THE PORTRAYAL OF *MASCULINITY/ FEMINITY* BETWEEN MALAYSIAN AND AUSTRALIAN UNIVERSITY WEBSITES

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ABSTRACT

This paper analyzed web features which were applicable to a cultural dimension namely *masculinity/feminity* which contributed to cultural understanding and assisted web designers in customizing the websites to a specific culture. Quantitative content analysis was utilized through a t-test and discriminant analysis. 60 samples of websites were selected from Malaysian and Australian universities. Predictor variables were "Use a fluid layout", "Pop-ups", "Homepage length", "Use site map", "Use simple background image", "Use of flash" and "Highlight critical data".The findings yielded that there was a relationship between the *masculinity/feminity* cultural dimension and features of website usability of different countries. Malaysian university websites tend to have lower masculinity index. The results of Discriminant analysis also confirmed that Malaysian university websites and Australian university websites differed significantly on a linear combination of seven variables of masculinity/feminity. Hence, the *masculinity/feminity* dimension is a factor to consider in ensuring the usability of websites of different countries. This research also suggests that localisation is still important in terms of university web marketing. Hence, the web is not a culturally neutral medium, but they reflect the cultural environment that surrounds the developers. This study is beneficial for web policy makers and web designers of universities in providing a guide in terms of integrating cultural values for specific cultures. Future research should examine other cultural dimension in universities of other countries to gain more insights into the relationship of culture and university web usability.

1.0 INTRODUCTION

The rapid expansion of the World Wide Web, (henceforth, the Web), is one of the greatest developments in the field of communication. As on 30 June 2012, the total number of internet users worldwide is almost 2.5 billion (Internet World Stats, 2012). This figure indicates the increasing importance of the medium.

Besides the importance of website features, another essential factor to be taken into account is a cultural issue pertaining to standardisation versus localisation of websites when catering to the large international market. Standardisation refers to an adoption of

a culturally-neutral website while localisation is an adoption of a culturally sensitive website (Singh & Baack, 2004). This raises the question as to whether the web pages designed in one country are equally appealing to potential consumers in other countries. Cultural differences, thus, have become an important issue in international interface design, yet most publications on this subject concentrate narrowly on guidelines for the internationalisation of the interface according to the country's and/or region's standards for language, date, measurements, currency, spelling, etc. (del Galdo, 1990; Russo & Boor, 1993). The Web is essential for it is a tool for transnational communication, participation, and transaction for a multi-cultured environment. Barber and Badre (2000) argue that even though the Web is considered "world-wide" and "global," it is still localised due to design and cultural constraints. Further, cultural features like texts, layout and colours impact what is deemed "user friendly;" hence, the design must focus on a cultural context. Nielsen (1996) urges that the need to design for international interface has become paramount in the software industry. Lo and Gong (2005) assert that companies should highly consider the non-English sector and cultural dimension in order to situate themselves in the global market and a wider audience. Hence, website localisation is an important element for e-business success and relevant cultural guidelines have to be taken into account when designing a website.

One of the prestigious organisations that has been analysed frequently in literature and is highlighted in this study is university. At present, the increased competitions in the global higher education have raised the issue of how to profile higher institutions. Abrahamson (2000) reflects that the Web ranks second after the campus visit as the most important avenue for researching universities. As online era emerges, institutions have to compete globally as their universities have become business assets just like their human, capital and financial resources (Moore 2004; Stensaker 2005). Over the last decade, the university has become a commodity and its prospective students become consumers (Wernick, 1991). Universities, thus, have to employ marketing strategies in order to get people to remember their universities over other competitors as more prospective students are using the websites to search for information. A survey indicates that 45 percent of adults and 57 percent of teenagers use the internet to search information about a college or university they are planning of attending (Hitlin & Rainie, 2005).

Moreover, if the stakeholder base is international, knowing and acknowledging the aesthetic preferences of transnational clients on university websites show respect for the clients' cultures and might increase a company's networks, opportunity, and returns of investments. This, in turn, raises the question of how the universities are projected across the globe through their web design. The present study, hence, focuses on the incorporation of cultural dimension of usability between Malaysian and Australian university websites, focusing on *masculinity/feminity* elements. The comparative study lends insights into the ways in which the advanced and developing countries utilize the dimension.

