

Cultural Differences in Online Beer Marketing: Findings from Automated Attention Analysis

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The impact of culture on consumer behaviour has been an important research area for decades. The rise of e-commerce prompted the importance of culturally-bound differences between websites. Web designers are compelled to adjust website development to the cultural characteristics of the target audience and to reflect local perspectives. The actual target users are often invited to provide valuable feedback on e-commerce applications. However, user tests are extremely costly and time consuming. Tools for automated web design assessment have only recently been introduced and have provoked debate regarding their ability to simulate human interaction. In this paper, 40 leading beer-brand-related websites from four different groups (countries) are analyzed. The aim of this study is to discover if automated tools predicting user eye activity are able to distinguish between websites from different cultures. The findings indicate that automated tools provide quick and inexpensive results for initial assessment of the website interface, clearly differentiating between websites from different cultural backgrounds, resonating with current literature.

Keywords: culture; behaviour modelling; automation; web design; e-commerce; comparative study

1 Introduction

Market interdependence and the rise of the global consumer have prompted the emergence of theories which attempt to explain the differences between various markets (Maheswaran & Shavitt, 2000). Studies of cultural differences introduced by Hall (1959), Hofstede (1984) or Trompenaars and Hampden-Turner (1995) have become classic academic literature, although several others have also investigated similar issues (Kluckhohn, Strodtbeck, & Roberts, 1961; Lewis, 2000) and the prominence of intercultural studies have survived and even grown in research interest (Engelen & Brettel, 2010).

Discussions about cultural specificity affected all components in the marketing mix, including online marketing and e-commerce. Cultural differences have been well acknowledged in a number of marketing areas (De Mooij, 2010) as well as in e-commerce and web design (Singh & Pereira, 2005). The online environment, which is truly global and where everyone can travel with a just one mouse click, takes into account local perspectives on web design (Hsieh, Holland, & Young, 2009). Whereas online behavior of internet users can be similar in some ways (Brashear, Kashyap, Musante, & Donthu, 2009), internet customers differ across the world according to their culture (Vuylsteke, Wen, Baesens, & Poelmans, 2010).

The cultural impact on the user interface has been examined through extensive user testing (Cyr, 2008; Y. Lee & Kozar, 2009; Li, Hess, McNab, & Yu, 2009), which is extremely costly and time consuming. User testing requires involvement of those individuals who belong to the website target group (Nielsen, 2004) and then the testing arrives at highly relevant outcomes (Leavitt & Shneiderman, 2006). A different approach to website analysis is expert-based assessment (Ahmed, Mouratidis, & Preston, 2008; Sinkovics, Yamin, & Hossinger, 2007). Experts might be familiar with technical and technological parameters, yet they usually come from a small number of cultural backgrounds. In addition to user testing and expert testing, online behavior can be simulated via automated tools which can provide a more cost efficient alternative. It remains to be addressed whether automated tools simulating user attention are capable of depicting cultural differences in web design and thus provide guidance to localized online environments. Therefore we have formulated the following research question:

Can automated attention analysis be used to depict cultural differences in website design?

To answer this question the paper first discusses the results of previous studies highlighting cultural differences in website user interfaces. Then the methodological approach is developed to study the issue through automated attention analysis. In the subsequent section, we interpret and relate findings to the literature and finally, we derive and present the conclusion for both academia and practitioners.

2 Literature Review

In the internet stone age, the typical user was a white male from North America (Jagne & Smith-Atakan, 2006). With increasing coverage and access in most parts of the world, the variety of users multiplied. Cultural differences between web designers and users determine the success of web-based applications (Baack & Singh, 2007). Culture impacts on e-commerce, web design, as well as on website content (Blake, Shamatta, Neuendorf, & Hamilton, 2009; Kim, Coyle, & Gould, 2009; Tian & Lan, 2009). Both B2C and B2B websites need to be culturally adapted (Usunier, Roulin, & Ivens, 2009), although several local cultures are inclined to adapt global patterns, behavior and brands (Kim, et al., 2009; Kjeldgaard & Askegaard, 2006). Cultural adaptation is an important factor affecting online trust (Bartikowski, Singh, & Merunka, 2008) and initial website impression (Hu et al., 2004).

