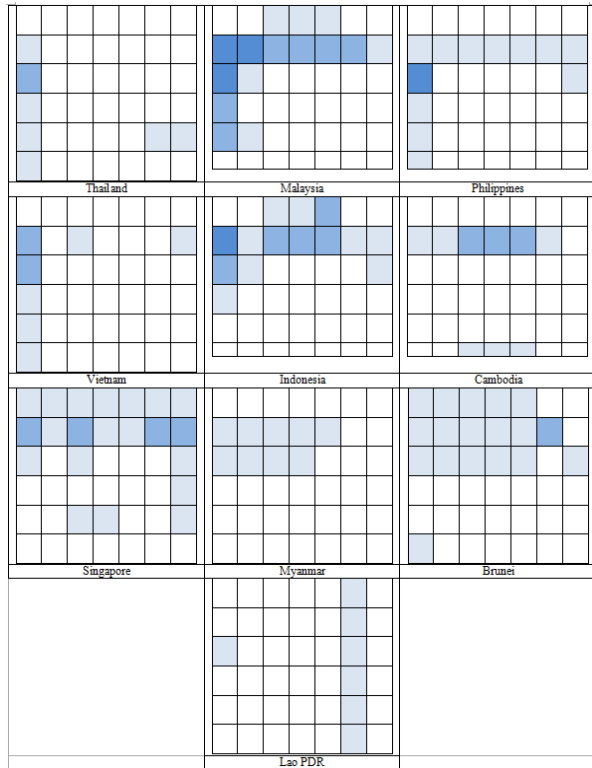


Figure 3 Expected locations for the **"Internal links"** object

Figure 4 showed that participants expect the **"External links"** object to be located at the lower or left of the website.

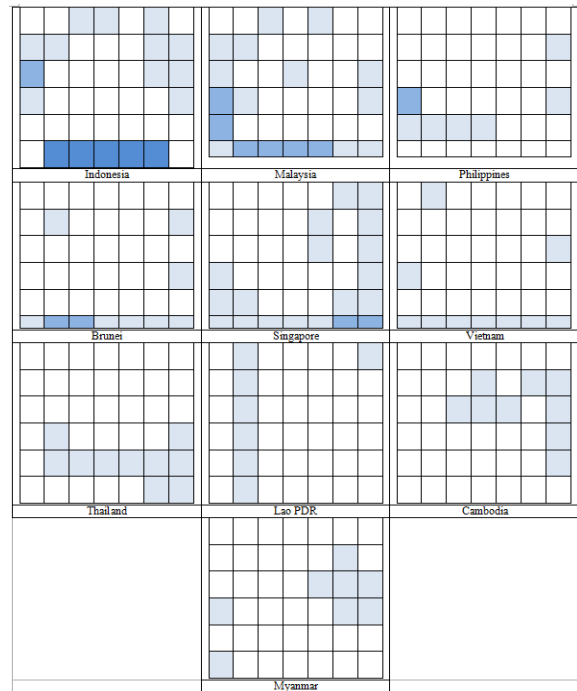


Figure 4 Expected locations for the **"External links"** object

As seen in Figure 5, most participants expect the **"Login"** object to be located at the top-right or lower-left of the website.

