

Guidelines on Website Design and Colour Selection for International Acceptance

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Abstract. Since websites are accessible from all parts of the globe and across many nationalities and cultures, the challenge for designers is how to make them suitable for international use. While it may not be possible to appeal to all users that may access a website, it is possible to maximize its acceptability and effectiveness internationally. This paper describes published guidelines for achieving a certain degree of international and cross-cultural acceptance without necessarily requiring a large amount of work and effort. It also describes a study conducted on colour association with a sample of users from different countries, and how the results might assist designers.

Keywords: website design, international use, cross-cultural use, colour, usability.

1 Introduction

In an increasingly interconnected world, web designers who want their sites to be used within different countries and across cultures need to consider a range of design issues. This is particularly true for commercial organisations hoping to sell products worldwide. This paper reports on published advice for web design to help make websites effective and acceptable internationally. It addresses websites in general as well as aspects specific to e-commerce sites. It also describes a study conducted by the author on the use of colour in websites based on a sample of users from different countries.

2 General Strategy

When devising a strategy for internationalization, it is important to decide whether or not to have multiple foreign web sites and how to manage them. One approach is to set up a single site and to adapt it centrally for different local countries. This helps maintain a consistent brand image across different markets. Companies such as the Dell Inc. have managed in each of its local sites to convey a common brand in selling computers. However mistakes can be made such as linguistic errors in the text used on the site and, for a commercial site, possibly selling products that are inappropriate in certain countries or cultures.

The alternative method is to hire a team to handle the site in the local country. The normally requires the organisation to employ someone in the host country to take responsibility for and to handle enquiries received via it. Such a site is much more likely to meet local requirements but can lead to problems for companies trying to convey a consistent brand message.

3 Language

An important issue is whether an international company or organisation should have its entire websites translated into different languages. There is a strong argument for this as approximately two billion people across the world currently access the web (a figure that will grow rapidly). Although English may be seen as a common language for website content, the language used by most people in the world is Chinese Mandarin, followed by English and Spanish. Only one quarter of the world's population speaks English, the vast majority of which speak it as a second language [1].

While large organisations may consider creating multiple versions of their websites in different languages, this may not be possible for smaller organisations with limited budgets. For a European audience, a compromise might be to offer versions of the site in English, French, German, Spanish and Italian. Another option is for those with limited resources is to consider translating an introductory or 'welcome' page into several of the most important languages that the site is intended for.

Online translation is improving rapidly so that users now have the option to paste sections of the website into a translation package to be able to read the text in their own language. To assist with this, the website may point to an online webpage translation service such as Yahoo Babel Fish. A more convenient method for the user is to add a translation widget to the website such as from Google Translate or Microsoft Live [2]. This allows webpages to be translated dynamically with the user simply selecting the language they require. The conversions are based on machine translation but services are now being provided with the option for the designer to select human translations for sections of text where this has been carried out and the translation stored.

Websites that aim to be accepted internationally should avoid phrases that are colloquialisms or slang only known to the local country. The use of the term 'hardback' and 'paperback' commonly used to distinguish books in English may not have a clear meaning in other European countries. For an e-commerce site the terms 'store', 'aisle' and 'checkout' may be familiar in countries with established supermarkets but may be unclear elsewhere.

Spellings of words such as 'color'/'colour' or 'license'/'licence' differ across countries reflecting the minor but possibly important differences between American and British English. Getting the spelling right for the correct market may be important for some customers and users; see [3].

4 Ensuring Correct Characters

One problem for web designers intending to reach international audiences is the need to handle international character sets. It is thus recommended to design the website using Unicode. UTF-8 is a variable-length character encoding for Unicode that is compatible with over 90 scripts (written languages) and 100,000 characters. Unicode has been adopted by most of the large IT organisations, including Apple, Microsoft, IBM, Oracle, and is compatible with all the common browsers and operating systems. Using UTF-8 ensures that characters can be used from many non-English alphabets and be displayed properly at the user's end [1].

5 Forms

In developing an online form, the likely target audience or market must be kept in mind. The information collected from overseas respondents or customers should be kept separate from domestic information so that they both can be seen in context and handled efficiently.