Companies, whose origin is known, design their websites in a way that reflects their cultural origin rather than the cultural norms of the target customers (Saffu, Walker, & Hinson, 2008). The literature highlights the strong impact of high and low context communication styles on web design and website content organization and similar effects have been attributed to Hofstede's individualism-collectivism and power distance (Usunier, et al., 2009). Websites in high context cultures display fewer interactive features (Cyr, 2008; Cho & Cheon, 2005), with less varied and more shallow content (Würtz, 2005) and are less informative (Suh, Taylor, & Lee, 2007). High

context cultures usually prefer implied or indirect nonlinear messages with rich-context, which cannot be easily coded in the digital environment (Dafouz-Milne, 2008). High context websites are usually less clear and less attractive (Usunier, et al., 2009).

Websites from more individualistic cultures often offer more opportunities for face-to-face communication, because viewers feel more comfortable with impersonal communication (Liao, Proctor, & Salvendy, 2008; Lim, Leung, Sia, & Lee, 2004).

Websites from individualistic cultures may also be expected to be more varied and offer more impulses to catch the attention. Individualism/collectivism is reported to be the most valid Hofstede's dimension (Blodgett, Bakir, & Rose, 2008; Schimmack, Oishi, & Diener, 2005).

Channels for mutual communication between clients and vendors are readily available in cultures with low power distance; the websites are rich in information as secretiveness would not be a source of advantage or power (Cho & Cheon, 2005).

Evidence from studies focusing on the impact of uncertainty avoidance on web design is ambiguous: the evidence is either inconclusive (Baack & Singh, 2007) or partially supportive for overall website attractiveness, content depth and information richness (Usunier, et al., 2009). However, uncertainty avoidance certainly influences the way users accept technological advancements (I. Lee, Choi, Kim, & Hong, 2007).

Masculinity and femininity dimension, being the second most acclaimed Hofstede's dimension (Blodgett, et al., 2008), has less empirical support so far: in feminine cultures website themes may be echoed with a stronger relationship to aesthetics, nature and use of metaphors (Singh, Zhao, & Hu, 2005), hence the graphical display might be smaller in size to allow for the surrounding context to surface.

Regardless of cultural theory, the cultural differences between websites have been so far studied mainly through real consumers – individual human beings.

Conducting studies with users is extremely time consuming and costly, even for small samples or focus groups. This paper seeks to test cultural differences through technology-based assessment.

3 Research Methodology

Eye-tracking testing monitors eye movements and those areas which the eye is focused on. Pioneer eye-tracking studies are older than computers or websites by about a century (eg. Dodge & Cline, 1901; Judd, McAllister, Cloyd, & Steele, 1905). Eye-tracking experienced a renaissance in the 1970s, when cognitive processes were the center of interest (Jacob & Karn, 2003). Later, the computer revolution found eye-tracking to be a significant tool for human-computer interaction research (Senders, 2000). Rapid website development has put eye-tracking at the forefront of website usability assessment (Wedel & Pieters, 2007). Eye-tracking, despite other measures, tools and techniques, can uncover several unique observations for website optimization and usability (Nakamichi, Sakai, Shima, Hu, & Matsumoto, 2007) and enhance user/consumer experience (Nielsen & Pernice, 2009). Until recently, the cost of eye-tracking studies has been exorbitant in comparison with other techniques (Nielsen & Pernice, 2009).

Eye-tracking studies help to assess websites and gain understanding of user behavior and perception. However, eye-tracking is not free of cultural bias (Cyr, Head, & Larios, 2010). Users from various cultures tend to move their eyes differently and focus on different website areas (Blais, Jack, Scheepers, Fiset, & Caldara, 2008). Issues connected with conducting eye-tracking studies encouraged the development of automated tools, which are able to simulate visual attention and produce heat maps similar to traditional eye-tracking outputs. These tools are based on neuro-science

findings, visual attention studies, statistics from eye-tracking sessions, perception and cognition of humans and have been a recent phenomenon (Kondratova & Goldfarb, 2009). Much debate has evolved around their ability to simulate human perception (Harty, 2011). Automated tools assume that human attention is attracted to visually salient stimuli. Algorithms compare various parts of a picture and various objects to their surroundings, capturing significant differences. Such processes are similar to the behavior of living creatures which depict potentially dangerous objects based on their dissimilarity from the environment (Itti and Koch 2001). Dissimilarity may be based on attributes such as color, orientation, density, contrast, intensity, size, weight, intersection, closure, length, width and curve of displayed objects.