1.1 Research Objectives
The objective of the present study is:
- To investigate the similarities and differences of cultural dimension pertaining to *Masculinity/feminity* between the websites of Malaysian and Australian

universities.

1.2 Research Questions

The research questions chosen to guide this study are as follows:

- How does *masculinity/feminity* similar and differ between Malaysian and Australian university websites?

2.0 LITERATURE REVIEW

2.1 Cultural Dimension

When discussing the cultural dimension of websites, several issues which need attention are in terms of social context of Malaysia and Australia, standardisation and localisation and various cultural aspects within websites.

2.1.1 Social Context: Malaysia and Australia
Malaysia

Malaysia is a federation comprising thirteen states and three federal territories. Malaysia is a multiracial country with diverse cultures, Malays, Chinese and Indians. The population was 28.33 million (Department of Statistics Malaysia, 2010).

Each ethnic group is allowed to maintain their individual languages, religion and traditions as government policy promotes tolerance to retain a harmonious and unified society. Malaysia practices democracy. The head of state is Yang di-Pertuan Agong, or King while the head of government is the Prime Minister.

In Malaysia, 17,723,000 makes up for internet users in Malaysia in 2012 (International Telecommunication Unit, www.itu.int). The internet penetration rate in 2010 is 64.60% (http://www.economywatch.com). The strong growth is the results of few strategies of Malaysian government which include the, the National Information Technology Agenda which was formulated in 1996 to develop an ICT framework to drive Malaysia into an information and knowledge-based society by 2020 (www.nitc.org.my/index.shtml). Besides, Seventh and Ninth Economy Plan (1996-2010) also cater to development of infrastructure and environment of ICT in which various funds have been made available for ICT development in industries.

Australia

Australia comprises the mainland of the Australian continent, the island of Tasmania, and numerous smaller islands. The 2011 Census shows that the most commonly nominated ancestry was English (36.1%), Australian (35.4%),[235] Irish (10.4%), Scottish (8.9%), Italian (4.6%), German (4.5%), Chinese (4.3%), Indian (2.0%), Greek (1.9%), and Dutch (1.7%). Interestingly, 12 percent of the population is of Asian Australians (http://www.abs.gov.au). Over 200 languages are used in Australia including English, Italian, Greek, Cantonese and Arabic. Various religious belief exists which includes Christianism, Islam, Hinduism, Sikhism and Buddhism (http://www.hamroconsultancy.com.au/edu.php). Like Malaysia, Australia enjoys diversity of cultures because of its various ethnic groups.

The penetration of internet for Australia in 2010 is 80.10% (http://www.economywatch.com) which is much higher than Malaysia's penetration rate. In comparison to Malaysia, the overall technological integration placed Australia in the 5th place whereas Malaysia in the 26th according to Kearney (2004) for the Foreign Policy Globalization Index as illustrated in Table 1.2.

Table 1.2: Kearney's (2004) Foreign Policy Globalisation Index

Globalization Relative to Other Selected Countries in 2004
Ranking in 2004 from the Least to the Most Globalised

	Economic Integration	Personal Integration	Political Integration	Technological Integration	Total Integration
India	61	53	57	55	61
Indonesia	47	61	53	51	59
China	37	59	56	49	57
Bangladesh	62	43	35	62	56
Philippines	32	20	51	47	33
Sri Lanka	41	34	60	56	51
Thailand	28	48	58	40	48
Pakistan	55	36	34	59	46
Malaysia	8	14	46	26	20
Australia	26	28	13	5	13
USA	56	35	28	1	7
Singapore	2	3	40	10	2
Ireland	1	2	11	14	1

Source: Kearney, A. T. (2004) 'Foreign Policy Globalisation Index', *Foreign Policy Magazine*, March-April 2004, at <http://www.foreignpolicy.com>.

This ranking shows that Australia is ahead than Malaysia in terms of technological integration in aspects like internet penetration, broadband usage, mobile phones usage and other technological applications.

