

CULTURALLY COMMERCIAL: A CULTURAL E-COMMERCE FRAMEWORK

Fay Sudweeks¹ and Simeon Simoff²

¹School of Information Technology, Murdoch University, Australia
email: sudweeks@murdoch.edu.au
<http://www.it.murdoch.edu.au/~sudweeks>

²Faculty of Information Technology, University of Technology, Sydney, Australia
email: simeon@it.uts.edu.au
<http://www.staff.it.uts.edu.au/~simeon>

ABSTRACT

A problem with most global e-business models is a flattening of cultural diversity, with little regard to local identity. This paper presents a culturally specific framework for e-Business with an example of its application. The example illustrates online shopping in a 3D distributed environment which is sensitive to specific cultures.

KEYWORDS

E-commerce, cultural diversity, 3D environments, online shopping

1. INTRODUCTION

The development of the Internet in the latter half of the 1990s has been an evolution from an information environment that supported a common scientific approach to the world to a common marketplace for a global population. The Internet has become the medium of what Vernadsky¹ (1991) calls “noosphere” - the next step in the evolution of the biosphere of the Earth. This development has had the effect of homogenising the networked world.

The latest advances in information and communication technologies (ICTs) have been touted by Internet enthusiasts as catalysts that have led to greater world democracy and prosperity. Little thought, though, has been given to the possibility that the values and communication preferences inherent in these technologies may not be universal. In fact, the consequences of new communication technologies could be a homogenous “McWorld” (Barber, 1992). The alternative to such global homogeneity is what Barber refers to as “Jihad”² – the reaction that occurs when diverse cultures try to preserve their identity. However, the apparent dilemma between Jihad and McWorld may not be so intractable (Ess, 2000). Indeed, there are examples that demonstrate points between Barber’s dichotomy.

Another contribution to the weakening of both economic and cultural diversity in the epoch of transition into the 21st century is the dual processes of discontinuity and rapid change. Even the most basic of human activities have lost much of their idiosyncratic individuality as these activities, of necessity, conform to standard protocols and operating procedures. On the other hand, Leontiev’s (1978) activity theory, extended from Vygotsky’s psychology (1978), takes a much broader view of human

¹ Vernadsky foresaw these processes and their product in a holistic manner. He introduced the term *noosphere* in 1943, in his book *Scientific Thought as a Planetary Phenomenon*.

² “Jihad”, an Arabic word, means struggling or striving. In the West, especially in the media, “Jihad” is generally translated inaccurately as “holy war”.

phenomenon. Activity theory sees humans as being the product of cultural and social forces, emphasising the role of the interaction with the society in which we live. Applying this theory to the e-business field, a commercial activity is not just an exchange of goods or services, but a rich interaction with other social elements engaged in the process, and the environment in which the e-exchange happens. Humans are not just a collection of cognitive processes but they embrace a “complex interaction of activities, motives, actions, goals, operations and tasks in a hierarchical arrangement” in the process of living (Verenikina and Gould, 1997). These aspects are not usually addressed directly in functional specifications of an e-commerce environment³, but can have a crucial impact on the success of its utilisation (Hanisch , 2001).

Activity theory is particularly important to converging field of HCI, e-commerce and culture as it provides a paradigm for the description and understanding of the way humans interact with computers within the context of the user’s environment. Computers are distinct in their impact on humans in that they appear to exhibit peculiarities of both a physical tool directed at external activity and a psychological tool directed at internal activity. Activity theory examines the relationship between internal and external activity. It treats the two types of tools similarly, both as means of satisfying real needs and achieving corresponding goals. Among the issues in activity theory is the relationship between computer tools and cultural influences; that is, a successful system in one social setting can be completely inappropriate and ineffective in another (Kaptelinin, 1992; Hanisch et al., 2001). Surprisingly little research has been carried out to evaluate the effect of global e-commerce on indigenous and local cultures. The current environments, metaphors and processes of Internet commerce have perhaps the most potential to adversely impact on cultural identities. While new technologies are capable of creating and archiving user and product profiles, developers and researchers in the field are only beginning to consider how cultural profiles can assist in the global marketplace.

