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Perceptions of Web site design characteristics: a Malaysian/Australian comparison

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Abstract

Compares the perceptions of Malaysians (representing eastern, Asian culture) and Australians (representing western, European culture) for four Web site design characteristics – atmospherics, news stories, signs and products and services – as part of the integrated Internet marketing model. Under controlled laboratory conditions, two groupings of 30 subjects evaluated eight Web sites – four in Malaysia and four in Australia – in the retail and services sectors. Hypothesises that the predominant culture is not generalised to another culture. Some tentative support for the research premise is found since where a group's perceptions for Web design characteristics and their effectiveness was significantly higher, it was for sites originating in that group's country. Furthermore, perceptions both support and contradict previous research suggesting that Australians prefer an environment of low context and high explicit communications while Asians operate in an environment of high context that stresses implicit communications.

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Introduction

The Internet has become an important medium for organisations desiring to interact with a wide range of stakeholders. It has the potential to market products and services to prospective customers, to communicate information to a global community, to provide an electronic forum for communications, and to process business transactions such as orders and payments (Nath *et al.*, 1998). These activities have come to be known collectively as Internet or electronic commerce – the process of conducting commerce electronically over a variety of networks that constitute the Internet.

Our research falls into the first named application, namely product and service marketing on the World Wide Web (Web) of the Internet. Product information is dispersed on Web pages that can be accessed from anywhere in the world. While firms are managing the technology to set up Web sites successfully, they need to consider how the diverse market characteristics that exist in different countries may affect the design of their sites. Among the determinants of market characteristics are the different cultures that exist in eastern and western countries.

The purpose of our research was to determine whether or not East/West differences are evident in the way Web sites, used for marketing, are designed and perceived. Specifically, we selected Malaysian- and Australian-based Web sites and had them evaluated by Malaysian and Australian Web users as representatives of two different cultures. The objective was to establish significant differences in the way the attractiveness and effectiveness of these sites were perceived by the two nationalities. The findings should assist Australian organisations to improve the marketing of their products and services in Malaysia and Malaysian organisations in marketing their products and services in Australia.

Web site design characteristics

Little research has so far been carried out to establish models and frameworks for maximising the interaction between organisations' Web sites and their stakeholders. An early model is Watson and Zinkham's (1997) integrated Internet marketing (I^2M) which provides:

> the coordination of Internet facilities to market products and services, shape stakeholders' (customers in particular) attitudes, and establish or maintain a corporate image. The central idea of I^2M is that an organization should coordinate its use of the Internet to develop a coherent, synchronous marketing strategy (Watson and Zinkham, 1997, p. 25).

The I^2M model is reproduced in Figure 1.

Since our research took place in the marketing domain, we chose the following variables for the study.

- *Atmospherics*. The Web provides an opportunity for customers to experience an organisation's atmospheric or ambience without actually being there. For example, Alberto's nightclub (http://albertos.com/albertos/) in Mountain View, California, stimulates interest by creating an aura of excitement and action.
- *News stories*. Traditionally, organisations have relied on intermediaries (e.g. news media and press) to transmit their stories. Naturally, the use of intermediaries can pose problems. For example, news stories that are not reported as expected can affect a distorted and unintended message to the customers who receive it.

- *Signs*. Most organisations prominently display their logos and other identifying signs on their buildings, packaging, and other visual points of customer contact. Animation on the Web catches the eye and makes the visitor more aware of the organisation's logo.
- *Products and services*. The Web provides several advantages for distributing products and services to customers. The Web is a low cost, 24-hour, global service providing the supplier the opportunity to present information in a rich and structured manner which can readily be updated. However, the display needs to attract and retain the potential consumer's attention.

East/West differences

A nation's culture can be regarded as the collective programming of the mind and the interactive aggregate of common characteristics that influence a collective response to the environment (Hofstede, 1980, cited in Raaij, 1997). It is reflected in traditions and common ways of thinking and observable in government, legal and educational systems, family structures, etc. Evidence can be found as follows (Raaij, 1997; Aiex, 1995; Sturges, 1995):

- *Signs/symbols*. Any object, act, event, quality, or relationship that serves to convey meaning, usually conveyed by styles, products, brands, and advertisement.

