Modeling the Socio-Cognitive Process of Cultural Recontextualization in E-business Web Design

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Abstract-This paper contributes to the current knowledge about cultural representation in e-business web design by investigating Amazon and Taobao, two leading e-business platforms based in America and China respectively. It is revealed that the forms of cultural representation in the two web sites include categorization, projection and framing. There are some distinctive variations between the two webs in all the three forms. This difference can be captured by a recontextualizing model proposed in this paper by drawing on Bernstein’s sociolinguistic theory. In this light, I find that the recontextualizing process is mediated by the ideologies held by the designers. In conclusion, further exploration in the web designers’ ideology work is still in need.

Keywords- Cultural Recontextualization; Web Design; Ideology

I. INTRODUCTION

Over the past few decades, the e-business boom has taken off in the wake of information technology revolution. Despite its recency as a new commercial practice, e-business is building up its momentum in economy across the globe. Online business platforms are now capable of supporting most business activities such as advertising business information, negotiating business deals, concluding business transactions; and so on. The impact of e-business can now even be noticed in developing countries such as Afghan, where sources of economic and business information are found to primarily rely on electronic media -- the Internet (32%) and television (26%) (CIPE’s Afghanistan Business Survey 2010). E-business has on the one hand been acclaimed for its low cost in transaction, high efficiency in management, and unlimited scope in market expansion. On the other hand, e-business is welcomed particularly by young consumers for the convenience of communication between consumers and dealers, the wide selection of products available, and the possibility of personalized services. However, there is no likelihood that the perceived advantages of e-business will replace the variety of emotional, social and cultural experience that has traditionally been enjoyed in physical shopping malls. Therefore, it is still advised that the provision of e-business service should reflect the dominant political, legal, economic and social values of the target consumers [1].

In the process of handling online e-business transactions, the e-business webpage is the first and probably the only interface for the customer to access the service provider. Therefore, how to make the interface culturally attractive has been a major concern for e-business dealers. Cultural adaptation is considered an essential strategy in e-business Web design [2-4]. There has emerged a new research area known as “Information Architecture” [5], which aims to address what and how cultural information shall be incorporated into e-business web pages [1, 6, 7, 8, 9]. So far, studies have tried to document the users’ diverse cultural expectation and communicative styles [10, 11]. Models and frameworks have been proposed to support web designers in practice [12, 13]. Empirical research has also confirmed that there is an accommodative orientation in real e-business web pages [14]. E-business webs often vary their cultural configuration in different cultural contexts [15-18]. For example, a study of some Japanese multinational corporations shows that the same Japanese firms often localize their on-line creative strategies to the target market [19]. This indicates that e-business web design is not only a matter of technology but also a matter of business strategy.

From the existent literature, I can find that current research is mostly framed within an inter- or cross-cultural business context. The strategies of localization and standardization have been mostly discussed [3, 20] to resolve the conflicting cultural values in e-business. However, little attention has been paid to the manipulative strategies in dealing with intra-cultural differences. Many e-business web sites are found to be jeopardized by irrelevant information, cognitive load, and disorientation [8]. The objective of this study is to explore how the different cultural information is processed and represented in e-business webpages from an intra-cultural perspective.

II. LITERATURE REVIEW

A. E-business Web Design

Maintaining the credibility of e-business web pages has been identified as a major concern for e-business dealers [21-23]. Research of e-business indicates that the quality of its web pages can have a strong impact on its market performance [9]. The crux of designing e-business web pages is to create positive cognitive and sensory experiences for the web page browsers [24]. Theoretical models have been proposed to capture how web design influences the e-consumers’ salient beliefs about e-commerce and consequently changes the e-consumer’s purchase attitude and behaviour [25]. E-business researchers have
tried to determine the positive elements of an e-business webpage [26]. For example, Reference [27] finds that the major determinants of e-trust and e-loyalty include page loading speed, business content, navigation efficiency, security, and marketing/customer focus. Similarly, Reference [28] identifies two major categories, one is the contents of an e-business webpage, including both business and non-business information, and the other one is the presentative style of the web page.

However, so far no consensus has been reached on the components and configuration of an effective e-business web page [29-35]. Varied or even contradictory reports are not scant in literature. For example, despite the general recognition of web sites’ significance in e-business, in a study based on young online consumers [36], it is found that there is no insignificant relationship between web design and online purchasing behaviour. This contradiction implies that e-business web pages are culture-bound [1, 4] or personalized [37] objects.

B. Culture and Web Design

The boom of e-business entices people to assume that a “one-world culture” will be established as the basis for the global standardization of business practice [38]. This, however, has turned out to be a mere illusion. Cultural variation in e-business is no less evident than in the traditional mode of doing business [11]. Consumers often differ in their perceived values of the functions or features of e-business web pages [39].