Feng-Gui (<http://www.feng-gui.com>) and Attention Wizard (<http://attentionwizard.com>) are becoming popular tools for eye-tracking simulation, reflecting the current state of knowledge in the field of Natural Vision Processing and Computational Attention. Outcomes from Feng-Gui are solid proxies and correspond to 70–80% research evidence gathered through real users (Mancas, 2007). Feng-Gui enables automated identification of Areas of Interest (AOI). Each AOI is a focal point of the user's visual attention. However, visual attraction is not the only factor during traditional eye-tracking studies that fixes the user's eyes. Rayner et al. (2001) has demonstrated that eyes are drawn to the most informative areas from the picture (Pan et al., 2004). So far, automated analytical tools have been unable to capture information rich areas unless they appeal visually as well. The inbuilt assumption could be that an important message should be attractive visually.

The advantage of automated tools is their inbuilt visual objectivity and independence from local conditions or target groups. As traditional eye-tracking is culturally biased, automated eye-tracking tools developed primarily by western

scientists could be culturally skewed (data gathered to verify automated tools are usually from the researcher's domain). The research sample consisted of commercial websites presenting beer brands originating from various countries. Beer and other alcohol consumption is widespread across cultures and countries (the authors take no moral position on alcohol consumption in this paper), although the motivation to drink alcohol may differ (Kuntsche, Knibbe, Gmel, & Engels, 2006; Wilson, 2005). Thus, elaborating on beer-related websites in this study may largely eliminate the cultural bias of the instrument.

For clarity, we assumed that each country equals one particular beer culture, although in line with Bourdieu's theory of cultural fields (Bourdieu & Passeron, 1990) many subcultures may be recognized within one country or market. Beer is a global drink with rather generic ingredients, is popular with consumers across countries and is the most widespread alcoholic drink (Ferreira & Willoughby, 2008). Local beer markets offer opportunities to both global and local brands, whereas brand cultural belongingness is usually well articulated. Beer is a product with similar price and societal positioning in most cultures (Dimofte, Zeugner-Roth, & Johansson, 2010). The largest beer producers reside in China, USA, Russia, Brazil, Germany and Mexico (Kirin Institute, 2010).

Beer consumption per capita is the highest in the Czech Republic, which shares a strong beer culture and tradition with Great Britain (Mäkelä et al., 2006), although the national cultures are different (Hofstede, 2001). Britain ranks 6th on the list of biggest per capita beer drinkers. Great Britain is the 8th largest brewer in the world (Kirin Institute, 2010). On the other hand, Japan represents a country with different approach to beer drinking (Wilson, 2005). Although the beer market has been well developed and beer drinking has become popular alongside traditional liquors (Francks, 2009), Japan

scores a distant 35 in beer consumption ranking (Japan is the 7th largest brewer).

Hofstede's cultural dimensions (Hofstede, 2001) confirm the key differences: Power Distance Index, Individualism, Masculinity, and Uncertainty Avoidance Index are 57, 58, 57, and 74 for the Czech Republic; 35, 89, 66 and 35 for Great Britain; and 54, 46, 95, 92 for Japan. On the other hand, all three territories belong to countries with strong local beer production. To establish a control group, our study targeted in addition to these three markets, a group of prime international brands with the highest global consumption (in case the brand also featured in the local top consumption list, it was surveyed with the international group only as an international brand that could be promoted differently than local cultural values). The list of all websites included in the study is in Table 1.

<<<TABLE 1>>>

Selected websites were tested for similarity of the user interface. Opening introductory websites were surveyed unless there was a requirement to acknowledge the users legal age first, in that case websites appearing after the age check were analyzed. It was expected that Japanese websites would be less visually appealing in comparison to Czech and British sites (Usunier, et al., 2009), less interactive (Cyr, 2008) and offering less content (Suh, et al., 2007). International websites should reflect and be more similar to presentations from countries with a longer beer tradition (such as the Czech Republic and Great Britain).