Figure 1 The integrated Internet marketing model
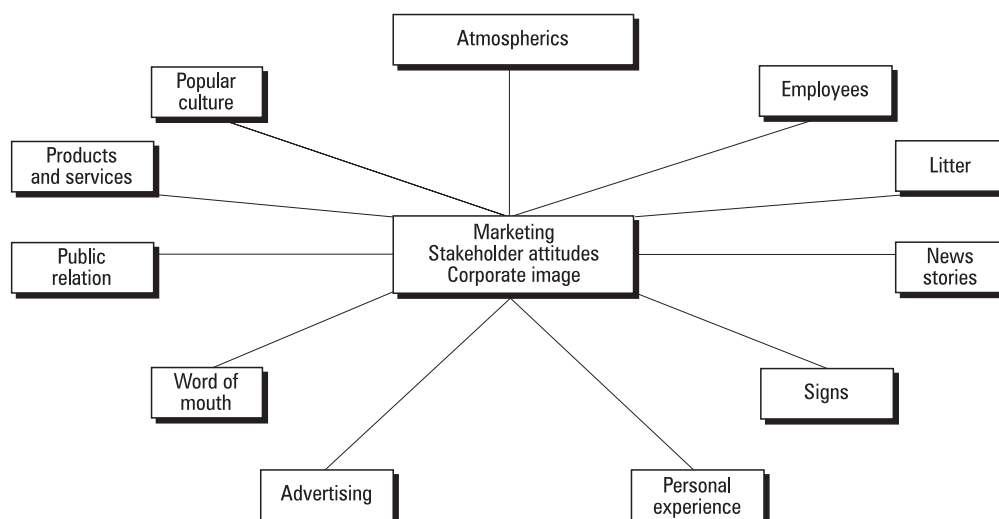
- *Communication*. The formal and informal interaction between two people through verbal and visual messages, that can reinforce, elaborate on, and clarify and qualify the impact of values, signs and rituals.
- *Rituals*. The activities through which organisational beliefs are celebrated and reinforced, including its norms, values, religions, and ideology.
- *Behaviours*. The way "things are done around here", including management's and employees' behaviour.

In the present study, the differences between Malaysians, representing an eastern, Asian culture, and Australians, representing a western, European culture, were studied. The characteristics of Asians and Australians have been found to differ in a number of behavioural ways. The findings reported on here are the result of broad population studies (Robinson, 1996; Goodfellow, 1997; Lewis, 1996) with clear variance for individual behaviour – they are, by their very nature, generalisations:

- Asians have a respect for authority. For example, the managing director is allowed to give commands, exercise control, and scrutinise managers without conforming to formal chains of command. Australians have an egalitarian ethos. This places great emphasis on the individual and the equality of people.
- Asians desire harmony. They prefer to deal with a skilled person, preferably their own relative. They trust more in people. Australians are known to be hard, fast and up front in their business dealings, giving the appearance of being confrontational.
- Asians are conservative. They consume more time by dealing with many people and building relationships. This generates the impression of being "unproductive". Australians, on the other hand, trust more in the organisation than its people. Australians tend to be preoccupied with outcome when negotiating a deal or contract.
- Asians have a tolerance of others. Negotiations take longer in Asia. In Australia, there is more cynicism, both in business and everyday affairs. Australians will not easily kowtow to those in positions of power, wealth or influence.

- Whilst Asians operate in an environment of high context, stressing implicit non-verbal communication, Australians prefer a low context situation, which stresses explicit verbal communication and clear expressions of intention (Hall, 1959, 1976, cited in Reisinger *et al.*, 1998).