1) Cultural Preference of E-consumers

Culture in e-business has not been rigorously defined. It is generally conceived in literature as the way e-business is conducted and the values and attitudes that are shared in the process of doing e-business [40]. Within the intercultural paradigm of e-business research, efforts have been made to compare the evaluative attitudes of e-consumers from different cultural communities [3, 4, 41, 42, 43]. For example, in order to investigate how elements of web pages can impinge on consumers’ web site trust, web site satisfaction, and e-loyalty in online business relationships, Cyr has recruited research participants from Canada, the U.S., Germany, India, and Japan [15, 44, 45, 46, 47].

The results of the comparative studies indicate that the cultural preference of e-consumers differ widely. For example, Reference [48] finds that consumers exhibit a greater concern over security and privacy than information content and web design. However, another report from a similar study [44] suggests that transaction security is not as significant a factor as assumed for consumers. E-consumers often have differing values towards the same design features such as colors and navigation tools [17].

The inconsistence of cultural preference poses a practical challenge to web designers. They have to make a strategic choice on what cultural information to incorporate.

2) Strategies in Cultural Adaptation

The literature on intercultural communication suggests that people may respond to cultural differences either divergently or convergently [49]. In this vein, web designers can adopt a strategy of either standardization or localization [20]. Research shows that web sites are generally more inclined to adopt the standardization strategy except with consumer brand web sites [50], while localization strategy is found to apply better to culture-bound products [1]. Design strategies can also vary according to the target cultural context. For example, in a high-context culture like China, consumers prefer culturally adapted websites [42], while in a low context culture like USA, standardization is more common [51].

However, web design is not merely a choice of cultural values. The actualization of a cultural value calls for various techniques to select, integrate and represent cultural objects. For example, in a standardization approach, web pages may incorporate more factual information by appealing to rationality, while a localization approach tends to evoke emotional reaction by resorting to visual or aesthetic designs [7]. One simple feature of the web design can carry significant cultural meaning and business consequence. In an experimental test of three website colour treatments across three culturally distinct viewer groups, variation is observed among their trust, satisfaction, and e-loyalty in relation to the design [15].

As Reference [1] points out, e-business web sites “neither eliminate cultural differences nor are they culture-free products”. The designers have to decide on what and how cultural information is to be represented in the web sites. This is a field of research much more complex and dynamic than what existent cross-cultural theories can address. This paper intends to contribute my knowledge to this field based on an exploratory study.

III. METHOD

This research conducts an exploratory qualitative study of two web sites, aiming to capture the mechanism of the cultural manipulative process in web design. Two research questions are addressed:

1. What cultural meanings are manipulated in e-book web pages?
2. How can the cultural representation in web design be modelled socio-cognitively?

The two cases for this study are the e-book websites of Amazon (its English version) and Taobao. The reasons for choosing
the two websites are three-fold. Firstly, they are both leading e-book traders in America and China respectively. They serve as models for other e-business traders. Secondly, they are selected for the sake of cross-case analysis [52]. As we know, cultural meaning, which this study focuses on, is the subjective construal of given social practices and products. The construing process is constrained by the cultural background of the researcher. In order to contain the subjectivity of cultural construal, the researcher chooses two web sites, i.e. Amazon and Taobao, as comparative data for cross-case analysis. Thirdly, book business has been a rapidly growing sector in e-business. It is assumed that this study can provide insight into cultural representation in designing relevant e-business web pages.

The data for this study are the web pages of Amazon and Taobao e-book accessed and extracted on February 8, 2013. Given the complexity of these two web sites, my analysis mainly focuses on their home pages. One webpage from each subsection is also sampled as supplementary data. In this way, around 60 pages from each web site are included in the analysis. The design features that have been canvassed consist of the navigation structure, the page layout, images, contents, graphic design and so on.

By drawing on the socio-psychology [53] and socio-cultural theory [54], this study construes cultural representation in web design in relation to three socio-cognitive strategies: categorization, projection and framing. The process of interpreting cultural meaning is iterative, nonlinear and holistic [52]. A socio-cognitive model of cultural representation is formulated in the grounded theory method [55].

IV. FORMS OF CULTURAL REPRESENTATION

A. Categorization

Just like regular web sites, the webpages of Tabao and Amazon are framed into sections, each of which contains texts, pictures, hyperlinks, flashes, etc. However, the categories presented in Amazon and Taobao’s ebook web pages are different and imbued with some unique cultural information. One interesting instance is the categorization of their navigation menus in the homepage. The Amazon menu consists of 8 categories (see Fig. 1). Among them, Advanced Search and Browse Subjects are the searching tools. New Releases, Best Sellers and The New York Times® Best Sellers offer some references for book selection, while Children’s Books and Textbooks provide immediate access for two groups of consumers.