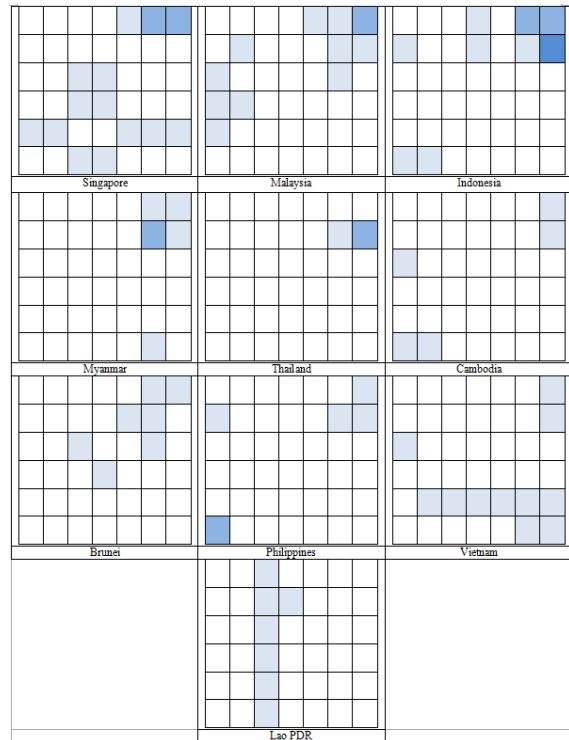


Figure 5 Expected locations for the **"Login"** object

As seen in Figure 6, most of the participants expect the “**Search**” object to be located at the top-right or top-left of a website.

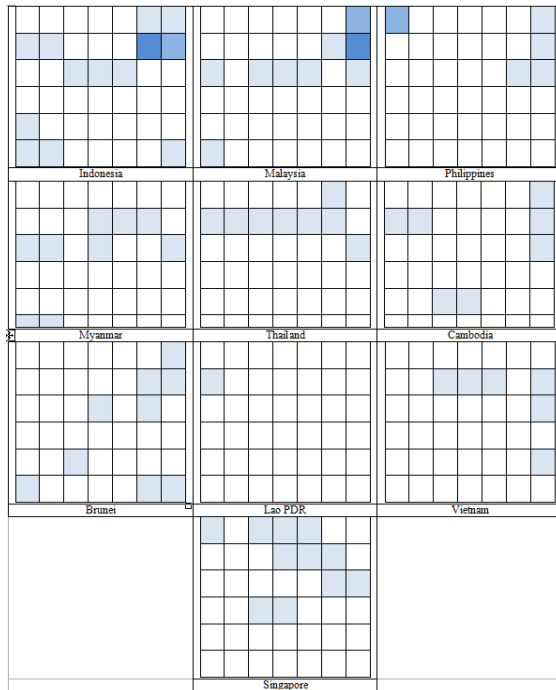


Figure 6 Expected locations for the “**Search**” object

As seen in Figure 7, participants are almost as likely to choose the right lower-right, lower-left or lower of the website for the location of the “**Advertisements**” object.

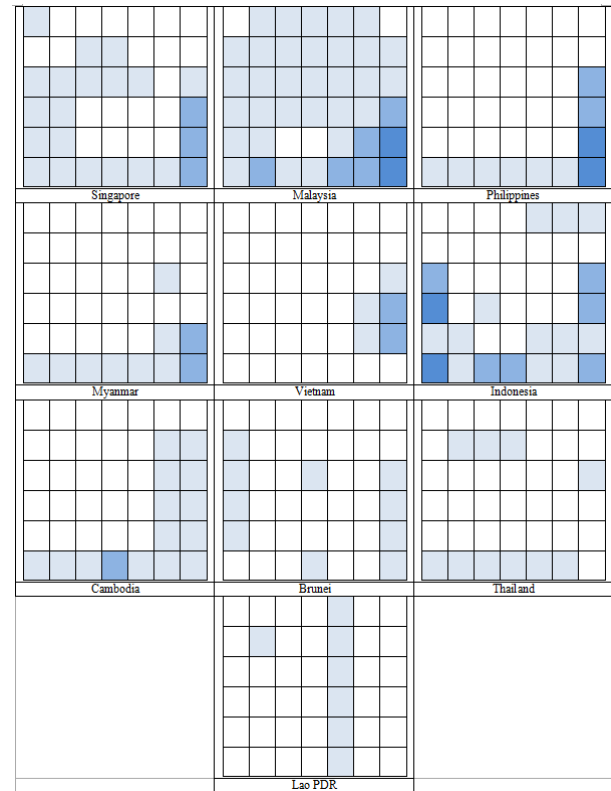


Figure 7 Expected locations for the “**Advertisements**” object

The results suggest that across ASEAN, there are relatively similar expectations for the location of a web object, which underscores the need to place them in their expected location. Participants generally expect:

- Internal links to be located at the left, top or right of the page
- External links to be located at the lower or left of the page
- Login to be located at the top-right or lower-left of the page
- Search to be located at the top-right or top-left of the page
- Advertisements to be located at the lower-right, lower-left or lower of the page

According to Costa (2010), it is certainly probable, then, that placing these objects in their expected locations would give the site a competitive edge over those that do not do so [2]. The result of the study is summarized and compared with previous studies (Table 1) and Figure 8 shows the current layout expectations from an ASEAN perspective for an interface design.

Table 1 Comparison with previous studies

Author	Bernard	Bernard	Bernard	Adkisson	Bernard & Shesadri	Shaikh & Lenz	Costa	Yasanthi & Harinarayana	This study
Year	2000	2001	2002	2002	2004	2006 (collect 2005)	2010 (collect 2006)	2011	2013 (collect 2012)
Internal links	UL Right	Left	X	X	Left	Left	X	X	Left Top Right
External links	Right LL	Right BL	(Cart) TR	(Cart) TRC	Left Right	(About Us) Footer Left	(Cart) TR TL	(AboutUs) TR	Lower Left
Login	X	X	TL	(Acc) TR	X	X	TL	Right	TR LL
Search	UHC TR BC	Top BC	TC TL	Left Top	X	UR UL	TC Left TR	TR	TR TL
Ads	TC BC	Top	(Product) CL	X	Top	CT Right	Center TC Right Bottom	(Opac) TL Center	LR LL Lower
Type of site	Web	web	ecom	ecom	ecom	web	ecom	library	web
Participants	US	US	US	US	4 areas (North America, Common wealth, Europe, India)	US	Portugal	world	ASEAN
Gaps					after 2yrs	after 5yrs	after 6yrs		after 6yrs

* UL=upper-left, UR=upper-right, UL=upper-left, LL=lower-left, TL=top-left, TR=top-right, TC=top-center, TRC=top-right-center, UHC=upper-half-center, BC=bottom-center, BL=bottom-left, UC=upper-center, CL=center-left

Internal links. Results corroborate Bernard's (2001), Bernard & Shesadri (2004) and Shaikh & Lenz (2006) studies, where the most expected location was on the left side of the website. Based on Shaikh & Lenz, the location of internal links has likely been affected by the increased use of DHTML/JavaScript menus [15].

External links. Shaikh & Lenz (2006) found the expected location of the "About us" link to be in the footer area of the site [15]. The current study revealed a similar trend in "External links" objects, where it found in the lower section of the website.

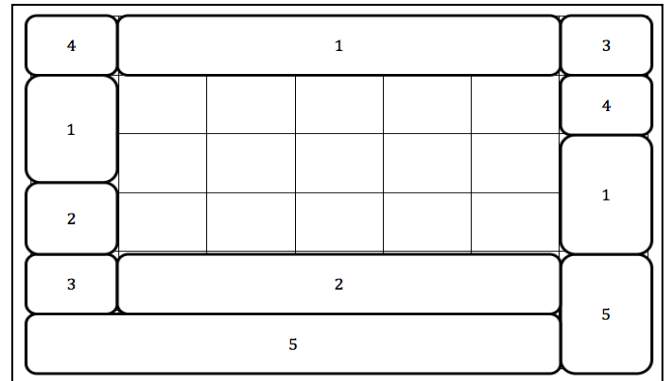
Login. The present study, the top-right of the website page is the most appropriate for the location of the "Login" object and this is consistent with the second option for Portuguese study [2]. Costa (2010) stated that the observation of several categories of websites reveals that this object is usually located in a visible interface area [2]. In addition, Adkisson (2002), in an e-commerce study for "manage account function" which is similar with "Login", noted that this object tended towards the top-right area of the page as well [16].

