

# A Conceptual Framework for Designing Localized Business Websites

Ali Al-Badi  
Sultan Qaboos University  
Al-Khoud, Sultanate of Oman

Syed Naqvi  
Sultan Qaboos University  
Al-Khoud, Sultanate of Oman

## Abstract

The global nature of the Web and the differences among cultures across the globe dictate the way content should be presented and adapted. Therefore, there is no way to have a perfect single design for all possible users. Some user interface elements such as certain graphics and images may offend one group of users on cultural or religious groups. Naturally, it is important not to offend users but rather to use culturally neutral graphics representations or metaphors. Moreover the business websites need to consider the specific linguistic preferences acceptable to target customers.

Hence, it is not enough to be multilingual; international websites have to be multicultural. While websites localization might add additional cost/burden on the maintenance budget of a commercial company, it will ensure websites usability, flow and acceptability for the intended users, which may attract these websites surfers to loyal customers.

This paper presents a conceptual framework and a set of recommendations for those user interface designers designing for international customers to help them create appropriate localized websites incorporating the local cultural norms.

**Key words:** Websites, Local culture, Localized business websites, Globalization, Internationalization, web users and customers

## Introduction

The use of computers originated primarily in the United Kingdom (e.g. LEO, ENIAC and Cray precursor). However, America has become arguably more successful in adopting, advancing and marketing the computer related products especially the computer software and hardware. Software was therefore developed in American English, which has a slight variation from UK English. It has different spellings for certain words, different idioms and sometimes different words for the same objects e.g. “trash can” for “rubbish bin”. Therefore understanding American English is the first hurdle that must be overcome for a computer/Internet user whose mother tongue is not English, that is, Arabic, German, Chinese, French, Russian, and Urdu for example. Not only is the language slightly different, but North American cultural influences have also spread throughout the world by the use of different software and web technology.

In fact, some of these cultures consider that the American culture can lack moral values and in some cases is offending their traditions and religious values. Therefore, localization (L10N)<sup>1</sup> is becoming increasingly important. It is preferable to preserve the culture of different societies, that is, to localize websites for different indigenous cultures. A single version of the website if used in all cultures (one size fits all) may lead to a user dissatisfaction. The users of such website may receive disturbing messages or perform counter-intuitive tasks, even though the website is not meant to be offensive. Another way to accommodate the cultural diversity of users is to adopt internationalization (I18N)<sup>2</sup>, which means to strip a product/ a website of all cultural contexts. However the later approach is less likely to create a successful website. The design would have to be extremely unattractive and bland. It would also prevent the designers from accommodating local specifics such as currency and date format and the users would not return to such a site.

In order to localise to a particular market, designers need to know about its preferences, likes and dislikes, so they can provide cultural metaphors<sup>3</sup>, and real world representation of the user interface objects, and eliminate any culturally offensive material.

The importance of cultural effect on perception of the content of a website has been discussed in the literature. The interface design is the most important element that the users see and interact with. Previous work by Evers and Day [Evers and Day, 1997] (based on the Technology Acceptance Model after [Davis, 1993]) has indicated that the culture does indeed influence interface acceptance.

Issues like colors, graphics, signs and placement of web elements may have different connotations for people in different parts of the world. Audiences may differ in age, educational level, ethnic and religious background. Ideally, the website should be usable by all people, to the greatest extent possible, regardless of location, language, business practices, or cultural issues. For a website to be usable, its contents must correspond to something that is well known to the users. Like some icons that are meaningful in North America may not correspond to the real world of the other countries.

Most studies of websites usability have taken place within North America and to a lesser extent in Western Europe. Hence they need to be broadened to meet the challenge of a global

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1 L10N is the official appellation for the word “Localisation”. The number 10 represents the number of letters found between the “L” and the “N” in the word “Localization”.

2 I18N- Stands for Internationalization (where I and N are separated by 18 characters).

3 In human-computer interface design, elements from the real world are used to represent the virtual world. This is done to help users out through reference to knowledge they already have from their everyday lives.

environment. What is needed is a framework to help designers/developers and/or evaluators to assess the usability of a website. This framework must consider the factors (challenges) that are involved in the process of localizing websites.

Based on the literature and the previous work of professionals in the field, a conceptual framework of the general issues that influence user interface design and usability was formulated. The purpose of which was to explore the international users' expectations of localized website.

For a business website to be successful outside North America, the designers must be aware of the factors that will ensure it is acceptable to the other cultures. This research aims to identify such factors and construct a framework that will help in the design of a culturally acceptable website.