Most Czech brewers use a combination of dark colors, creating a feel of authority and seriousness, and one other color, which is either green (Radegast, Staropramen, Pilsner Urquell) sensing (in western cultures) nature and freshness, or brown/wine red (Gambrinus, Krusovice, Budweiser Budvar) intuiting health, earthiness or tradition (Thorell & Smith, 1990). The color choice is consistent with the long Czech

brewing tradition. Websites use sizeable and illustrative pictures in vivid colors, in alignment with low context cultural habit (Simon, 2000). Among the top ten brands only Starobrno seems to take a different approach with a dominant combination of blue and white. British websites are similar to Czech websites. Dominant color shades refer to tradition, wholesomeness, earthiness, dependableness, steadiness, and healthiness (Hope & Walch, 1990). Green is used quite often on the British sites and other markers for low context cultures are also present.

The color scheme of Japanese beer websites speaks a completely different language. The dominant color is white. Even if white is often said to be the color of mourning and death in Asian cultures, Saito (1996) found a very strong preference for white among the Japanese. White is positively associated with feelings of purity, harmony, freshness, beauty, clarity, gentleness and nature. In western countries, white would be the choice for sensing simplicity, neatness and precision. A little different are the websites of Baird and Taisetsu Ji Beer, whose websites are similar to European brands and choose combinations featuring black and the respective dark red colors.

International websites are a diverse bunch of brands, originating from distant parts of the world. The first place goes to Chinese Snow, North America is represented by Budweiser, Central America by Corona; Heineken and Guinness hold the European flags and Fosters comes from Australia. International brands push the feeling of uniqueness. Combinations of darker and other colors are very frequent: Heineken – green, Budweiser – red, Fosters – blue, Guinness – blue. Other brands (Corona, Miller Lite, Coors Light, Bud Light) take a different route and prefer blue. Blue is a popular corporate color which creates an impression of trustworthiness. The Snow website is completely different – its Chinese origin is reflected in the color choice and the dominant white is similar to several Japanese brands.

<<FIGURE 1>>>

<<FIGURE 2>>>

<<FIGURE 3>>>

<<FIGURE 4>>>

The opening website usually presents the key features kept for other sub-sites (Leavitt & Shneiderman, 2006). Analyzed websites were captured in 1280×1024 pixels resolution (or higher) which was the most typical user resolution at the time of research (W3Schools, 2010). Websites were then analyzed through Feng-Gui for points of interest (AOIs) which would likely be the focal areas of user eye activity. The number of AOIs was captured as well as the overall area occupied by AOIs (in pixels). Analytical results can be visually displayed in the form of a heat map (see Figure 5).

<<FIGURE 5>>>

4 Analysis

Paired similarity in the number and area of AOIs was tested using the non-parametric Mann-Whitney test (Black, 2009) which is deemed suitable for this type of observation. The analysis was conducted using SPSS Statistical Software.

Websites from two different countries were compared against each other: Czech Republic to the United Kingdom, Czech Republic to Japan, Czech Republic with international brands, United Kingdom to Japan, United Kingdom to the international group, and Japan vs. the international brands. A complete picture depicting dyadic variations was compiled.

Czech vs. British Websites

<<<TABLE 2>>>

The difference in the number of AOIs between the Czech Republic and Great Britain is not statistically significant (Table 2; p-value = 0.167) and neither is the difference in AOI size (p-value = 0.257). Czech and British beer websites are similar in terms of number and size of focal points and seem to be a homogenous group in terms of focal attributes. Although Hofstede's cultural classification assigns different cultural profiles to each nation (especially for individualism and uncertainty avoidance), both countries share the underpinnings of a strong beer culture propped up by an ongoing beer drinking tradition (Mäkelä, et al., 2006). Both markets are labeled as low context; hence approaching consumers through websites might be similar. Both website groups feature rich and vibrant colors with shades emphasizing trust, tradition and nature. The number of interactive objects is highly complemented by rich information content. Such findings are in line with previous studies detailing low context online environments (Cyr, 2008; Singh, et al., 2005).