Behavioural differences stem from value differences between Asian culture (Chinese Culture Connection, 1987, in Reisinger *et al.*, 1998) and western culture (Feather, 1970, 1972, 1975, 1980, 1986; Rim, 1970, in Reisinger *et al.*, 1998):

- Asian values lie in integration (tolerance, non-competitiveness, intimate friendships) and Confucian work dynamism (orderly relationships, a sense of shame, protecting or saving face). Western values are reflected in achievement (success, activity, aggressiveness, humanitarism).
- Asians value human heartedness (patience, courtesy, sense of righteousness) while westerners have a sense of affiliation (love, self-esteem, self-definition, self-fulfillment).
- Asians practise moral discipline (moderating, keeping oneself disinterested and pure, prudence) while westerners support authority (democracy, independence, equality).

The values and behaviour of people intertwines with other influences (e.g. history, religion) to form the dominant culture of a country. This permeates throughout a country and becomes entrenched in organisations, products and services, consumer behaviour, etc. (Raaij, 1997). The peculiar characteristics become so rooted in the prevalent culture that they are regarded as not generalisable to other cultures (Grover *et al.*, 1994). The question, therefore, arises whether or not attitudes towards the use or perceptions of Web usage for electronic commerce are rooted in a particular culture or whether or not they can they be generalised across cultures.

Research hypotheses

The research examined East/West differences in the evaluation of the Web

design characteristics and their impact on the overall effectiveness of Web sites. Differences were between an Australian group and a Malaysian group of participants. Below is a discussion of how the hypotheses were developed.

Web site design characteristics

As discussed in the previous section, Australians are regarded to be hard, fast and upfront in their business dealings. They trust more in the organisation than in the people and are preoccupied with the outcome when negotiating a deal or order. Asians, on the other hand, trust more in people than in organisations and therefore place more emphasis on the negotiation process than on the outcome. Furthermore, Asians operate in an environment of high context, stressing implicit non-verbal communications while Australians appear to prefer an environment of low context and high explicit verbal communications.

It was predicted that there would be significant differences in the way the two groups would feel about the design characteristics of the Web sites presented to them. Australians were expected to place less importance on the characteristics of atmospherics than Malaysians because they take less notice of context. On the other hand, Australians would perceive the importance of products and services displayed higher in order to get the best business "outcome" from the Web site. For Malaysians, signs are important due to preference for implicit, non-verbal communications. It was therefore predicted that they would give greater recognition to Web site logos than Australians would. Similarly, Malaysians were expected to be more interested in news stories appearing on Web sites than Australians because of their emphasis on "negotiation" and "high context" during which they take into account as much information as possible.

We therefore framed the following hypotheses for the research:

H1. The Malaysian group will have a stronger feeling about the virtual presence (atmospherics) on Web sites than the Australian group.
H2. The Malaysian group will have a stronger feeling about the presence of recent news (news stories) on Web sites than the Australian group.

H3. The Malaysian group will have a stronger feeling about the impact of the logos (signs) on Web sites than the Australian group.
H4. The Australian group will perceive a stronger encouragement to look at other pages because of the display of products and services on Web sites than the Malaysian group.

Web site effectiveness

In respect to the impact of the design characteristics on the overall effectiveness of the Web site, it was predicted that Malaysians would place the greatest emphasis on atmospherics as they seek to establish a context for the Web site. For example, they would seek to obtain an indication of integration (tolerance, non-competitiveness) by examining the virtual presence. Australians would judge Web site effectiveness primarily by how explicitly products and services are displayed in order to achieve a successful business outcome. The above predictions are reflected in the following hypotheses:

H5. The Malaysian group will perceive the impact of atmospherics on the overall effectiveness of Web sites significantly higher than the Australian group.
H6. The Australian group will perceive the impact of the display of products and services on the overall effectiveness of Web sites significantly higher than the Malaysian group.

Research design

Selection of Web sites

Web sites for the study were selected by browsing and searching through the Internet and using Web site directories (i.e. *Internet.au Magazine*, 1998; *Web Guide Magazine*, 1998). Sites were evaluated for their design characteristics. From an initial list of 14 sites, eight were eventually chosen for the study. They fell into two industry types, namely retailing and services. Two sites operated only in Australia, two only in Malaysia, and two operated in both countries. The Web sites and their uniform resource locators (URLs) are shown in Table I.