Search. A smaller number of participants in a website for Bernard's (2000) study expected it to be located at the top-right side of a website. Whereas, almost 50% of the sites placed "Search" object at the top right corner of the library websites. This result is also in line with Shaikh & Lenz (2006) and Costa (2010), where many of the participants expected find this object in the upper right corner (top-right) of the website. The current study finds similar expectation among participants.

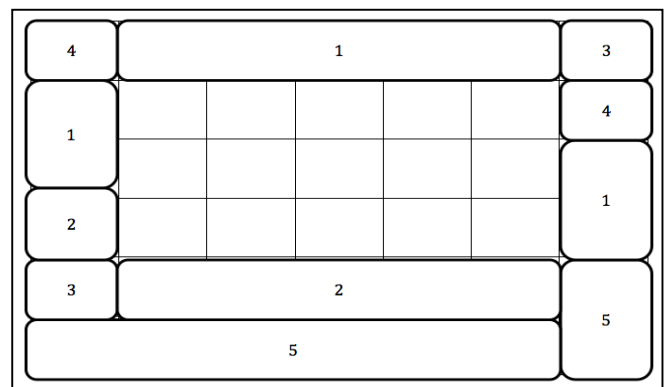
Advertisements. These findings are consistent with some of Portuguese's results. The six years since typical website study that separate the studies could make

big differences in terms of advertisement content. Costa (2010) stated that the advertisement is the main financing model of most websites, even those outside the e-commerce category [2]. The banner advertisements have been changing in a format, content and location, as a need to capture the user's attention and reaction to the users "banner blindness" [18].

In the early 2000's, advertisements were not as floating or intrusive in nature as they are today. In addition, studies from Benway & Lane (1998) have shown that banner advertisements are effective [19]. Spool *et al.* (1997) found that users turn to navigation bars after determining that the page does not contain the information they need [20]. At this point, the user tends to have scrolled to the top or the bottom of the page. Users may start viewing the page in the center, and examine the very top and bottom only of the page after they determine what they want is not located in the center. Therefore, it may not be advisable to place the "important" items at the top because the user may look there last.



* 1. Internal links, 2. External links, 3. Login, 4. Search and 5. Advertisements



* 1. Internal links, 2. External links, 3. Login, 4. Search and 5. Advertisements

Figure 8 Current layout expectations for interface design from ASEAN perspective

Based on the results of this study, a design guideline is suggested (Figure 8). Further studies should, however, be conducted to have a clear

understanding of the exact relationship linking the amount of white space, color, layout and images of the cultural dimension of certain countries when designing the web. Based on the above studies, it seems practical and feasible to obtain this data for website design better.

5.0 CONCLUSION

There is a clear and definite need to understand the role of user's perspective of an object when designing a website. From a cross-cultural perspectives, the results of this preliminary study indicate that there is a clear pattern of differences between the ubiquitous anytime and anywhere access to information emphasized the importance of designing an interface of website with an understanding of user perspective to facilitate users to navigate and find information easily where the location of web objects should be placed.

This study suggests that the site should be designed specifically for different cultures not only for language translation but also country localization. These important steps bring the user-centered interface sustainable, where a website will be successful and functional according user acceptance. In addition, designers in those regions should organize an appropriate design strategy as well as perform user testing to study more thoroughly the relation culture and user-interface design.