2.2. Hofstede's (1980) Cultural Dimension

Hofstede (1980) illustrates five cultural dimensions ranging from power distance, individualism vs. collectivism, feminity vs. masculinity, uncertainty avoidance and long vs. short-term orientation. Hofstede (1981) conducts the most comprehensive study of IBM organisations on how values in the workplace are influenced by culture. From 1967 to 1973, while working at IBM as a psychologist, he collects and analyses data from over 100,000 individuals from forty countries. Consequently, Hofstede develops a model that identifies four primary dimensions to differentiate cultures. Hofstede (2000, p.401) defines these dimensions as; *Power Distance*: "the extent to which the less powerful members of organisations and institutions (like the family) expect and accept that power is distributed unequally"; *Uncertainty Avoidance*: "intolerance for uncertainty and ambiguity"; *Individualism versus Collectivism:* "the extent to which individuals are integrated into groups"; *Masculinity versus feminity*: "assertiveness and competitiveness versus modesty and caring". The present study only focused on the masculinity/feminity category.

Hofstede views masculinity versus femininity as follows: "masculinity pertains to societies in which social gender roles are clearly distinct (i.e., men are supposed to be assertive, tough, and focused on material success whereas women are supposed to be more modest, tender, and concerned with the quality of life); femininity pertains to societies in which social gender roles overlap, (i.e., both men and women are supposed to be modest, tender, and concerned with the quality of life)"

Many studies have been conducted on cultural elemnts and websites. Marcus and Gould (2000) examine the relationship of Hofstede's dimensions and graphical organisation and linguistic aspects of a site. The findings reveal that masculine interfaces focus on tasks and the efficiency of their completion. Navigation is focused on exploration and control based. The interactive elements like games and animations are favoured. On the contrary, feminine interfaces support "cooperation" and "exchange of information". The interfaces are likely to focus on visual aesthetics, natural images and traditional arts.

Robbins and Stylianou (2002) conduct a study on commercial websites in several geographical regions. "annual reports" and "financial highlights" represent masculinity/feminity on the site. Callahan (2006) examines cultural similarities and differences in the design of University websites in eight countries. Images of people would be more frequent in feminine countries while masculine countries prefer images of building. Gaye et al. (2010) also integrates Hofstede's (1980) cultural dimensions by conducting a content analysis on 88 websites of the US and Turkey Fortune 500 companies. They use Hofstede's (1980) uncertainty avoidance, individualism - collectivism and masculinity-feminity. They note that Turkish websites comply with the cultural dimensions proposed. However, a study by Stengers et al. (2004), using an experimental method which involves 16 Belgian students, reveal that the high power distance and masculinity dimensions are not apparent among the 40 websites from various countries. Contrary to the researchers' expectations, very little impact of cultural differences in the interfaces of the web sites is reported except for the dimension of collectivism/ individualism. A survey is conducted among the web designers and the findings yield that most designers were receptive to external influences as they mainly look at other university websites. Overall, the findings of these studies show significant relationship between website features and cultural dimension.

3.0 METHODOLOGY

3.1 Method

Quantitative Content analysis was utilized for the study. T-test was administered to find the significant difference of cultural values between Malaysian and Australian university websites.In addition, a discriminant analysis was conducted to further confirm whether a set of variables is effective in predicting category membership. Discriminant analysis is a statistical analysis which is used when groups are known a priori and is useful in determining whether a set of variables is effective in predicting category membership (Green et al., 2008). Discriminant analysis can be used with small sample sizes. It has been shown that when sample sizes are equal, and homogeneity of variance/covariance holds, discriminant analysis is more accurate (Bökeoğlu Çokluk, Ö, & Büyüköztürk, S., 2008). A classification can be predicted based on the continuous variables or assess how well the continuous variables separate the categories in the classification. Predictor variables used were *Use a fluid layout, Avoid Pop-ups, Limit homepage length, Use site map, Use simple background image, Limit use of Flash, Highlight critical data.*

3.2 Procedure for analysis

Several steps were applied for the content analysis of websites in this study as shown in Figure 1.3. The analysis features the progression from the index page to the subsequent page.
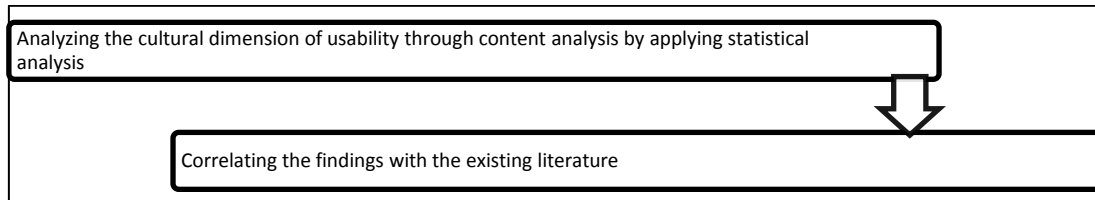
Figure 1.3: Procedure for analysis