Questionnaire design

The study required participants to examine each of the Web sites in order to evaluate the

Table I Web sites

Location	Retail	Services
Present in Australia only	Dewsons Supermarket (www.dewsons.com.au)	Café St Tropez (www.cafesttropez.com.au)
Present in Malaysia only	Virtual shopping (www.vis.com.my)	Netcard Station (www.netcard.com.my)
Present in Australia and Malaysia	Amway (Australia) (www.amwayglobalvillage.com/australia) Amway (Malaysia) (www.amwayglobalvillage.com/malaysia)	Ernst & Young (Australia) (www.ey.com.au/home/frame.htm) Ernst & Young (Malaysia) (www.eyi.com/malaysia)

Note: Effective 1 June 1998

form of the four Web design characteristics, namely atmospherics, news stories, products and services and their effectiveness. The questions contained in questionnaires were phrased along the following lines:

- *Atmospherics*. Do you have the feeling that you are visiting the site?
- *News stories*. Do you have the feeling that you know about recent developments at the site?
- *Signs*. Does the logo of the Web site create an impact on you?
- *Product and services*. Does the display of products and services encourage you to look at other pages on the Web site?
- *Overall effectiveness*. What is the impact of each design characteristic (i.e. atmospherics, news stories, signs, and products and services) on the overall effectiveness of the Web site?

Two PhD students and an academic lecturer, with a strong marketing background, in the School of Management Information Systems (MIS) at Edith Cowan University tested the research questionnaires. Their feedback resulted in an improvement to the wording and layout of the questionnaire.

Research procedure

The research approach was laboratory experimentation. This approach was chosen to maintain control over the Web sites that subjects were required to evaluate and the form of the evaluation. It enables a problem to be studied where the variables involved (i.e. the design characteristics selected from the I^2M model) are known, but behaviour (i.e. the perceptions of the participants) is not (Shanks *et al.*, 1993). The laboratory experiment settles on precision, which means it will have precise results. The researcher has control over the procedures and

participants have to do what the researcher requires them to.

The sample was randomly selected so that each person in the population had the same chance of being included in the study (Mason and Lind, 1990). Participants were students at Edith Cowan University in Perth, Western Australia, who responded voluntarily to notices placed on various university notice boards. The subjects were invited to come to the computer laboratory where the study took place. A short welcoming speech initiated each session. All participants were required to read a cover letter and instructions thoroughly before proceeding to evaluate the eight Web sites shown in Table I. They were not allowed to click on to other pages; they could, however, scroll up and down or left to right. The selected Web sites were bookmarked ensuring that they could easily be accessed. Their perceptions were recorded in a questionnaire on a seven-item scale. Each session lasted less than one hour.

Subjects

In total, 60 subjects participated, comprising 30 Australians and 30 Malaysians. The latter were restricted to first-year students who therefore had not spent much time in Australia. As a result, 20 out of 30 Malaysian subjects had stayed in Australia for less than one year while 29 out of 30 Australian subjects had stayed in Australia for more than five years. Twenty-three subjects were males and 37 females. In the Australian group, there are 11 males and 19 females; in the Malaysian group there are 12 males and 18 females. The extent of previous Web usage by the Malaysian group (mean 4.8) and Australian group (mean 4.2) was reasonably high (on a scale of 1 to 7) and statistically not significantly different between the groups.

Data analysis

Validity and reliability

Validity and reliability tests were conducted to measure the goodness of the data collected, i.e. to measure what we intend to measure (Zikmund, 1997) and to ensure the data were consistent (Anderson and Poole, 1994). Content validity requires obtaining "a representative sampling of a whole set of items that could measure the concept" (Sekaran, 1984, p. 156). Content validity of the questionnaires was presumed on the bases that a comprehensive search of the literature and Web sites had been conducted and expert opinions of MIS and marketing experts had been sought. Construct validity refers to "the degree to which inferences can legitimately be made from the operationalisations in your study to the theoretical constructs on which those operationalisations were based" (Trochim, 1996, p. 1). According to Davis and Consenza (1988), the pilot test and modification of the questionnaire achieved this.