If the website includes an order form or requires input of address details, then it should be compatible with the formats of international addresses, titles, surnames, telephone numbers, postal/zip codes, etc. Care should be taken as to which fields are made obligatory. 'Province', 'county' or 'state' should not be obligatory fields, for example, as many countries do not use these terms.

Titles for people are important in many countries so forms should include such a field or allow a title to be entered with the name. Forms should allow enough space for complicated street addresses, for a large number of digits for telephone and fax numbers. There should of course be a country field. The postal or zip code field should also be able to handle letters as well as numbers. The surname field should be capable of handling multiple last names [4] (e.g. 'Martha Lane Fox') or hyphenated names ('Chou Wen-chung').

6 Layout and Context

Another issue of importance for international website design are graphic features such as pictures, drawings, and illustrations. If graphics only make sense when read from left to right, then there might be a problem in countries where the population read from right to left. With some graphics, e.g. representing a sequence of actions, this could change their meaning completely. Similarly, organisations should be sensitive to the graphics they use and how they will be received in different countries. International firms should use icons, symbols and design features on their web sites that will not be confusing to others. The popular sign for 'OK' in some countries and in the diving world (the thumb and forefinger brought together in a circle with the other three fingers up in the air) has a derogatory meaning in other parts of the world [4].

Some authors suggest that users in some countries are happy to view a higher density of characters and graphics on webpages. This may be true but web styles in different countries will evolve over time so it is perhaps risky to make generalizations

about the amount of characters that users find acceptable. In general it is preferable to concentrate on a single usable layout rather than artificially enrich a page for a particular country or culture.

Context and culture is also an important topic in website design and its effect on user behavior when using websites [5]. It is widely believed that people from 'high context' cultures are particularly interested in background information on a website such as about the company, the people running it, its business motto, history, place in society, and its relationship to themselves. They are also thought to be more accepting of diverse layouts, imagery and multimedia. In 'low context' cultures it is suggested that the emphasis needs to be on the most important information needed to use the site and how it can be clearly expressed. User preferences may also be for simpler and more minimal layouts [6]. In the author's view, consideration of both levels of cultural context should lead to the development a website that satisfies both viewpoints.

7 Credit Cards and Alternative Payment Mechanisms

While credit cards may be popular in many countries for online payment purposes, they are less popular elsewhere. Some countries may use debit cards more often, cheques, or online payment services such as World Pay or PayPal. In Japan, for example, local 7-Eleven stores are used by consumers to pay for many services including utilities and many other types of bills. The organisation should try and allow for the most popular methods of payment for the audience it is targeting. Possible methods of payment should also be described upfront rather than only being shown after the user has gone through a long process of finding and selecting the items they wish to buy. Also customers in a particular country will be sensitive to having to pay commission on the method of payment that is most popular in that country if other methods are commission free.

If the organisation were targeting consumers in Japan, for example, there is less interest in credit card payment than in other places. Instead the organisation could enter into an agreement with 7 -Eleven for them to accept payment on the firm's behalf and their commission would need to be calculated into the firm's selling price [4]. In addition, the international firm should always offer an alternative way of paying for a purchase such as provide its bank details or suggesting that the customer contact them to discuss alternative payment methods.

8 Responses to Enquiries

Handling emails from visitors is another issue for website management. The organisation might wish to let potential customers know that they can communicate with them in their language of choice. But they will then need to have a translation service on hand locally to translate these e-mails into the local language of the organisation which can be expensive if they are receiving a large number of foreign-language e-mails daily. International organisations need to ensure that any emailed enquiries they are answered and dealt with as quickly as possible. Potential customers

may send enquiries from different time zones and yet will still expect a rapid reply. The organisation may need to set up an auto response service that sends an immediate reply to the enquirer thanking them for the enquiry and informing them that they will receive a full reply within 24 or 48 hours [4]. Having local customer service staff is equally important as having a localized website so that when a user or customer picks up the phone, they are dealing with someone local.

9 Time and Date and Units

Some countries use a 24-hour clock (written, for example, as 13:20 or 13h20), while others use the 12-hour clock (written as 1.20pm). The format should make it clear which one it is using. Indication of local time in the home website company is also important if this affects the time when a response can be provided to a user query or order.