## **Websites Guidelines**

The problems with the present websites are that many companies compete globally with English-only websites; many others require that their websites display in local languages. Leading research firms arrived at various growth rate predictions, but one trend is very clear: non-English speaking Internet audiences today comprise the majority. In 2001 the IDC estimated that by the year 2004, non-English speaking users will make up over 70% of the total online population [International Data Corporation, 2001].

So, the question is: when the site audience is the whole world, how can its content be made accessible to the non-American, non-English-speaking people who have different cultural values and expectations? Does the translation of a website from one language to another solve the problem? Becker and Crespo argued that the basis of support for multicultural websites is quite complex and cannot be viewed as a direct translation of textual content from one language to another [Becker and Crespo, 2001].

In addition to the inadequacy of the translation, it is also a very expensive process. This is because any changes to the home language site will require that related changes are made to the foreign language sites, so that the translation issues never end. It can involve many types of materials, including technical documents, marketing materials, market research, sales information, product literature, price lists, and even competitor information.

Moreover, application server and content management software were initially developed for the monolingual US market and often do not work smoothly with non-English character sets. Such issues are obstacles for international web designers in producing usable localized websites. Therefore, it is not only because translation is expensive and inadequate but also because there are other issues that need to be considered. These relate to culture, real-world experience, language etc. Such realization led to the emergence of the term Websites Globalization, Internationalization and Localization.

## **Websites Globalization, Internationalization and Localization**

### **Globalization**

“A truly globalize website serves every visitor with the same quality experience regardless of location, language, business practices, or cultural issues” [Izar.com, 2002]. The idea of globalization can be visualized as shown in Figure 1.

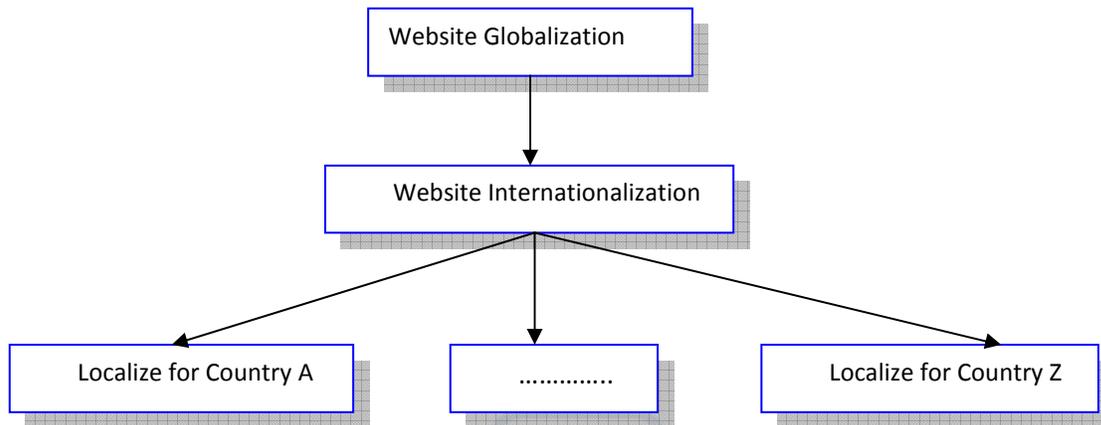


Figure 1: Website Globalization Visualization

Globalization encompasses the whole process of creating a product with versions for users in different countries, from the first specification through adaptation to local markets. However, some software engineers use the term interchangeably with the word “Internationalization” [Hars, 1996]. Today's e-business requires an infrastructure that will accelerate globalization and provide a standard platform that all parties can use to manage and streamline the process [Uniscape, 2002].

### **Internationalization**

According to Nielsen [Nielsen, 1999], Internationalization refers to having a single design that can be used worldwide. It is the process and philosophy of making software/website portable to other locales. For successful localization, products/website must be technically and culturally neutral. Effective Internationalization reduces the time and resources required for localization. In other words, Internationalization abstracts out local details, localization specifies those details for a particular locale.

Although logically it is the first step in the globalization process, internationalization is often done after the company has done a localized version. Internationalization involves designing an e-business framework or web architecture that is culturally neutral. The creation of a linguistic and culturally neutral framework is the first critical step in the globalization process.