Reliability is the consistency or stability of empirical indicators from measurement to measurement. Reliability can be examined by measuring the internal consistency through the Cronbach alpha technique (Davis and Consenza, 1988). The higher the value of the correlation between items, the higher instrument is said to have reliability in an internal consistency sense (Cooper and Emory, 1995). Cronbach alpha values were computed for the overall effectiveness measure of the design characteristics and values ranged from 0.61 to 0.89 which was above the limits of 0.5 to 0.6 used in exploratory research (Davis and Consenza, 1988).

All response data were examined for the normality of their distribution. Some concern as to the skew of the data arose and it was therefore decided to apply non-parametric statistical techniques to test the research hypotheses. These techniques are more robust in their assumptions than their parametric equivalents.

Web site design characteristics

The Mann-Whitney U-test was carried out to establish differences in the way the Australian group and the Malaysian group perceived the four Web site design characteristics used in the study. Table II reports the statistically significant differences.

Web site effectiveness

A Mann-Whitney U-test was carried out to test the impact of the design characteristics on the overall Web site effectiveness. Those that were statistically significant are shown in Table III.

Discussion

The data analysis revealed differences in four of the Web sites, namely Dewsons Supermarket, Café St Tropez, Netcard Station and Ernst & Young (Australia). The direction the differences took and how they compared against the predicted directions, reflected in the hypotheses, are shown in Table IV. We first identify how Malaysian and Australian perceptions differed for each of the four sites before providing an overall assessment of our findings.

Australians rated the attractiveness of Dewsons Supermarket's products and services (see Figure 2) significantly higher than Malaysians. This finding confirmed H4.

For Café St Tropez, Australians also provided higher ratings of their perceptions; these were for the design characteristics of news stories and the impact of products and services and signs on the overall effectiveness of this Web site (see Figure 3). The finding that Australian rated news stories higher than Malaysians contradicts H2 but the finding that they rate the effectiveness of products and services higher than Malaysians supports H6.

For the Netcard Station Web site (Figure 4), Malaysians perceived the design characteristics of products and services higher than Australians which is in the opposite direction of our prediction formulated in H4. Malaysians provided a higher rating for the impact of news stories on the overall effectiveness of this site.

Only one significant difference was found for the Ernst & Young (Australia) site (Figure 5), namely that Australians rated the impact of signs on overall effectiveness higher than Malaysians.

From the findings of the study a number of general observations can be made. First, there were not many statistically significant differences between Australian and Malaysian

Table II Significant differences in Web site design characteristics

Web sites	Design characteristics	Mean	SD	U-value	p
Dewsons Supermarket	Products and services (Malaysians)	4.03	1.69	276.5	0.009
	Products and services (Australians)	5.13	1.49		
Café St Tropez	News stories (Malaysians)	4.16	1.51	333.5	0.076
	News stories (Australians)	4.80	1.56		
NetCard Station	Products and services (Malaysians)	5.23	1.63	299.0	0.023
	Products and services (Australians)	4.16	1.85		

Table III Significant impacts of Web site design characteristics on overall effectiveness of Web sites

Web sites	Design characteristics	Mean	SD	U-value	p
Café St Tropez	Products and services (Malaysians)	5.16	0.98	303.5	0.025
	Products and services (Australians)	5.66	1.34		
Café St Tropez	Signs (Malaysians)	4.40	1.42	313.0	0.039
	Signs (Australians)	5.16	1.44		
Ernst & Young (A)	Signs (Malaysians)	4.40	1.69	340.0	0.096
	Signs (Australians)	5.16	1.26		
NetCard Station	News stories (Malaysians)	4.46	1.73	274.0	0.008
	News stories (Australians)	3.23	1.73		