![Fig. 1 Homepage of Amazon book website](image_url)
The navigation menu of Taobao ebook is composed of categories totally different from that of Amazon. As is shown in Fig. 2, First Page is a section similar to About Us in function; Daily Discount Offer provides some discounted e-books; Theme Parks, Ocean-size Stack Rooms and Readers’ Towns offers three search criteria: theme, collection and reader; Taobao Reader Client gives a download service for e-book readers.

Their different categories are revealing some significant business cultures about these two sites [56]. For example, a common promotional intention for business is shared between Amazon and Taobao, as a glorifying effect can be discerned from most of their navigation categories.

However, the promotional intention is achieved differently in the two web sites. Amazon’s navigation menu seems to be more concerned with objectivity in information while Taobao with subjective experience of the consumers. For example, Amazon puts Advanced Search and Browse Search in the initial position of the menu. Some accesses to authoritative information are also provided (New Releases, Best Sellers, The New York Times® Best Sellers) for reference. The home page of Taobao ebook, however, represents the web site as a cozy space in which audiences can find hosts (About Us), activities (Theme Parks and free offers), tool (reader client software) and private rooms (stack Room and Readers’ Town).

From the comparison, I can see that the navigation categories have respectively incorporated the cultural orientations of the target consumers. Amazon displays a typical American task orientation [57] by providing searching facilities, while Taobao manifests a relation orientation [58] by creating a space conducive to interpersonal trust.

B. Projection

Projection refers to the content or information a web page selectively presents. Since Taobao and Amazon are both online book dealers, book information is what they mainly include in their webpages. For this study, the author randomly selected one book from each web site (see Fig. 3 and Fig. 4) to compare the mode of projection. It is found that each book is presented with a condensed and a comprehensive view. The following is the condensed view of the two books after I enter the business section from their homepage menus:
As can be seen, their designs are essentially identical, both providing pictures of the book cover, the book title, the author, the price or discount information and the customer’s feedback. But minute differences can also be discerned. Firstly, the title of the book is projected to the top in Amazon while price is prioritized in Taobao. Secondly, only Taobao offers the monthly sale volume of the book. This difference can be interpreted as their different promotional strategies. Taobao appears to resort to economic rationality by revealing the sale volume and offering the exceptionally low price (¥4.00=$0.64) while Amazon seems to lay more emphasis on information about the actual products in issue.

With the comprehensive view of the projected commodity, more difference in design can be seen. For example, the author of the book is bracketed in Taobao while Amazon sets aside a large space to introduce the author as well as the synopsis of the book. Taobao includes the publisher’s information and offers and buttons for trial reading, buying and saving in the shopping cart while Amazon simply offers further information about the prices. This difference can be characterized as an engagement vs. autonomy contrast between their business cultures. This contrast is again indicative of their differences in cultural values.
The employment of multimodal medium means is another important feature of cultural projection. This is best manifested in the middle area of both homepages. On Amazon’s, there are a list of links to bargain books, Spotlight Pick, Editors’ pick and Best Sellers (see Fig. 7). On the corresponding position of Taobao’s web page, we can instead find flashes with pictures, cartoons, book covers and advertising lines (see Fig. 8).
As we can see, Amazon makes use of explicit textual devices such as the numerical analysis (save up to 40%) while Taobao approaches it indirectly by arousing emotional or aesthetic response (such as the advertising line “best seller, cheapest, best read” and some cartoon pictures). Amazon tries to provide significant factual information while Taobao tries to stimulate readers’ sensational interests. This is another reificative evidence of task and relation orientation in cultural projection.

C. Framing

Framing is the mechanism and principles the components of a web page are structured. It is concerned with the styling of web sites, i.e. how the web page layout, texts, colors, pictures, graphics and fonts are put together. In terms of layout, the body of Amazon webpage utilizes a two-column layout, while Taobao has a long page that consists of several sections, framed into a very complex layout (see Fig. 1 and 2).

Besides the overall structural differences, they also differ in their component sections. For example, both web sites have a left-column navigations sector. In Amazon, the categories consist of names of some academic disciplines displayed in an alphabetical order, whereas Taobao frames the categories into topic groups. This can be interpreted as their different thinking styles. Amazon is consistent with the analytical thinking prevailing in the US while Taobao is characteristic of Chinese holistic thinking.

![Fig. 9 Structured categories in Amazon and Taobao web sites](image)

From the comparison of Amazon and Taobao, we can see that the mediating function of culture is prevalent in all the cultural specified strategies of categorization, representation and structuration. Cultural difference is an intervening factor that accounts for their varying designs of web pages. Web design can be conceived as a form of cultural reproduction in which varying social, moral or aesthetic values and acts are integrated and reconstructed.

