

# Cultural Adaptation of Websites: A Comparative Study of Portuguese and Dutch Websites

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## **Abstract**

*In a globalized world cultural adaptation has become a vital strategy for companies that desire to succeed beyond borders. However, adapt a website is not only to translate the local content of a website to the native language. The content analysis methodology was used to study a sample of Portuguese and Dutch websites collected from the “list of Fortune 500 companies and their websites”. The objective was to evaluate the extent of cultural adaptation of websites to Portuguese and Dutch based on Hofstede and Hall frameworks. The results showed that only the masculinity/femininity dimension were supported meaning that the websites were culturally adapted for both Portuguese and Dutch websites. The high/low-context culture hypothesis, although statistical significant, show that only the Dutch websites were culturally adapted. The collectivistic/individualistic dimension, although statistical significant, showed that only Dutch websites has been culturally adapted. The hypotheses H2 and H3 are both not statistical significant.*

**Keywords** *Corporate Websites, Cultural Adaptation, Hofstede and Hall dimensions; Content analysis, Portuguese and Dutch Websites.*

**JEL Classification:** L81, F23, M16, M31, M37.

## **1. Introduction**

The World Wide Web is evolving to be the new frontier in international business, as it provides unprecedented advantages to companies attempting to tap the global market. In the past, size and the financial strength of a company were critical competitive advantages in reaching global consumers. Today, the Web allows companies of all sizes instant global reach and the immediate ability to interact with customers all over the world. This is possible because the Internet provides unique efficiencies for companies attempting to conduct international business: it reduces advertising and communication costs in serving global market segments, allows for direct and easy access to customers and customer feedback, and reduces the need for intermediaries.

In the online global market, consumers that speak in their languages have different cultures. However, cultural customization of websites is not only about

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translation, it is about perception, symbolism, behavior and the biggest problem is to ignore the importance of culture in communications.

The aim of this study is to investigate the level of cultural adaptation of Portuguese and Dutch websites ranked on Fortune 500. We selected corporate websites from Portugal and Netherlands for this research. The selection of these two countries is based on the fact that they belong to the same region (Western Europe) but are associated with different cultural backgrounds and languages.

This article is organized as follows. After the introduction, the section 1 reviews the literature on cross-cultural analysis of websites and developed the hypothesis to be tested. The content analysis methodology used in the study is explained in section 2. In the next section, websites of selected companies are evaluated and the results of the empirical research are discussed. Finally, we conclude by providing an implications for digital marketers and indicating future research lines.

## **2. Literature review**

### ***2.1 Cross-cultural analysis of websites***

A framework to measure cultural values embedded in corporate websites has been developed by Singh et al. and Singh and Mastsuo (2004) to analyze, respectively, the content of U.S. and Chinese and U.S. and Japanese company websites. The results provide evidence that country-specific websites reflect national cultural values. Another study by Singh and Baack (2004) showed that cultural values are reflected in American and Mexican websites indicating that there are significant differences in the depiction of local cultural values on the websites.

In 2005, Singh et al. obtained results indicating that local websites of India, China, Japan and United States not only reflect cultural values of the country of origin, but also seem to differ significantly from each other on cultural dimensions. Later, Singh et al. (2006) show that consumers from Germany, China, and India prefer websites adapted to their local culture, and that culture influences consumer beliefs, attitudes, and purchase intention on e-commerce.

Cyr (2004) explores the issues associated with user interface design and experience, including culturally preferred design elements. The study based on Germany, Japan, and the United States (30 municipal sites in each country) indicated that design elements, such as symbols and graphics, color preferences, site features (links, maps, search functions, and page layout), language, and content, show significant differences in each of the categories.

Karacay-Aydin et al. (2009) investigate the level of differentiation of web communication on cultural grounds. For this purpose, US based Fortune 500 companies' websites and their Turkish counterparts were culturally examined. Through a content analysis of 88 selected websites and using the Hofstede's and Hall's cultural dimensions framework, Karacay-Aydin et al. (2009) found significant differences in the depiction of cultural values on the websites examined. The results

of this study provide implications for global companies in their attempts to culturally adapt their websites to local markets, in particular to Turkey.