Czech vs. Japanese Websites

<<<TABLE 3>>>

The number of AOIs is significantly different for the Czech and Japanese websites (Table 3; p-value = 0.032). The difference is significant even for the size of AOIs (p-value = 0.007). The difference is not only in the number of AOIs (fewer in Japan) but in their size (larger ones in Japan). Japan is considered one of the highest context cultures. The absence of interactive features (such as consumer-consumer interactivity and fewer objects with smaller information content) could be explained through the lens of Japanese cultural distinctiveness (Cho & Cheon, 2005; Würtz, 2005). Whereas traditional beer cultures use rich and vibrant colors bringing forward serious, natural and calming impressions, Japanese beer websites utilize a clean and

plain white color which reduces first-impression attractiveness. Additionally, white is believed to be the color of sorrow and death in Asia (Birren, 1988).

Czech vs. International Websites

<<<TABLE 4>>>

The number of AOIs is different for international brands and for Czech leading beers (Table 4; p-value = 0.008). However, the websites are not different in the area taken by AOIs (p-value = 0.406). Czech websites were similar to international ones in the area taken by AOIs but had a higher amount. Several international brands do not originate from western low-context cultures but from Asia or Latin America featuring fewer interactive qualities (Cyr, 2008; Cho & Cheon, 2005), less diverse and informative content (Würtz, 2005) and are less informative in general (Suh, et al., 2007). Their plain action may be intentional to cover large and diverse international audiences without targeting or offending any particular culture or adversely building on the global consumer.

British vs. Japanese Websites

<<<TABLE 5>>>

The number of AOIs is significantly different for British and Japanese beer websites (Table 5; p-value = 0.007). AOI size is different on the edge of statistical significance (p-value = 0.059). Considering the relatively small subset size, the p-value might be sufficient for the exploratory nature of our experiment. The finding is consistent with the similarity found between Czech and British websites. Japanese websites contain fewer interactive options and fewer focal objects than the British ones.

British vs. International Websites

<<<TABLE 6>>>

The number of AOIs is significantly different for Great Britain – International brands comparison (Table 6; p-value = 0.002). On the other hand, the screen area occupied by AOIs does not seem dissimilar (p-value = 0.364). British and international brands are presented differently in terms of the number of focal points although the overall space taken up by key features is similar. Representation of non-Western brands from high context cultures (Asia, Latin America) which do not have English websites (or English language versions) could explain some of the differences.

Japanese vs. International Websites

<<<TABLE 7>>>

The difference in the number of AOIs is statistically insignificant for the dyadic analysis of Japanese and international brands (Table 7; p value = 0.908). On the contrary, the difference is significant for a comparison of AOI size (p value = 0.023). Japanese and international websites are different in the screen area taken up by AOIs (Japanese are bigger). International websites stand on the verge between East and West and International brands apparently do not specifically target consumers from traditional beer cultures. It may well be that developing or emerging markets seem more promising for international beer brewers. Traditional beer cultures typically host several strong local brands which outperform international brands (which seems to be the case in all three countries under study: Czech Republic, Great Britain, and Japan). International websites present similar color schemes to traditional beer cultures, capitalizing on vibrant colors rather than on plain white.

5 Discussion

Table 8 depicts the key findings. The results for Japan demonstrate that Japanese beer websites differ significantly in number and size of AOIs from Czech and British

online presentations. As Japan is the only high context culture in the study, it may well be that the key determining cultural factor for website differentiation on AOIs might be Hall's contextual theory (Hall, 1959). Subsequent studies may further explore the issue.

International websites show certain AOI analogies for all three countries. The size of AOIs has been found to be the same for international websites as for the main Czech and British beer brands, while the number of AOIs was different. The size of AOIs of international websites was smaller than in the case of Japanese beer brands. The size of AOIs on international websites was comparable to the size of British and Czech AOIs. It can be argued that each website for an international brand might reflect its specific cultural origin. As 7 out of 10 most renowned international brands come from low context cultures, it would be expected that the number of AOIs would be closer to the Czech Republic or Great Britain. However, the number is significantly different and far closer to Japanese websites. Such a finding cannot be interpreted through the lens of Hall's contextual theory (Hall, 1959).