Table IV Summary of findings

Hypothesis	Prediction	Finding
H1	Atmospherics (Malaysians > Australians)	No significant difference (Malaysians = Australians)
H2	News stories (Malaysians > Australians)	Café St Tropez (Australians > Malaysians)
H3	Signs (Malaysians > Australians)	No significant difference (Malaysians = Australians)
H4	Products and services (Australians > Malaysians)	Dewsons Supermarket (Australians > Malaysians) Netcard Station (Malaysians > Australians)
H5	Impact of atmospherics on effectiveness (Malaysians > Australians)	No significant difference (Malaysians = Australians)
H6	Impact of products and services on effectiveness (Australians > Malaysians)	Café St Tropez (Australians > Malaysians)

Figure 2 Dewsons Supermarket

Figure 3 Café St Tropez

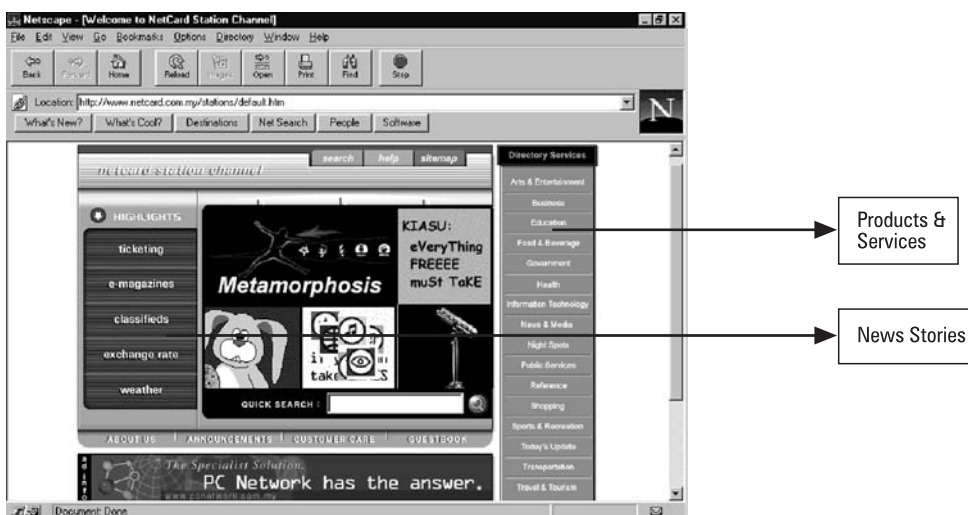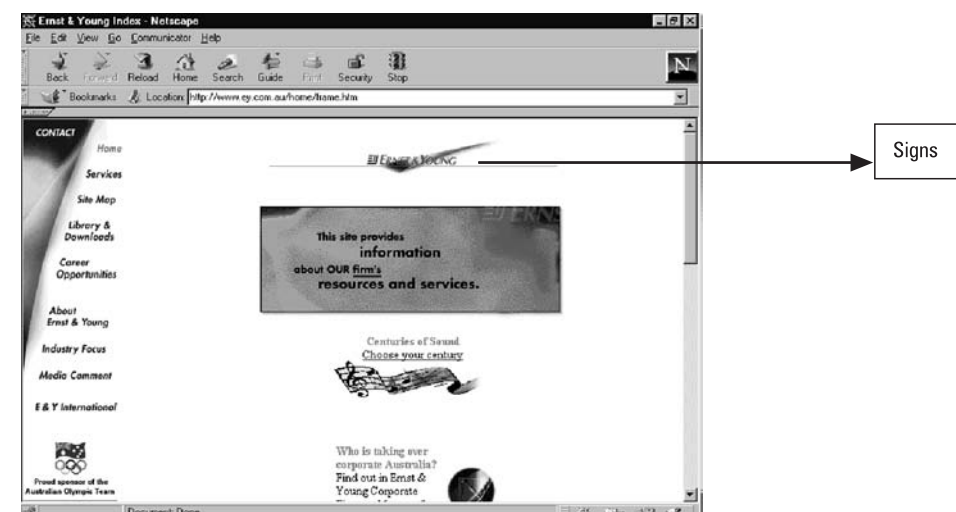**Figure 4** Netcard Station

Figure 5 Ernst & Young (Australia)

perceptions of design characteristics and their impacts on the Web sites' overall effectiveness. When a significant difference was found for a design characteristic, it was typically for one site only and not across all sites. Only in the case of products and services were differences observed for two sites. However, one observation confirmed the predicted direction of the difference and the other contradicted the predicted direction.