In this paper, we discuss one example of how computers are embedded in our everyday environment. We present a culturally specific framework for e-commerce and provide an example of its application – the development of a “bazaar” model for on-line shopping .We explore the application of this metaphor and its possible implementation as a 3D marketplace in e-commerce systems. Finally we discuss the efficacy of culturally diverse e-marketplaces for maintaining the integrity of languages and cultures along with global economic communities.

2. BUSINESS TO CONSUMER (B2C) MODELS

There is a divergence in the classification of the major models in e-commerce (Westland and Clark, 1999). The focus of this paper is on the direct B2C model. This business model has intensified the competition for customer attention in the marketplace while largely ignoring the cultural and linguistic divergence among customers and business environments in different parts of the world. The lack of cultural and linguistic integrity in direct B2C models could be one of the reasons why B2C e-commerce is lagging behind B2B (business to business) e-commerce.

Perhaps the most popular and visible B2C model on the Internet is the *Web-Mart* (or digital storefront). The model is a result of the creative merger of two shopping metaphors: the mail-order (catalogue) business and the shopping mall/supermarket. Variations across Web-Marts are very small and where they do occur they are mainly in the layout. Consistent with its composite counterpart, Web-Marts feature links to browse catalogue items and to view the contents of the shopping cart as items are placed in. Similar to the procedure in the physical supermarket, the virtual shopping cart metaphor allows customers to accumulate and store lists of items they wish to buy. The underlying technology that supports this metaphor is a database of catalogue information. The database is interfaced with web stylesheets and the product catalogue on the merchant server supplies the information that is displayed when the product is retrieved. The database that is used is a collection of product specifications, availability, shipping information, stock levels, on-order information and other data. The shopping cart technology is sometimes enhanced with a facility for “chatting” (talking online) with a shop assistant.

Amazon.com, with its range of products that include books, videos, music, CDs, DVDs, electronic cards, consumer electronics and toys, remains the most widely recognised example of a database-driven Web-Mart. The online catalogue handles millions of product offerings, providing data analysis of sales

³ For example, the aesthetics, comfort and cultural reflections of the environment space.

histories, product reviews, in-depth descriptions and cross-references, to guide customers according to some expectation about individual interests. Personalisation is a major marketing strategy of Amazon.com. This feature suggests that the database keeps a record of all previous transactions, including items purchased, shipping and credit-card information. Combined with information from the customer database, it builds a user profile “on the fly”. Based on previous purchases and cross-referencing with customers who bought similar products, it presents a list of recommended titles to the customer. But it is difficult, if almost impossible, to establish contact with a physical person behind the fabulous walls of the Web-Marts.

The auction is another metaphor that provided a successful model for the e-business environment. With this model, information about the prices of a large number of potential buyers in the market for a particular product can be obtained at a relatively low cost. The auction model provides some assurance in effective matching of buyers and sellers. Vickrey’s (1961) four auction models established the de facto standard for the auctions of consumer goods in B2C e-commerce. eBay.com, the company which was a pioneer in Web-based auctions, attempted to bring in ideas from networked communities to e-commerce. There are also two additional operations compared with the Web-Mart: (i) announcing the product, and (ii) bidding for a product. The attractiveness of e-auctions is that the customer is not only a buyer – the customer is able to offer his/her own goods for sale. Second generation e-commerce sites, therefore, combine both Web-Mart and auction models.

Although the e-commerce models described have some variations on the Internet, the look, feel and functionality of the e-commerce sites are very similar. More importantly, the perceived advantages of these types of e-commerce sites are convenience and lower prices. Consequently, there has been an expectation that online merchants will slowly overtake physical shopping malls. However, even the most ardent fans of cyberspace agree that present Web commerce cannot replace the variety of emotion, social and cultural experience of shopping in the hustle and bustle of the physical world. The supermarket-type metaphor and its associated functionality correspond to Western lifestyle and shopping habits and thus continue to foster a homogenous McWorld. One of the reasons for the cultural flatness of e-commerce is “bandwidth colonialism” (Cuckier, 1999), or US dominance. The structure of the Internet and bandwidth costs give the US an overwhelming advantage for dominating global e-commerce. The dominant Western culture is certainly evident in the models discussed, which have basically eliminated the notion of the “marketplace”. Westland and Clark (1999) refer to this phenomenon as a “placeless marketplace that we call a *marketspace* – one that is nowhere yet everywhere”. The success of such models in many countries, where shopping traditionally includes a social element along with bargaining and negotiations, is tenuous. The authors’ experiences in Turkey, for example, demonstrated that the social element is an essential part of a commercial transaction. The pre-purchase activities vary from a few minutes talk over a cup of tea (*çay*) to a half-day excursion to show the cultural history of the product. In the next section we present a framework for the development of e-commerce environments that can preserve cultural integrity in online shopping.