Additional research questions have been raised whether the most valid Hofstede's dimensions (IDV and MAS) are consistent with our results. Ranking for the median number of AOIs (Japan: 5, Czech Republic: 7, United Kingdom: 8.5) corresponds with the country ranking for individualism/collectivism (Japan: 46, Czech Republic: 58, United Kingdom: 89). Furthermore, ranking for median size (measured in pixels) of AOIs (Czech Republic: 8796, Great Britain: 9841, Japan: 12 585) corresponds with masculinity results (Czech Republic: 57, Great Britain: 66, Japan: 95). More individualistic cultures perhaps need a greater number of eye catchers - website impulses, whereas less individualistic cultures may focus longer on a smaller number of attention areas. Rather masculine cultures prefer bold websites, in which attention areas are large and easy to determine with a strong focus on tasks, challenges and control,

while feminine cultures might be more used to working with subtler hints, giving preference to a higher number of smaller AOIs (Jacko, Stephanidis, & Harris, 2003).

<<<TABLE 8>>>

6 Conclusion

Cultural differences between websites can be deduced not only through demanding resource-consuming user testing or through expert panels. **Our findings confirm key cultural differences between a number of countries across a homogeneous set of websites. Cultural differences can be readily diagnosed via automated tools which simulate natural vision processing; hence automated tools can substitute for eye-tracking in this line of research inquiry. Inner workings** of automated tools do not reflect local fluctuations or context and are prone to inappropriate sampling and personal bias. On the other hand, automated approaches offer less rich findings. Utilizing other automated tools and building national or regional web design maps could be important future research agenda.

Automated tools can never fully substitute human experts in assessing human-computer interaction or user experience. They can provide fast and relatively inexpensive results for initial assessment of e-commerce and online marketing interfaces. The tools digest management-relevant outcomes for marketing managers or web designers who oversee and take decisions about the international portfolio of brand websites. Using initial automated testing may reduce website development cost and contribute to more efficient marketing communications.

Although the findings are stimulating, they should be interpreted with the usual scientific pre-caution. Correlation between traditional eye-tracking and automated eye-tracking is still a matter of academic debate. Developers of such tools claim that

automated eye-tracking is 80% accurate and a good approximation of human perception (Mancas, Gosselin, & Macq, 2007). On the other hand, eye-tracking studies suggest that user's eye activity may differ in accordance to the character or sequence, in which the website is viewed. Attention is also determined by user gender but is independent from the character of the performed tasks (Pan, et al., 2004). Until now, automated tools have not been suited to depict such contingencies.

Our findings may not reflect only cultural differences and could be based on the designer's personal taste. The designer's personal bias is immanent to all website-based studies conducted outside closed labs and can be mitigated through the inclusion of multiple websites residing in one cultural region. The cultural bias of automated tools also remains to be empirically verified. System calibration for other cultures would be a useful feature and could enhance its predictive power. Further restrictions may rest on the relatively limited amount of output measurements – in comparison with rich findings from human eye-tracking (Jacob & Karn, 2003; Poole & Ball, 2005). Automated tools usually offer just a handful of indicators: identification of areas of interest and the size and process of the transition between various AOIs.

Future research could address some of the limitations, replicate our study on a set of different globally similar products with real eye tracking or with utilization of multiple eye-tracking automated tools. Similarly, research in neuromarketing (N. Lee, Broderick, & Chamberlain, 2007; Reimann, Schilke, Weber, Neuhaus, & Zaichkowsky, 2011) could become a viable avenue for future studies. Before any further work is done, academia as well as practitioners can utilize automated tools as an easy answer to a complex issue.

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Table 1: List of Surveyed Websites

	Czech Republic (E15, 2009)	Great Britain (The Publican, 2009)	Japan (Gloag, 2009; Japan Today, 2010)	International (Jones, 2009)
1	Gambrinus	Carling	Asahi	Snow (China)
2	Radegast	John Smith's	Kirin	Budlight (USA)
3	Staropramen	Old Speckled Hen	Suntory	Budweiser (USA)
4	Krušovice	Cobra	Sapporo	Skol (Brazil)
5	Pilsner Urquell	Newcastle Brown	Orion	Corona (Mexico)
6	Budweiser Budvar	Fuller's London Pride	Baird	Heineken (Netherlands)
7	Bernard	Hobgoblin	Taisetsu Ji Bīru	Miller Lite (USA)
8	Velkopopovický Kozel	Marston's Pedigree	Okhotsk Bīru	Guinness (UK)
9	Starobrno	Abbot Ale	Tokachi Bīru	Coors (USA)
10	Ostravar	Tanglefoot	Otaru Bīru	Fosters (Australia)