Internationalization, then, prepares website and e-commerce applications to function seamlessly across diverse cultural backgrounds and business rules, which can be loaded as needed for appropriate audiences [Uniscape, 2002]. In other words Internationalization is design consistency (the same “look and feel”) across localized websites achieved by extracting language and culturally dependent elements i.e. creating a culturally sensitive website.

### **Localization**

According to Nielsen [Nielsen, 1999], localization refers to making an adapted version of the Internationalized design for a specific locale. Localization involves the process of adapting linguistic and cultural content to specific target audiences in specific “locales.” “Locale” is the name for specific linguistic, cultural and business rules for a given target audience. For example,

the Spanish language in Mexico is different from the Spanish spoken in Spain, and the same conditions apply for the currency and other business rules.

While some may use this term to include the text translation process, it also covers making sure that the graphics, colors, and sound effects are culturally appropriate, and things like dates, calendars, measurement units and monetary notations are in the correct format [Hars, 1996]. In other words Localization is the design for a locale by taking into account language, culture, religion, laws, currency, and text and number formats i.e. creating culturally biased website. Localization includes the translation of the user interface, on-line help and documentation, and ensuring the images and concepts are culturally appropriate and sensitive.

Localizing content for the first time is actually easier than the challenge of keeping it continually updated on an ongoing basis. With the web, content is continually changing, on a weekly, daily or even hourly basis. Often, changes that occur in one language must be rippled across other target languages. This process of constantly changing content must be efficiently managed.

For a website to be successful, the designers must be aware of the factors that will ensure its acceptability to other cultures. A conceptual framework has been proposed that will help in the design of a culturally acceptable localized website.

### Conceptual Framework of localizing Business Websites

This framework covers a large number of factors that need to be considered when localizing a website such as Usability, Computing environment; Country profile, User profile, and Business nature of the websites [Becker, S. A. and Crespo, F., 2001] (see Figure 2). They are described here and are expected to be of great benefit to both the website designers and website owners and ultimately to website users.

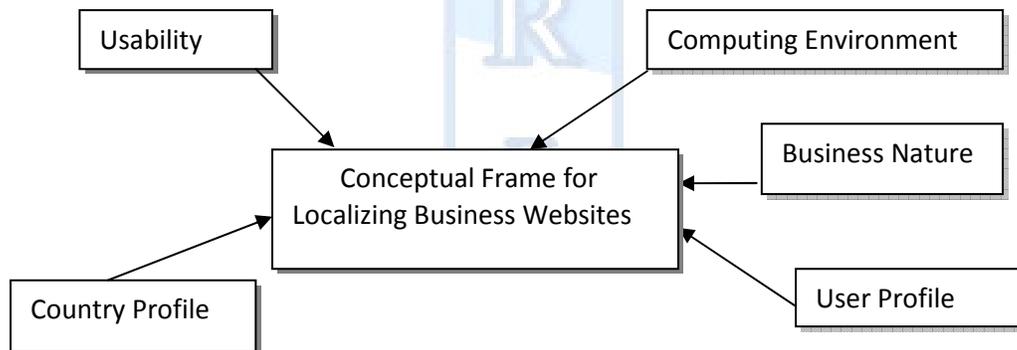


Figure 2: A conceptual Framework for a localizing Business Website

### Usability

Usability refers to the organization of information on the site and the method by which the user is able to move through the sections of websites and effective web use. The information content is according to the local or native language. The security and privacy is the user's major concern when connected to the internet. Many users are also concerned with the performance of

the website. The performance is measured in terms of consumers waiting time and system response time. There is significant global disparity in term of Internet connection speed, and this has an impact on the performance of localized websites.

### **Computing Environment**

The computing environment needs to be understood in terms of potential barriers to web use. The Basic Infrastructure of a country might have influence on the usability of a website, for example, websites that are highly animated may look appealing but may be virtually unusable in those areas of the world where computer technology is not state of the art. In some countries, the reliability of power sources and phone and cable lines is taken for granted. In others, overused utilities result in sporadic power outages thus impacting the reliability of Internet access for many users. The availability and reliability of factors such as credit card possession, transportation, and cyber-laws are crucial to the success of e-commerce websites. The Basic Infrastructure impacts the reliability of the website, which is measured in terms of site crashes, downtime, error messages, and consistent response times. Some computing environment variables may also include monitor size and internet connection speed as most of the broadband users are located in only a small part of the global market [Macklin, 2001]. Other technical factors such as browser type and version, database and operating systems all need to be considered.

