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The Socio-Political Culture of Users

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Abstract: South Africa has been described as a melting pot of different cultures, adding to the rich South African heritage, boasting eleven official languages. This cultural diversity, however, poses quite a unique challenge for designers of software, especially in the design of e-commerce websites. This paper describes an experiment with the net-generation and the effects of culture on users' perception of the web.
Keywords: Culture, usability

1 Introduction

The South Africa population can be described as a fragmented set, comprising subsets of various wholes. Each race group (Indigenous Africans [IA], South Africans of mixed decent [SAM], Afro-Asians [AA] and Afro-Europeans [AE]) is uniquely different. For example, the South African democratic government inherited a divided and unequal system of education. Under apartheid, South Africa had nineteen different education departments separated by race, geography and ideology, i.e. before 1994 IAs, SAMs, AAs and AEs grew up in very different socio-political, educational and cultural environments. This education system prepared children in different ways for the positions they were expected to occupy in social, economic and political life under apartheid. In each, the curriculum played a powerful role in reinforcing inequality (Department of Education, 2001). The after effects of this system are still very much apparent. This study looks at these divides and attempts to find common grounds among these groups in their uses of technology and how it could affect the design of effective applications such as e-commerce (EC) websites.

2 Cultural Diversity

When designing web applications such as EC, the software design team has to be aware of cultural diversity (Preece et al., 2002). There are many views on the issue of cultural diversity and many angles from which it can be approached (see for example Evers and Day (1997) and Hofstede (1997)). One aspect of this diversity is related to whether the intended users are monochronic or polychronic.

Monochronic People	Polychronic People
Do one thing at a time	Do several things simultaneously
Concentrate on the job at hand	Are highly distractible and subject to interruptions
View time commitments as critical	View time commitments as objectives
Are low context and need information on specific task	Are high context and already have general information
Are committed to the job at hand	Are committed to people and human relationships
Adhere rigidly to plans	Change plans frequently and easily
Emphasize promptness in all situations	Base promptness on the importance of and significance of the relationship
Are accustomed to short-term relationships	Have a strong tendency to build lifetime relationships

Table 1: Contrast between monochronic and polychronic people (Hall, 1989, 1990)

Table 1 summarises the main characteristics of monochronic and polychronic people. American society, as well as those of northern Europe, is predominantly monochronic (Hall, 1989, Hall, 1990). Some cultures such as Arab, Latino, or black African cultures are polychronic (Hall, 1989, Hall, 1990). Not all nations are predominantly of a single

culture. South Africa's sizable AE population is recognized as monochronic and the majority IA as polychronic (Prime, 1999, Morrison et al., 1999). Members of polychronic cultures find delay significantly more tolerable than do members of monochronic cultures. Members of monochronic cultures experience delay as source of great anxiety. By contrast, members of polychronic cultures have been noted as having little anxiety at delay levels 50 times greater or more than those found very troubling to monochronic individuals (Hall, 1989, Hall, 1990). Research conducted by Walton et al. (2002), confirms that IA are polychronic in general.

Therefore, it would seem appropriate to assume that AE and IA would respond differently to excessive delays in system response time and other issues relating to monochronicity and polychronicity. One of the aspects researched and presented in this paper relates to this aspect.

3 Experiment

The South African environment, as well as the cultural differences, plays a role in influencing users' perception of technology. As part of a wider research project we conducted an experiment to test whether chosen samples were monochronic, polychronic, predominantly one of the two or both. The following features, amongst others, were identified for investigation by the researchers: instructions, speed of website, communication (e-mail, fax, phone), appearance and navigation. Communication was chosen as a feature of investigation because in the social-political context not all South Africans have access to basic communication.

The investigation was done by means of an experiment involving the design of two websites (site A and site B) and a questionnaire to assess these sites. The sample of subjects for the experiment was selected using judgment sampling (Groebner & Shannon, 1990). This study was aimed at the net-generation (N-Gen)(Tapscott, 2000). N-Gen refers to the generation of people who are between the ages 2 and 22, not just those who are active on the Internet. The total number of respondents was 219.