3. A CULTURALLY SENSITIVE E-COMMERCE FRAMEWORK

We propose that a major step in embracing cultural diversity in e-commerce is to design e-commerce environments that have cultural and social meaning, using metaphors to which customers can relate. The four key components of the proposed e-commerce framework, which relates cultural aspects to other e-commerce elements, are shown in Figure 1. There must be *economic appeal* for the consumer and the business. For the consumer, e-buying as yet shows little evidence of lower prices due to lower overheads. For the business, a global representation of its products or services is crucial to maximise its impact. The Web provides an effective global environment for such representation. Too often, though, a business expands from serving a local community to a global community with minimal investment in gathering knowledge about the needs of disparate cultures. To have *cultural appeal*, an e-commerce site must localise the content for each culture. Localisation is “more than simply translating Web content; the content must be presented to suit each country’s culture” (Mendez, 2001) and draw on local expertise to address individually the potential customers in each country. Consequently, this will be reflected in different, culturally adaptable HCI designs. Businesses embraces e-commerce with a desire to leverage new markets. However, no matter how economically and culturally appealing a website may be, it must also meet standards of *usability*. “In the world of the web, nothing is quite what it seems” – the cute graphic representation of a product may or may not be a link and the user can waste considerable time

playing “find the button” (Bickford, 1998). Lower prices, improved interface design and cultural appeal will, in time, change consumer’s *attitude towards e-commerce*.

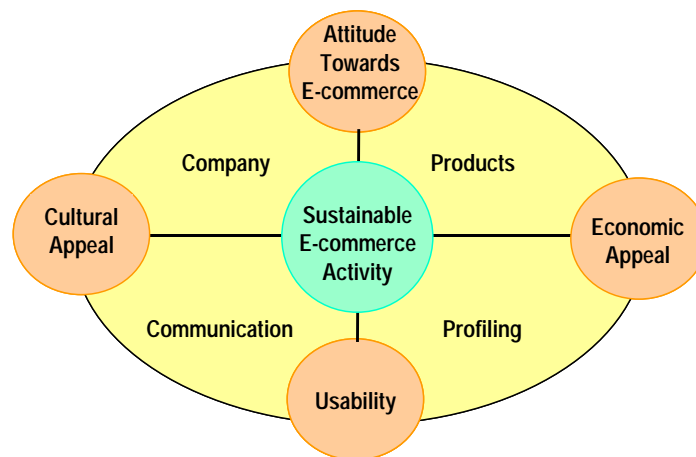


Figure 1: An e-commerce framework, which can accommodate cultural specifics.

These four key components must be consistent with product integrity, a strong organisational culture, communication that facilitates frequent and personalised seller-buyer interactions, and ongoing profiling of consumers. E-commerce sites, therefore, can provide “zones” for customers who are unified by common resource needs and cultural mores.

4. THE BAZAAR

The example of a culturally sensitive e-commerce environment we present here is based on the “bazaar” metaphor. For Islamic countries, the most common mode of shopping is the bazaar, in which prices are negotiated and transactions are accompanied by specific cultural experiences, emotions, interactions and even changes in attitude. *Economic appeal* and *cultural appeal* are the two principal pillars of the Islamic bazaars, which symbolise their difference from other markets.