The underlying premise of the study, namely that the dominant culture (i.e. Malaysian, Australian) of a country is reflected in the perceptions of Web sites, and is not generalisable to other cultures (Grover et al., 1994), was not strongly reflected in our findings. We expected consistent differences in the way Malaysians and Australians perceived the information presented to them on Web sites but this did not eventuate. Significant differences between the two groups that did exist were for four Web sites, three of which were Australian based and one was Malaysian based. In each case, these sites attracted higher ratings from their nationals. In other words, where Australian ratings exceeded those of Malaysian ratings it was always for Australian Web sites (Dewsons, Café St Tropez, Ernst & Young (Australia)), and where Malaysian ratings exceeded those of Australians it was for a Malaysian Web site (Netcard Station).

Some comments for specific differences that were encountered can be provided:

- Significant differences for the design characteristic of products and services were apparent in two of the four Web sites. The characteristic is important because its main objective is to convert a potential customer to an actual customer by encouraging the person to examine the products and services in more depth. For the Dewsons site, products were laid out graphically in bright colours (Figure 2), which appealed more to Australians. For the Netcard Station site (Figure 4), products were represented in descriptive, technical words which appealed more to the Malaysian group.
- The Café St Tropez site (Figure 3) resulted in the most significant differences between the two groups' perceptions. Its design characteristic news stories, and the effectiveness of products and services and signs, were perceived higher by Australians than by Malaysians.

The site, therefore, appeared to be appealing to the culture of Australians who are known for their outdoor lifestyle and love of eating out, strikingly reflected in the picture. This lifestyle may not be as attractive to the young Malaysian students who took part in the study.
- While the design characteristics of products and services and the effectiveness of news stories were rated higher by Australians for the Café St Tropez site, they were both rated higher by Malaysians for the Netcard Station site. There may exist some relationship between products and services and the effectiveness of news stories in association with particular types of Web sites that is worth further study.

The above findings appear to challenge previous research conclusions about cultural differences in respect of context and communications. These had indicated that Australians prefer an environment of low context and high explicit communications while Asians operate in an environment of high context which stresses implicit communications (Hall, 1959, 1976, cited in Reisinger et al., 1998). There are two important implications that arise from the conduct and findings of our study.

First, there is uncertainty on how to operationalise the concepts of context and communications when determining the design characteristics of Web sites. In our study we identified and measured perceptions of the characteristics of atmospherics, news stories, signs and products and services. We argued that high context is provided by atmospherics and news stories because they provide the consumer with information that creates a virtual presence at the site of the service provider or retailer. Communication about style, quality, etc. of the offerings on the site is explicitly provided by the displayed products and services. If the display generates sufficient interest, the prospective consumer will most likely look for further information about products and services on other pages of the Web site. To a lesser extent signs also convey meaning but in an implicit way, for example the logo of Ernst & Young (see Figure 5) reflects an image of professionalism associated with this major international services firm.

Second, if one accepts the above operationalisation of context and communications, it can be seen that our study found evidence that supported and also contradicted previous research. In respect of the impact of design characteristics on the overall effectiveness of Web site (see Table III), two of the four statistically significant differences between the two groups supported previous research findings. Design characteristics reflecting explicit communications (products and services) were perceived higher by Australians than by Malaysian and context (news stories) was perceived higher by Malaysians than by Australians. However, for the other two Web sites, the perceptions of Malaysians were lower than those of Australians for the design characteristic (signs) reflecting implicit communications. This finding contradicted previous research.