The experiment was designed in the following way: the two sites addressed the same content, but site B adhered to general usability and design principles, while site A did not conform to certain of these principles. The main principles by which these two sites can be characterized and which have relevance to the work being reported here are: (1) Consistency: this refers to designing interfaces to have similar operations and use similar elements for achieving similar tasks (Preece et al., 2002). Site A was illogically designed with the use of poor spelling and grammar. (2) Navigation: this refers to avoiding orphan pages, long pages with excessive white space that force scrolling, narrow, deep, hierarchical menus that force users to burrow deep into the menu structure, and non-standard link colours; providing navigation support, such as a strong site map that is always present; as well as providing a consistent look and feel for navigation and information design (Preece et al., 2002). Navigation for site A was unstructured and totally linear, while Site B was designed with all the above in mind. (3) Structured information: Site A did not follow a structured approach for the specific content, leading the user to access the information in a particular way, and provided random items of trivial information interspersed with the remainder of the content. The information for Site B was designed to lead the user through the content of the website. Site A appealed to the unstructured nature of the polychronic culture and Site B appealed to the organized nature of the monochronic culture.

The questionnaire consisted of the following main sections: demographic information about the respondents; a section to assess previous computer experience; a set of instructions for assessing the first website (either Site A or B), and 32 statements on a 5-point Likert-scale relating to the first website; respondents' open comments on the first website; a further set of instructions for assessing the second website (either site B or A), and 32 statements on a 5-point Likert-scale; respondents' comments relating to the second website and respondents' open comments on the second website.

The respondents from each institution would visit site A and then site B, or vice versa. To avoid sample set bias subjects from culturally diverse institutions from different regions were selected for the experiment.

An intrinsic part of the questionnaire is its ability to collect both quantitative and qualitative data, giving the respondents the opportunity to comment on or to justify answers.

In this paper we limit our discussion to the subsections of the questionnaire relating to: speed of website, communication (e-mail, fax, phone), and navigation. The outcomes of the following questions are specifically addressed. *Speed of website*: 'It is important that the website process my request quickly' (specific to our websites) and 'A fast response time is important to my activities on the

web' (the web in general). *Communication*: 'Help features via phone, fax or e-mail are important aspects of a website' (web in general). *Navigation*: 'On-line help features such as navigation tutorials are unimportant to my activities on the web' (web in general). The answers to the above subset of questions will be analysed and results discussed in terms of population group dynamics.

		IA	SAM	AA	AE	Other
It is important that the website process my request quickly						
E1	SD	0	2.3	0	11	0
	D	4.2	23	0	0	0
	U	1.7	0	4.3	0	0
	A	30	28	35	33	0
	SA	64	67	61	56	100
E2	SD	0	0	0	0	0
	D	2	0	0	0	0
	U	6	2	0	0	0
	A	38	37	39	44	0
	SA	55	61	61	56	100
A fast response time is important to my activities on the web						
E1	SD	0.9	2.3	0	0	0
	D	2.6	2.3	0	0	0
	U	1.7	11.6	0	0	0
	A	37.6	32.6	30.4	22.2	50
	SA	57.3	51.2	69.6	77.8	50
E2	SD	0	0	0	0	0
	D	1.9	0	0	0	0
	U	8.5	7	0	0	0
	A	40	4.2	39	33	100
	SA	50	51	61	67	0
Help features via phone, fax or e-mail are important aspects of a website						
E1	SD	0.9	0	0	0	0
	D	6	4.8	0	22.2	0
	U	6.8	11.9	8.7	0	0
	A	36.8	54.8	47.8	55.6	50
	SA	49.6	28.6	43.5	22.2	50
E2	SD	1.9	0	0	0	0
	D	6.7	4.7	0	11	0
	U	9.6	19	0	0	100
	A	41	42	44	67	0
	SA	40	35	57	22	0
On-line help features such as navigation tutorials are unimportant to my activities on the web						
E1	SD	16.4	13.6	21.7	11.1	0
	D	38.8	50	52.2	44.4	50
	U	17.7	136	8.7	22.2	0
	A	20.7	13.6	8.7	22.2	50
	SA	6.9	9.1	8.7	0	0
E2	SD	11.5	9.3	21.7	0	0
	D	38.5	41.9	47.8	66.7	0
	U	16.7	14	0	22.2	0
	A	26	25.6	17.4	11.1	100
	SA	7.3	9.3	13	0	0