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References

- [1] Marcus, A. and Alexander, C. 2007. User Validation of Cultural Dimensions of a Website Design. *Usability and Internationalization*. Part II. HCII 2007. LNCS 4560. Springer-Verlag Berlin Heidelberg. 160-167.
- [2] Costa C. 2010. Cultural Factors and Usability User Expectations for the Location of E-Commerce Web Objects Case Study in Portugal.
- [3] Aslina, B. and Azizah, J. 2012. Investigating Adaptive Cultural Diversity Through Users' Mental Model For Sustainable User Interface. (VIIS).
- [4] Marcus, A. and Baumgartner, V.J. 2003. User-Interface Design vs. Culture. In: *Proceedings, International Conference on Internationalization of Products and Services (IWIPS 2003)*. Berlin, Germany. 67-78.
- [5] Bernard, M. 2001. User Expectations for the Location of Web Objects. *Chi'01 Extended Abstracts on Human Factors in Computer Systems*. 171-172. [Online]. From: <http://psychology.wichita.edu/hci/projects/CHI%20web%20objects.pdf>.
- [6] Vasantha, R. N. and Harinarayana, N. S. 2011. Identifying the Location of Web Objects: A Study of Library Websites. *8th International Caliber*. Goa University. Goa. 28-39.
- [7] Aslina, B. and Azizah, J. 2013. Users' Expectation of Web Objects Location: Case Study of ASEAN Countries. In: *Springer International Publishing Switzerland*. H. Badioze Zaman et al. (Eds.): IVIC 2013, LNCS. 8237: 383-395.
- [8] Simon, S. 2001. The Impact of Culture and Gender on Websites: An Empirical Study. *Database for Advances in Information Systems*. Winter 2001. 32(1): 18-37.
- [9] Reinecke, K. and Bernstein, A. 2011. Improving Performance, Perceived Usability, and Aesthetics With Culturally Adaptive User Interfaces. *ACM Transactions on Computer-Human Interaction*. 8(1): 8-29.
- [10] Cook, J. and Finlayson, M. 2005. The Impact of Cultural Diversity on Website Design. *Advanced Management Journal*. Summer. 70(3): 15-23.
- [11] Barber, W. and Badre, A. 1998. Culturability: The Merging Of Culture and Usability. Paper Presented at The 4th Conference on Human Factors and The Web.
- [12] Callahan, E. 2005. Interface Design and Culture. *Annual Review of Information Science and Technology*. 39(1): 255-310.
- [13] Bernard, M. 2000. Examining User Expectations of the Location of Web Objects. *ITG Internetworking 3.3*. [Online]. From: http://www.internetitg.org/newsletter/dec00/article_bernard.html.
- [14] Bernard, M. 2009. Examining user expectations for the location of common e-commerce web objects. *Usability News*. 4(1). From: http://www.surl.org/usabilitynews/41/web_object-ecom.asp [Assesed on 16 December 2011].
- [15] Shaikh, A. D. and Lenz, K. 2006. Where's the Search? Re-Examining User Expectations of Web Objects. *Usability News* 8(1). [Online] From: <http://www.surl.org/usabilitynews/81/webobjects.asp>.
- [16] Adkisson, H. 2002. Identifying De-Facto Standards for E-Commerce Web Sites (Unpublished Master Thesis). University of Washington. Washington: US.
- [17] Bernard, M. and Sheshadri, A. 2004. Preliminary Examination of Global Expectations of Users' Mental Models For E-Commerce Web Layouts. *Usability News*. 6(2). [Online]. From http://www.surl.org/usabilitynews/62/web_object_international.asp.
- [18] Nielsen, J. 2003. Will pain-text ads continue to rule? *Jakob Nielsen's Alertbox*. [Online]. From <http://www.useit.com/alertbox/20030428.html> [Assesed on 11 April 2011].
- [19] Benway, J. P. and Lane, D. M. 1998. Banner Blindness: Web Searchers Often Miss "Obvious" Links. *Itg Newsletter* 1.3: 1–10. [Online]. From: http://www.sandia.gov/itg/newsletter/dec98/Banner_Blindness.html.
- [20] Spool, J. M. 1997. *Website Usability: A Designer's Guide*. Morgan Kaufmann Publishers.