Countries such as the UK write the date as either day/month/year (e.g. 24/06/2011) while others e.g. America format it as year/month/day (written as 2011/06/24). This can be confusing when the date is between 1 and 12 which may be misinterpreted as the month. One way to overcome this is to write the date with the month represented in letters e.g. '24 June 2011' which helps to prevent misunderstandings. However the ISO standard 8601 [7] specifies that the international standard date notation is: YYYY-MM-DD and for time is HH:MM:SS.

For e-commerce websites, different currencies can cause problems and users are often uncomfortable if the cost of an item is shown in, say, pounds sterling, dollars, euros or yen, if this is not their local currency. Pricing of goods and service in a local currency is the most preferred or alternatively providing a currency calculator on its web site. Web sites selling goods also need to make sure that they are kept up to date with the latest prices, tax rates, product specifications or any other information changes, to avoid user frustration. The cost of delivery to the user's local address should also be specified.

In many countries the metric system (metres, grams and litres) is used, but in the US the imperial system (feet and inches, pounds and ounces, gallons and pints) is employed. In the UK, metric is used formally but imperial is often used informally. International firms might consider offering both measures for ease of reference.

10 Use of Colour

Research has shown that particular colours can mean different things in different countries [8] and cultures where a cultural group may be ethnic, religious, social, professional, sports, activity based, etc. The colours used to represent a country, such as those appearing on the flag, can have very significant meaning within that country e.g. the red, white and blue of the Stars and Stripes in the USA, the Union Jack in the UK or the Tricolour of France. Other colours are strongly associated with a country although not components of their flag such as the green and gold of Australia. At another level (both local and internationally) the colours of a football team have strong meanings to their supporters, as reflected in football club websites.

Colours also have a symbolism for people through cultural references. Depending upon the culture, colours can have quite different meanings. They can stimulate an emotional reaction so that in Eastern countries for instance, red is a very positive colour and is worn by brides and evokes happiness and prosperity. In Western countries it has a different connotation and is an indicator of excitement, danger, and passion.

The web designer may wish to stimulate positive reactions or at least avoid negative reaction. For example, while in the West white is the colour of weddings, in the East, it is the colour of mourning so would be inappropriate for a wedding site. [9]. Tables of colour associations (e.g. [10]) for different countries or regions can be useful can be a useful guide for colour selection and importantly for avoiding negative associations.

For some colours, the origins of the symbolism are clear –green’s association with nature, plants, new growth and the environment while the unspoiled colour white represents purity. Also, in general, cool colours such as blue and green tend to be associated with calmness and relaxation, while warm colours such as red and orange often have a more emotional meaning.

Of course the topic or application of the website also influences the choice of colour and can receive fairly wide cultural or international acceptance. So, for instance, blue is often used in banking websites since in Eastern countries as it is seen as an indicator of wealth, while in the West it is a conservative colour traditionally denoting stability and the careful handling of money.

A study was performed of preferences for assigning colours to tabs for logos or ‘favicons’ in a web browser. This found that colour assignment to each tab based on (i) the primary colour of the webpage, (ii) the website logo or favicon, (iii) personal preference and (iv) emotional experience and website expression, were all helpful for creating an efficient performance and pleasant experience for both European and Asian users [11].

Overtime each national or cultural group have developed their own meanings of colours although there can be commonality between traditional cultural meanings for certain colours. The question arises then of how to select a major colour when designing a website for a particular cultural or national group? The following steps might be considered [12]:

1. If there is a specific colour that a region or culture associates with the topic of the website (e.g. blue representing heaven and spirituality, pink indicating trust) then it could be a good choice of colour for that topic.
2. If there is no specific colour that is suitable for the topic, consider the feeling that website is intending to convey (e.g. excitement, creativity, reliability, wealth, trust) and try to choose a colour that stimulates it for that particular region or culture.
3. Avoid choosing a colour that contradicts the topic area of the website or may be likely to evoke a negative reaction in the audience.

It is also helpful to consider the level of sensitivity of the website topic to a specific choice of colour. Table 1 below suggests possible sensitivity levels for certain topics.