Table 2: Cumulative Results

4 Findings

Table 2 represents the results of experiment 1 (E1) and experiment 2 (E2) regarding respondents reactions to the two sites for the above questions. It indicates the attitudes of the respondents represented as a percentage where SD, D, U, A, and SA respectively represent strongly disagree, disagree, undecided, agree and strongly agree. We can summarise the findings as follows: (1) Across the board of population groups, respondents were more critical of the second site that they were seeing/assessing. Pre-knowledge of the site/questions caused the respondents to be extremely critical of the second website. (2) We would expect a significant difference between the population groups yet these results paint a different picture. Our results are supported by the work of De Wet et al. (2001), indicating that there is a shift in IA's to become more monochronic. Our results suggest that the entire population is monochronic. This could be explained because the sample group was from the N-Gen, all possessing basic computer literacy skills, and all having been through similar education systems during the last few years at least. Their cultural background did not appear to influence their requirements and performance on the web. If the target population had been the wider SA community, we believe that the results might have been more mixed. (3) The results in Table 2 in general reflect a type of status quo in the E1 and E2 with the majority of all respondents, independent of population group, considering support material to be important (again leaning to the monochronic side). A closer look at Table 2 indicates that there are significant differences in the E2 for IA users, in comparison with E1. This indicates that IA users are monochronic.

The chosen usability principles that were applied to site A and site B affected the respondents' attitude to the sites in question, illustrated by some of their open-ended comments: *Site A*: 'navigation was not well organized, i.e. I did not know where I was going next'; 'the pictures and text were congested, there should be a space in between'; 'the website frustrated me and put me in a bad mood'; 'navigation was totally linear and highly frustrating'. *Site B*: 'the right amount of picture = the right speed'; 'the screens were very well organised in a logical order, i.e. menu on left of screen => worked its way down the menu'. Here again, comments from the IA group led the researchers to believe that the entire group is monochronic.

The respondents could appreciate the difference resulting from design according to HCI and usability principles, and therefore 'demanded' more. The aphorism that 'ignorance is bliss' is therefore true – given the differently designed websites the respondents aggressively commented on what they considered as poor design, even when given a better design second time round.

Designers are always making the wrong assumptions about their user populations. The results above strongly suggest that designers should look very carefully at the audience for which they are designing. Every market has a wide spectrum of users, ranging from skilled computer literate individuals to unskilled farm labourers, and incorporating persons from very different educational systems, disadvantages as well as those who had equal opportunities. It would be unrealistic for designers to think that they could design a single product for the entire market. A realistic approach would be for design teams to know who the target audience is; this could possibly be achieved by conducting a market survey (undertaken by experts) and providing this data to the design team.

5 Conclusion

Our research indicates that cultural differences for the N-Gen target audience do not affect their activities on the web. If it is accepted that there is a N-Gen or computer/technology subculture, then efforts should be directed towards developing this culture with a sensitivity to beliefs, customs, and the intrinsic meaning of words and symbols in the context in which they are to be used. Our results further suggest that as long as users have achieved a certain level of computer literacy and exposure to EC and other web applications, they would accept similar designs without customisation of the user interface. The results are supported by the research of Norton (2002) on corporate culture in SA. There are, however, few to no longitudinal studies that have been conducted in usability and cultural differences. Further research is therefore needed to make long-term and validated claims on the issue of culture in designing for the web.

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