V. CULTURAL RECONTEXTUALIZATION IN WEB DESIGN

The analysis of e-business interface platforms like Amazon and Taobao is premised on an assumption that their main objective is to promote and facilitate e-business activities and their web pages are one significant means to achieve such a purpose. The design of e-business websites is a cultural practice and their difference in design can be accounted for by
referring to their cultural constraints.

The case study of cultural representation in Section IV indicates that various cultural elements can be incorporated into the design of web pages through categorization, projection and framing. The different shapes the two websites take are largely due to their different cultural constraints. The factors impinging on ebook business include their cultural orientations (task vs. relation), business practices (engagement vs. autonomy) and the thinking mode (analytical vs holistic). Their interaction and transformation account for the dynamism of web design. In the light of a sociolinguistic theory of language codes [59], this paper proposes a model-theoretic account of e-business web design as in Fig. 10. The thrust of the model is that web design is a process of recontextualizing the ideologically biased knowledge about relevant e-business practice and cultural orientation. The following section will elaborate how recontextualization works with reference to the forms of cultural representation in Amazon and Taobao.

![Fig. 10 Recontextualizing model in e-business web design](Image)

E-business websites are the conjuncture where technology reifies the interaction between business and culture, or two ‘codes’, in Bernstein’s terminology [60]. When they enter into e-business platform, they will undergo a process of recontextualization, which is, in my analysis, elaborated into categorization, projection and framing (see Fig. 10). This process is contingent on the relative power of the prevailing ideologies in the e-business community. “Every time a discourse moves from one position to another, there is a space in which ideology can play” (p.47) [61]. Therefore, construing the framing ideology is a milestone step in understanding the design of e-business interface.

Ideology is intrinsic to social practice and can be managed either consciously or unconsciously. For the purpose of research, it can be captured by critically examining the agents, activities and contexts that are involved. In this study, it is revealed that both Amazon and Taobao’s ebook web pages are driven by a commercial interest, which is blended with the cultural orientations of the target consumers. However, the different cultural values can have varying ideological powers in different design acts. Business culture seems to be more relevant with the projection of commodity information while categorization and framing are driven more by the general cultural orientation.

VI. CONCLUSION

Since the Internet has broken down the spatial barriers of communication, the range of potential users has been greatly extended. This stimulates more and more industry sectors to engage in e-business. This necessitates an online platform for customer-to-business engagement and communication. When designing such a platform, we shall pay particular attention to cultural factors, for the customer’s satisfaction with the virtual platform still largely depends on prevalent cultural values. Moreover, it has become a normal state for users of the Internet to engage in intercultural communication. Thus, capturing world-wide cultures becomes a critical issue in web design. The key issue is to acknowledge and incorporate demographic and cultural diversity.

This paper investigated how cultural information can be incorporated into e-business web design. Through a case analysis of Amazon and Taobao’s ebook webpages, it is revealed that e-business web design needs not only to address the difference between business and general cultural orientations, but also to construe how the cultural information is reified in the web page components. By elucidating the components of the two web sites, it is found that the cultural information is represented through categorization, projection and framing. All these are recontextualizing processes that are constrained by the relevant ideological power of cultural contents. The recontextualizing model proposed by drawing on Bernstein’s sociolinguistic theory can enable us to more fully capture the process of cultural reification. With this model, we can conclude that web design shall not only pay attention to the diverse cultural sources but also to the designers’ ideology work.

This research differs from previous studies in that it focuses on the dynamic nature of culture representation in web design. The recontextualizing model proposed in this study points to the socio-cognitive mechanism of web design. In this light,
designers shall not only have a good knowledge about business, Internet platform and the other relevant cultural information, but also manage the recontextualizing process. The latter involves both information processing and ideology work. This implies that web design does not mean a technical job but also an activity of cultural reification. Web designers shall bridge the gap between culture and the technical work and work as ideological manipulators. In this vein, it is essential for web designers to be critically aware of their implicit ideologies in case they may penetrate into their work. Currently, culturally inappropriate e-business web sites are still common. Research has showed that inappropriate design may not only pose difficulty for users but also undermine users’ trust on e-business practice [62]. This can cause a serious consequence for e-business, as the quality of e-business webs is highly correlated with the business performance [9]. Therefore, further understanding of cultural representation in e-business web design is an urgent demand for web designers. For this, they shall have a liberal mind ready to embrace different cultures and be able to overcome their own ideological constraints. It is expected that more academic attention will be paid to the web designers’ ideological orientation. This may constitute a new field for further academic research in web design.

REFERENCES


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