Table 2: Test results Czech vs. British Websites

Ranks			
group	N	Mean Rank	Sum of Ranks
Number_of_AOIs	CR	10	8,70
	UK	10	12,30
	Total	20	
AOIs_Size	CR	10	9,00
	UK	10	12,00
	Total	20	
Test Statistics			
	Number of AOIs	AOIs size	
Mann-Whitney U	32,000	35,000	
Wilcoxon W	87,000	90,000	
Z	-1,383	-1,134	
Asymp. Sig. (2-tailed)	,167	,257	

Table 3: Czech vs. Japanese Websites

Ranks			
group	N	Mean Rank	Sum of Ranks
Number_of_AOIs	CR	10	13,30
	JAP	10	7,70
	Total	20	
AOIs_Size	CR	10	6,90
	JAP	10	14,10
	Total	20	
Test Statistics			
	Number of AOIs	AOIs Size	
Mann-Whitney U	22,000	14,000	
Wilcoxon W	77,000	69,000	
Z	-2,138	-2,721	
Asymp. Sig. (2-tailed)	,032	,007	

Table 4: Czech vs. International Websites

Ranks			
group	N	Mean Rank	Sum of Ranks
Number_of_AOIs	CR	10	13,95
	INT	10	7,05
	Total	20	
AOIs_Size	CR	10	9,40
	INT	10	11,60
	Total	20	
Test Statistics			
	Number of AOIs	AOIs Size	
Mann-Whitney U	15,500	39,000	
Wilcoxon W	70,500	94,000	
Z	-2,643	-,832	
Asymp. Sig. (2-tailed)	,008	,406	

Table 5: British vs. Japanese Websites

Ranks			
group	N	Mean Rank	Sum of Ranks
Number_of_AOIs	UK	10	14,05
	JAP	10	6,95
	Total	20	
AOIs_Size	UK	10	8,00
	JAP	10	13,00
	Total	20	
Test Statistics			
	Number of AOIs	AOIs Size	
Mann-Whitney U	14,500	25,000	
Wilcoxon W	69,500	80,000	
Z	-2,700	-1,890	
Asymp. Sig. (2-tailed)	,007	,059	

Table 6: British vs. International Websites

Ranks			
group	N	Mean Rank	Sum of Ranks
Number_of_AOIs	UK	10	14,60
	INT	10	6,40
	Total	20	
AOIs_Size	UK	10	11,70
	INT	10	9,30
	Total	20	
Test Statistics			
	Number of AOIs	AOIs Size	
Mann-Whitney U	9,000	38,000	
Wilcoxon W	64,000	93,000	
Z	-3,130	-,907	
Asymp. Sig. (2-tailed)	,002	,364	

Table 7: Japanese vs. International Websites

Ranks			
group	N	Mean Rank	Sum of Ranks
Number_of_AOIs	JAP	10	10,65
	INT	10	10,35
	Total	20	
AOIs_Size	JAP	10	13,50
	INT	10	7,50
	Total	20	
Test Statistics			
	Number_of_AOIs	AOIs_Size	
Mann-Whitney U	48,500	20,000	
Wilcoxon W	103,500	75,000	
Z	-,116	-2,268	
Asymp. Sig. (2-tailed)	,908	,023	

Table 8: Results of AOI Analysis

<i>Number of AOIs</i>	Great Britain	Japan	International
<i>AOIs Size</i>			
Czech Republic	<i>Same</i>	<i>Different</i>	<i>Different</i>
	<i>Same</i>	<i>Different</i>	<i>Same</i>
Great Britain		<i>Different</i>	<i>Different</i>
		<i>Different</i>	<i>Same</i>
Japan			<i>Same</i>
			<i>Different</i>

Figure 1: Beer Websites in Czech Republic

Figure 2: Beer Websites in Great Britain

Figure 3: Beer Websites in Japan

Figure 4: Websites of Top Global Beer Brands

Figure 5: Example of Feng-Gui Analysis