### **Country Profile**

The country profile takes into account language, religion, and culture which Khaslavsky [Khaslavsky, 1998] defines as a system of shared meanings that form a framework for problem solving and behavior in everyday life. Meaning is assigned during communication based on the beliefs, values, and attitudes of the collective group.

Data format barriers also need to be overcome, when designing for different cultures. For example, consider the following:

- **Long Date Formats:** Different countries have different formats, not only in terms of different names (i.e. calendar), but also in how to display them.
- **Currency Formats:** Currency symbols and the placement of currency symbols and negative signs differ for different countries.
- **Number Formats:** The character used as the thousands separator, the decimal separator, or digit grouping may differ in different countries.
- **Address Formats:** Address formats differ for various locales. For example, the zip (postal) code may appear in a variety of forms:
- **Phone Number Formats:** Different countries have different formats, not only in terms of the number of digits, but also how they are displayed.
- **User Name Formats:** In the Western culture it is normal to think of a person's name as consisting of first name, last name, and middle initial. In some eastern countries a person may not have a "last name", as the father's name is used as a last name. The first character of the word may be used to represent the last name. This can be a source of confusion when filling in data in a web form.

User Profile

This represents the individual characteristics such as age, gender, education level, ethnic background, and typing and computing skills, etc. Many studies [Zahedi et al., 2001; Gefen, 1997; Zmud, 1979; Hofstede, 1991; Simon, 2001] showed that these attributes might impact the individual preferences and choices.

#### Business Nature

The terms business nature, business strategic goals are taken to indicate the purpose of the website. These include the kind of business activities like medical tracking, information dissemination, entertainment, gaming, education, financial, and sales of goods and services. Generally, the usability of a localized website cannot be judged without an understanding of the business strategic goals of the organization. Each of these strategic goals is targeting a particular user group, and hence a business website should to be customized to meet their specific requirements.

### **Recommendations for Web Designers**

Based on the framework, here are some recommendations for web designers for creating successful localized business websites. These recommendations are as follows:

- **Know the Target Customers:** Understand the target customers their preferences and adopt the framework when developing the websites for a successful outcome. Remember if customers get offended or intimidated once while they are at your website they may not come back again since all the competitors are but a mouse- click away. In addition, an unsatisfied customer may spread the word that this site is poor.
- **Usability/Accessibility Tools/Guidelines:** There are limited use of usability and accessibility tools and guidelines by designers, the use of these aids is now recommended by usability experts and in order to comply with government requirements in many countries for developing an effective localized website.
- **Culturally Usable Websites:** Do not try to design “usable cross-culture” websites, because this approach implies “one-size-fits-all”. This is clearly impossible due to the fact that people’s preferences are different in different countries. The right approach is to create a “culturally usable” website where designers localize websites for each of the target cultures, taking into account all the overt and covert factors that need to be considered when designing for such cultures.
- **Target Users Involvement:** Integrating local users into all the design phases will help to create a website that suits them which is also the designers’ objective. Remember that many people can design websites but not many can design successful ones. This involvement would enable designers to avoid any misunderstanding and would help in making acceptable websites.
- **Design Consistency:** A Design consistency issue is extremely important for creating successful websites. Create an exclusive layout and a style for handling website text and graphics which can then be applied consistently to build rhythm and unity throughout the pages of the website. Repetition is not boring; it gives the website a consistent graphic identity that creates and then reinforces a distinct sense of “look and feel” and makes the website memorable. A consistent approach to layout and navigation allows readers to adapt quickly to the website design and to confidently predict the location of information and navigation controls across the pages.

- Website Periodical Maintenance: there must be a continuous/periodical maintenance of the website to cope with the rapid changes in terms of content and technology surrounded by the local environment.

## Summary and Conclusion

The internet and the global nature of the web and the differences among cultures across the globe dictate the way the web contents should be presented and adapted. Therefore, there is no way to have a perfect single design for all possible users of different cultures. Some users interface elements such as certain graphics and images may offend one group of users on cultural or religious grounds. Naturally, it is important not to offend users but rather to use culturally neutral graphic representations or metaphors. Content localization involves the process of adapting the information according to specific linguistic, cultural and business rules for a given target customers. For a website to be successful, the designers must be aware of the factors that will ensure its acceptability in other cultures. A conceptual framework of localizing websites is proposed, which covers a number of factors that need to be considered when localizing a website such as usability, computing environment, country profile, user profile and business nature of the websites. The researcher believes that localization gives a website the ability to attract its surfers and may convert them to loyal customers.

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