Statistically significant differences between the two groups when rating the importance of design characteristics (see Table II) showed that two of the three contradicted previous research. They are the findings that Malaysians perceived explicit communications (products and services) higher than Australian for Netcard Station and Australians perceived context (news stories) higher than Malaysians for Café St Tropez. Only for Dewsons Supermarket did perception differences between the two groups indicate agreement with previous research, namely that Australians perceived explicit communications (products and services) higher than Malaysians.

Conclusions

We hypothesised that the predominant culture would not be generalised to another culture. Some tentative support for the research premise was found, since where a group's perceptions for Web design characteristics and their effectiveness was significantly higher, it was for sites originating in its country. Furthermore, Malaysia/ Australia differences were pronounced for the Café St Tropez Web sites reflecting the outdoor, European Café lifestyle found commonly in Australia and not encountered often in Malaysia. These findings provide some support for the premise that perceptions are associated with the country of origin.

Organisations that set out to market their products and services in another country would therefore be advised to have their Web sites designed by someone in that country.

Previous research had found that Australians prefer an environment of low context and high explicit communications while Asians operate in an environment of high context that stresses implicit communications. Our study indicated that about half the statistically significant differences between the two groups supported the above while the other half contradicted it. However, the operationalisation of design characteristics as context and communication remains tentative at this stage and more research needs to be carried out in this respect.

Some study limitations need to be recognised. Our approach of conducting a controlled laboratory session can be criticised as being artificial (Cooper and Emory, 1995). We collected data from a relatively small number of participants through the conduct of specific tasks. The controlled laboratory method, however, provided advantages because it enabled us to manipulate the independent variable (i.e. Web site design characteristics) for evaluation by two distinct cultural groups (i.e. Malaysians and Australians). We could thereby control any contamination from extraneous variables by, for example, ensuring that Malaysian participants were new arrivals in Australia.

Suggestions for future research

The study found significant differences in the perceptions of the two groups for four Web sites, three of which were Australian-based and one was Malaysian-based. In each case, these sites attracted higher ratings from their nationals. In other words, where Australian ratings exceeded those of Malaysian ratings they were always for Australian Web sites (Dewsons, Café St Tropez, Ernst & Young (Australia)), and where Malaysian ratings exceeded those of Australians it was for a Malaysian Web site (Netcard Station). Further research is required to confirm that this was due to the predominant culture not being generalised to another culture (as we had hypothesised) or whether the findings may have been due to other factors. For example, there may have existed a "patriotic"

effect causing participants to consciously or unconsciously rate design characteristics for sites located in their country higher than those of sites located in the other country.

Since significant differences between Asian and Australian cultures have in the past been attributed to attitudes towards context and communications, further research is required to explore the significance of these variables in the design of Web sites. In this study we argued that context was reflected in the design characteristics of atmospherics and news stories, while explicit communications was provided by products and services and implicit communications by signs. A more definitive, research-based analysis needs to be carried out to confirm or disconfirm the above operationalisation of these variables.

There may exist some relationship between products and services and news stories and the way the two groups perceived their importance. While the design characteristic of products and services and the effectiveness of news stories were rated higher by Australians than by Malaysians for the Café St Tropez site, the design characteristics were both rated higher by Malaysians than by Australians for the Netcard Station site. It could, therefore, be argued that for certain types of Web sites the impact of products and services displayed could be maximised through the presence of news stories providing information about recent developments. However, further research is required to establish the types of Web sites in which this relationship is maximised.

In our study, we required participants to carry out predetermined tasks from which they could not deviate. In the environment of Internet commerce, this needs further consideration because of other potential influences. For example, future researchers should consider carefully whether or not and to what extent subjects should be allowed to explore the information available to them (e.g. by looking at other pages on the site). Furthermore, future studies can easily replicate or extend this study by using different subject groups (e.g. using business people in Malaysia rather than Malaysian students in Australia) and conditions (e.g. using Web sites from other sectors of the economy). This would lead to a critical mass of research, and hence

provide greater confidence in establishing Malaysian/Australian similarities and/or differences.

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