Table 1. Potential user sensitivity to website colour for certain topics

Low sensitivity	Medium sensitivity	High sensitivity
Social sites	Business/financial sites	Religious sites
Art/creativity sites	Shopping/holiday sites	Traditions & customs
Music sites	Health/scientific sites	Political sites
News or media sites	Academic sites	Sports fan sites

Thus for a website related to art and creativity, a radical or unexpected choice of main colour may be helpful to make a strong impact and users are likely to be open to this. For business or holiday sites, users are likely to be more sensitive to appropriate choice of colour, while for certain sites (e.g. religious or cultural tradition) the user is likely to be highly sensitive to colour choice.

A small survey was conducted by the author with a international group of 55 web users from 14 countries to assess the colours they associated with different types of website. The sample included people from Brazil, Bulgaria, China, France, Germany, Jordan, Netherlands, Sri Lanka, Spain, Switzerland, Ukraine, Venezuela, UK and USA Each person was asked to consider 8 different colours in turn and to name the types of website (one or more) they associated with each colour. Figure 1 shows the results of this study.

In the first part of the survey each person was asked to consider nine different categories of website and to select from a list which colour or colours they associated it with. The results in Figure 1 show that colour associations for financial and art/music websites tend towards the blue and purple end of the spectrum while for shopping and holiday/vacation websites, they tend more towards the red, orange and yellow. The subjects selected a higher number of colours for children’s websites indicating that they either felt a wider range of colours were appropriate or that they expected them to be multi-coloured.

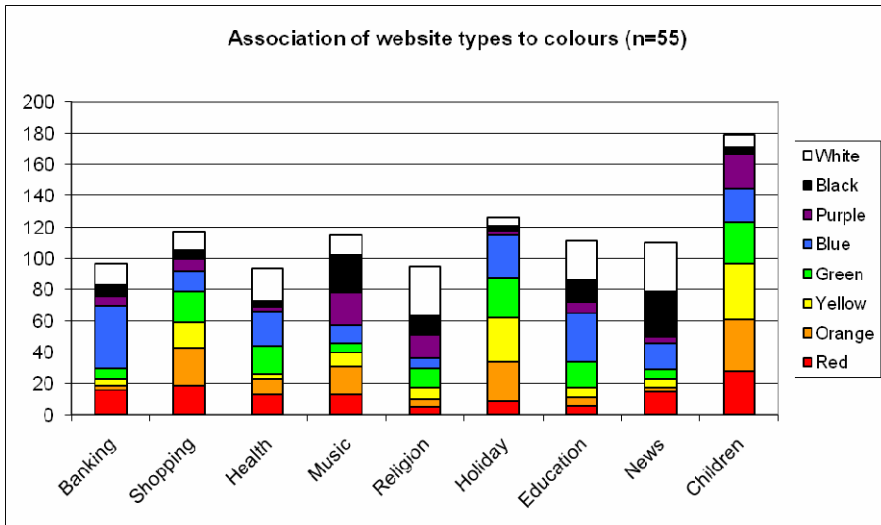


Fig. 1. Website types and colour association. Each user presented with 9 website types and asked to state which colours (multiple choice) they associated with each type. Colour and section length of bar indicates the number of participants naming a particular association.

In a second part of the survey, participants were asked to consider a selection of 8 colours and to say which website types they associated with each. The results are shown in Figure 2. Bright colours such as yellow and orange were again associated quite strongly with holiday/vacation and shopping sites but also with travel-transport sites. Blue and red were quite strongly associated with money or banking sites. Black was associated with art and music sites while black and white was often associated with news and information websites. As well as being representative of holiday and shopping sites, green seemed to be an indicator of nature or the environment, food-forming, education and health.