The word *bazaar*, originating from the language of Uygur, means marketplace on the Silk Road. The word conjures up images of bustling and prosperous trading activities. In the marketplace, all types of fine items are carefully selected to cater for the need and taste of different customers. Two famous bazaars illustrate the atmosphere and power that could be infused into an online metaphor. The *Kapalı Çarşı* (‘Covered Market’ or Grand Bazaar) in Istanbul, Turkey, houses thousands of shops and stalls where merchants display a variety of goods. The arcades and halls are covered with arches to form a series of covered streets leading to a central avenue. Consisting of more than 4,000 shops, the Grand Bazaar is not simply a complex of buildings but a city covered by hemispheric domes. The *Souq al-Hamadiyyeh* Bazaar in Damascus, Syria, is the city’s main market. It features long streets covered with high canopies. The shops are narrow, filled with goods of every kind. As in the Grand Bazaar in Istanbul, each type of product has a street or part of a street and is known by the product name. Both bazaars offer a unique spatial arrangement style, substantially different from the common supermarket theme. We view such style as a significant cultural aspect, that needs to be taken in account during the design of the e-commerce environment. Another notable way in which a bazaar differs from a supermarket as a marketplace is price flexibility. The prices for each product in a bazaar depends on a variety of factors, including the season (peak or off-peak), the bargaining experience of the seller, the tenacity and culture of the buyer, and the manner in which the buyer handles the preliminary social etiquette.

5. TECHNOLOGICAL SUPPORT FOR THE E-COMMERCE BAZAAR METAPHOR

We envisage that a *bazaar universe*, where each bazaar place is represented as a separate world, with its own unique design would appeal to cultures, to whom the marketplace is a rich economical and social interactive environment. Virtual worlds have the potential to provide commercial environments that transcend time and space, and offer fairly rich interaction. Unlike the 2D desktop interface, 3D interfaces can create an experience of immersion. Under the right circumstances, users are able to mentally project

themselves into a virtual space. The development of virtual worlds is inherently about creating places that mimic the physical world, but not necessarily restricted by 3D geometry. This gives the person a feeling of being at some place, even though they have not physically moved from their home or office.

Possible underlying technologies for the bazaar universe are Active Worlds⁴ and Adobe Atmosphere⁵ - 3D virtual world environments that offer the means to design virtual marketplaces. Both technologies offer immersive environments with human and agent embodiment in the form of avatars (Çapin, 1999), which provide a rich means for navigation, community support, and communication within the marketplace (Figure 2). These environments link entities within the world with objects on the Web, allowing a seamless integration with Web-based e-commerce technologies for transactions.



A. Building a site in Active Worlds



B. A Western style retail setting with a live salesperson (adapted from DigitalSpace Corp⁶. designs).

Figure 2: Virtual worlds for market places.

The implementation of the bazaar marketplace considers the design of the space, the avatars corresponding to the specific cultures, the interaction messages in a local language, and intelligent agent support including mediators, guides through the marketplace and conversational agents who provide gestures and facial displays that coherent with the cultural style and the language(s) spoken at the marketplace (see Cassell (2000) for more details). Within the bazaar universe, there are spaces for different types of goods – for example a “gold room”, a “carpet room”, and so forth. Waiting at the entrance of each space are conversational agents, represented as avatars. These agent-avatars are the counterparts of the shop assistant in the shopping mall. The avatars’ behaviours correspond to particular cultures. Non-verbal behaviour, in particular, is highly culturally specific and constitutes 60% of interactive messages. Transactions are carried out by negotiating prices with avatars.

6. CONCLUSIONS AND FUTURE WORK

We have presented a framework for supporting culturally diverse e-commerce marketplace development, and discussed the underlying technologies for its development and some possible scenarios. Once the marketplace is developed, research will focus on investigating cultural diversity in online shopping styles. Using culturally specific shopping bots, customer profiling can be developed. Designing the environment in a way that it supports data mining bots, equipped with algorithms oriented towards analysing data from collaborative virtual environments (Biuk-Aghai and Simoff, 2001), has a great potential for finding different patterns of behaviour for building personal profiles in such markets. A personal profile may include information about negotiation skills, level of risk taking, the ratio between an initial offer and the settlement price, the ratio between social vs business communication.

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⁴ <http://www.activeworlds.com>.

⁵ <http://www.adobe.com>.

⁶ <http://www.digitalspace.com>.

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