For the next step, Coder A and B, independently, applied the coding whilst re-evaluating the websites. During the re-evaluation process, some modifications and adjustments whereby some minor changes were applied to the checklist as and where necessary, and finally the final inventory coding was produced.

4.0 RESULTS AND DISCUSSION

All the features are categorised under masculinity / feminity based on categorization by King (2008), Hall (1976) and Marcus and Gould (2000). Table 1.4. illustrates the cultural dimension in relation to usability features.

Table 1.4: Cultural category for masculinity

Masculinity
Use a fluid layout
Avoid Pop-ups
Limit homepage length
Use site map
Use simple background image
Limit use of Flash
Highlight critical data

Next, the aggregate score for each of the four dimensions is calculated. Then a t-test was conducted for the cultural categories. The results are illustrated in Table 1.5.

Table 1.5: Masculinity score

Category	Malaysia		Australia				
	M	SD	M	SD	t	df	Sig (2-tailed)
Masculinity/Feminity	4.50	.714	5.30	.467	-5.015	58	0.03

The masculinity and feminity values showed that Australian university websites (M=5.30, SD=0.47) scored higher than the Malaysian (M= 4.50, SD= 0.71) with t (58) = -5.015, p < 0.05. Hence, on the whole, the cultural dimension showed the statistical difference for all categories.

Masculine interfaces focus on tasks and the efficiency of their completion. Navigation is focused on exploration and control based. The interactive elements like games and animations are favoured for masculine-oriented culture. On the contrary, feminine interfaces support cooperation and exchange of information. The interface is likely to focus on visual aesthetics, natural images and traditional arts..In terms of Masculinity / Feminity category, seven hypotheses are devised as follows:

H2l: University websites with a lower masculinity index include Use a fluid layout more than university websites with a higher masculinity index.

H2m: University websites with a lower masculinity index use Pop-ups lesser than university websites with a higher masculinity index.

H2n: University websites with a lower masculinity index use homepage length more than university websites with a higher masculinity index.

H2o: University websites with a lower masculinity index use site map than university websites with a higher masculinity index.

H2p: University websites with a lower masculinity index use simple background image more than university websites with a higher masculinity index.

H2q: University websites with a lower masculinity index use flash lesser than university websites with a higher masculinity index.

H2r: University websites with a lower masculinity index use Highlight critical data lesser than university websites with a higher masculinity index.

The results for the features are listed in Table 1.6.

Table 1.6: T-Test results for Masculinity/Feminity Index category

Category	Malaysia		Australia				
	M	SD	M	SD	t	df	Sig (2-tailed)
Use a fluid layout	3.40	1.25	6.80	0.76	-12.74	58	0.00
Pop-ups	4.0	1.50	6.30	1.31	-6.227	57	0.000
Homepage length	3.70	2.07	5.50	1.81	-3.52	58	0.001
Use site map	6.10	2.07	4.00	2.78	3.32	53.7	0.002
Use simple background image	5.80	1.42	6.50	0.57	-2.618	58	0.011
Use of flash	4.80	1.53	6.20	1.00	-4.181	50	0.000
Highlight critical data	3.40	2.88	1.40	1.52	3.359	44	0.002

All features showed significant difference between website of Malaysian and Australian universities. Five features showed that Australian university websites scored higher than the Malaysian whereas the Malaysian university websites scored higher for another two features.