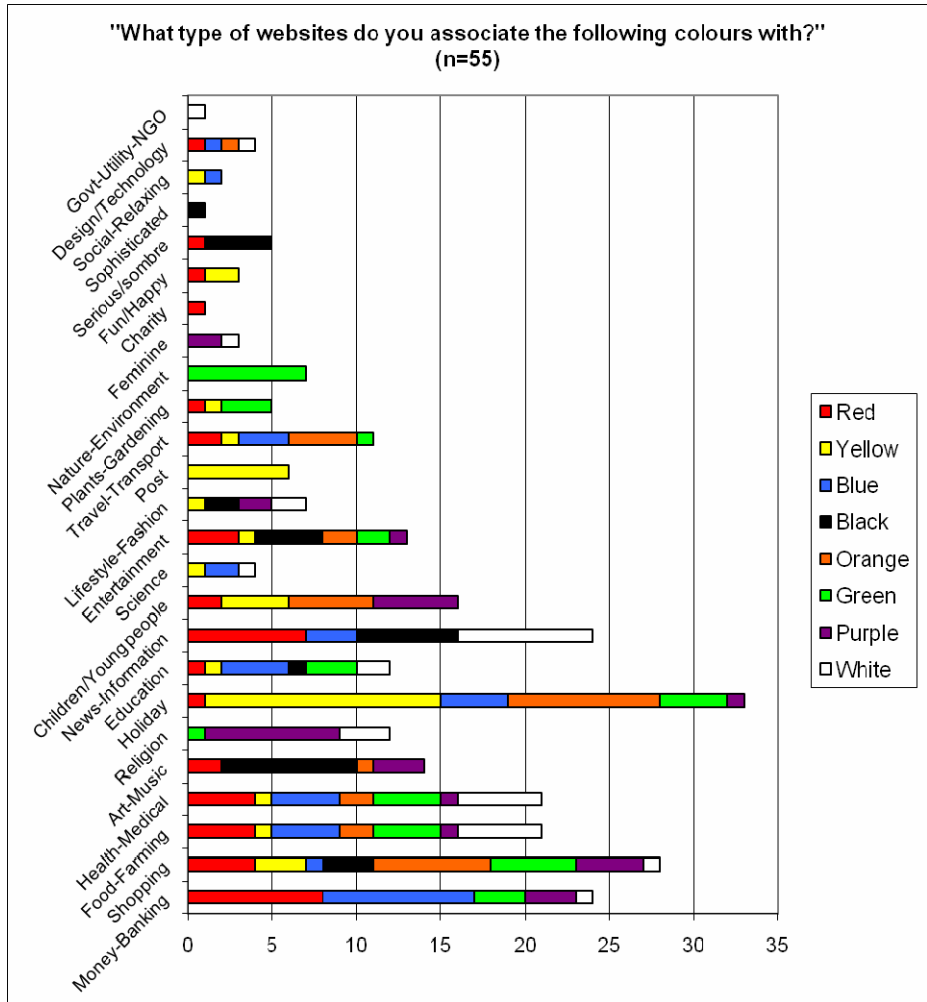


Fig. 2. Colours associations and website types. User presented with colours and asked to state website type (free choice) they associated each with it. Colour and section length of bar indicates the number of participants naming a particular association.

It is likely that some respondents were influenced by branding colours used by certain organisations. For example yellow was associated by 6 people with postal services as is used in many European countries e.g. by Deutsche Post in Germany.

The results of the survey may give an indication to designers to help choose colours to meet user expectations or at least avoid creating a 'culture shock'. Note that tailoring web colours to particular regions need not create stark differences. Use of subtly different colours and designs for websites in different countries can also be effective if used appropriately. Of course, a larger survey would be needed to validate these findings and perhaps show differences between cultures and countries.

PS: In the survey each person was also asked to name their favourite colour. Blue was the most popular colour named by 24 people out of the 55 (14 males and 10 females), followed by orange (12 people), red (10 people), green (9 people), black and purple (6 people each) and yellow (5 people).

11 Conclusions

While these guidelines may offer some guidance to designers of websites for an international audience, it should be remembered that tastes and preferences in different countries will continue to develop and change over time. What is desirable for these audiences should therefore be assessed on a continuing basis. Globalisation has already led to major company brands and their associated websites being accepted across the world. However there will always be the need for websites to appeal to local preferences and to be sensitive to local cultures, resulting in a positive impact on local audiences. Even though a website cannot attempt to be fully integrated with the conventions and needs in every country or culture, this approach can go a long way towards websites being accepted internationally.

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