The Australian university websites scored higher in "use a fluid layout" (M=6.8, SD=0.76) with t (58) =-12.74, p < 0.05, "avoid pop-ups" (M=6.3, SD=1.31) with t (57) =-6.227, p < 0.05, "limit homepage length" (M=5.5, SD= 1.81) with t (58) =-3.52, p < 0.05 , "use simple background image" (6.5, 0.57) with t (58) = -2.618, p < 0.05 and "limit use of Flash" (M=6.2, SD=1.00) with t (50) = -4.181, p < 0.05. However, the utilization of "use simple background image" (M=5.8, SD=1.42) did not differ much from Malaysian university websites in comparison to other four features, "use a fluid layout" (M =3.4, SD=1. 25), "avoid pop-ups" (M=4.0, SD= 1.50), "limit homepage length" (M=3.7, SD= 2.07), and "limit use of flash" (M=4.8, SD=1.53). Based on the results, H2l and H2p are not supported while H2m, H2n and H2q are supported.

On the other hand, Malaysian university websites scored higher for two features namely "use sitemap" (M=6.1, SD=2.07) with t (54) = 3.32, p < 0.05 and "highlight critical data" (M=3.4, SD=2.88) with t (44) = 3.359. Hence, based on the results, H2o is supported and H2r is not supported.

Discriminant analysis was used to conduct a multivariate analysis of variance test of the notion that university websites would differ on a linear combination of seven variables of masculinity/feminity index. The predictors were "Use a fluid layout", "Pop-ups", "Homepage length", "Use site map", "Use simple background image", "Use of flash" and "Highlight critical data".

The overall Chi-square test showed that the Wilks' lambda was closer to 0, which indicated that the variable contributed significantly to the discriminant function (Wilks λ = .223, Chi-square = 81.887, df = 7, Canonical correlation = .882, p <. 005). The

discriminate function accounted for 77.8 percent of between group variability which was significant. Table 1.7 presents the standardized discriminant function coefficients. Table 1.8 shows the functions at the group centroids. The group centroids (mean discriminant scores) are -.1837 for the Malaysian university and .1837 for the Australian university. High scores on the discriminant function were associated with the Australian university websites. Table 1.9 illustrates the classification results. 91.7 percent of the cases were correctly reclassified into their original categories. Hence, the results of Discriminant analysis confirms that Malaysian university websites and Australian university websites differ significantly on a linear combination of seven variables of masculinity/feminity index.

Table 1.7 : Standardized Canonical Discriminant Function Coefficients

	Function
	1
Use a fluid layout	.852
pops-ups	.274
Limit homepage length	.036
Use site maps	-.144
Use simple background images	.048
Limit use of flash	.142
Critical data highlight	-.104

Table 1.8: Functions at Group Centroids

	Function
TYPE_UNI	1
Malaysian University	-1.837
Australian University	1.837

Unstandardized canonical discriminant functions evaluated at group means

Table 1.9 : Classification Results

			Predicted Group Membership		
		TYPE_UNI	Malaysian University	Australian University	Total
Original	Count	Malaysian University	27	3	30
		Australian University	2	28	30
	%	Malaysian University	90.0	10.0	100.0
		Australian University	6.7	93.3	100.0

a. 91.7% of original grouped cases correctly classified.

4.2 . Discussion

The objective is to analyze the attributions of cultural dimensions of masculinity/feminity in usability between the websites of Malaysian and Australian universities. Masculinity/feminity category are used to explain differences in usability dimension of the university websites. In terms of masculinity/feminity category, four hypotheses are supported. As expected and in line with Hofstede's (1980) cultural dimension, Malaysian university websites tend to have lower masculinity index. This is similar to a study by Gaye (2010) which finds that Turkish websites demonstrate lower masculinity index compared to US websites.

The Discriminant Analysis also supports the distribution of the cases into two different groups. The results of Discriminant analysis confirms that Malaysian university websites and Australian university websites differ significantly on a linear combination of seven variables of masculinity/feminity.

5.0 CONCLUSION

In conclusion, Malaysian university websites feature a lower masculinity index, adhering to the cultural dimension. Hence, the web is not a culturally neutral medium, but they reflect the cultural environment that surrounds the developers. The findings of this study could enable ICT engineers, web designers, computer architects, and other relevant professionals to enhance and further improve the support and capabilities of the universities websites and to innovate some distinctive cultural features to enhance marketability of the websites. Future research should examine other cultural dimension in universities of other countries to gain more insights into the relationship of culture and university web usability. Moreover, more research should gear toward analysing the perspectives of web designers as their insights are essential in explaining the trend of university websites which incline toward standardisation or localisation.

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