The study of Jones (2012) focused on the information that can be found online encouraging support and donations to Dutch and American museums. Four English language websites, two American and two Dutch, are analyzed and compared to identify possible issues that potential American donors might have when visiting Dutch museum sites. The expert-evaluation technique and heuristics are used to locate potential problems in content presentation, audience awareness, tone, style and credibility. In an effort to model the effects of culture on web design, Hofstede's cultural dimensions are used as the theoretical basis for comparing the content presented. It was found that the information on the Dutch web pages concerning online fundraising could be improved significantly by including various features that would appeal more to an American audience.

Yalcin et al. (2011) explore how the perennial debate on standardization and localization and the level of depiction of cultural values on the web. In an attempt to broaden the empirical evidence from different cultural settings, Yalcin et al. (2011) examined through both qualitative and quantitative the Russian and Turkish websites. The results provided support for the depiction of local cultural values. However, the multinationals use a multi-focus web communication strategy that include cultural (domestic and foreign) and marketing elements.

## ***2.2 Hypotheses***

In this section we test the hypotheses based on Hofstede's and Hall's studies (Hofstede, 2001; Hall, 1976).

### ***2.2.1 Individualism-Collectivism Hypothesis***

Individualism-collectivism is the degree to which individuals in a particular country tend to act on their own or as group members; in other words, it is the degree to which a person seeks his own interests, and individual expression is referred to as individualism. People in individualistic societies are independent and care about only themselves whereas people in collectivistic cultures care about the group and society to which they belong and therefore they retain close relationships with others, and accept this as a social fact (Hofstede, 1980, 2001).

Based on Hofstede's findings, Portugal (27) score low and Netherlands (80) score very high on individualism. Based on these scores, we hypothesize that:

H1: The Dutch websites of multinationals will depict higher levels of the Individualism-oriented values than Portuguese websites.

### ***2.2.2 Uncertainty Avoidance Hypothesis***

This is the extent to which individuals accept uncertainty of future events, rules, measures, or guidelines to lessen the nervousness or danger of uncertainty.

Cultures high on uncertainty avoidance will formulate firm rules to reduce the uncertainty whereas cultures low in uncertainty avoidance will assume less controlled way of life (Hofstede, 1980, 2001). Based on Hofstede's findings, Portugal (104) scores very high, while Netherlands (53) scores medium on uncertainty avoidance. Therefore we hypothesize that:

H2: The Portuguese websites of multinationals will depict higher levels of the uncertainty avoidance-oriented values than Dutch websites.

### *2.2.3 Power Distance Hypothesis*

Power distance refers to the extent to which members of a particular society accept unequal power distributions. This dimension is related to a society's willingness to accept differences in power over other members of the society. Societies high on power distance are likely to accept differences in the distribution of power among members of the society whereas societies low on power distance will welcome equal distribution of power (Hofstede, 1980, 2001). Based on Hofstede's findings, Portugal scores high (63) on power distance whereas Netherlands scores low (38). Therefore we hypothesize that:

H3: The Portuguese websites of multinationals will depict higher levels of the power distance-oriented values than Dutch websites.

### *2.2.4 Masculinity-Femininity Hypothesis*

The masculinity-femininity dimension is related to the degree to which individuals compete, value achievement, and resolve conflicts. Masculine societies stress on assertiveness and achievement while feminine cultures accentuate harmony and caring (Hofstede, 1980, 2001). Hofstede's masculinity/femininity dimension functions as a guide to envisage gender roles cross-culturally. Masculine societies are more likely to accept women and men role separation, which will lead to greater gender role differences. Based on the work of Hofstede both Portugal (31) and Netherlands (14) rank low on the masculinity/femininity dimension. Therefore we hypothesize that:

H4: The Portuguese and Dutch websites of multinationals will depict lower levels of the masculinity-oriented values.

### *2.2.5 High and Low-Context Hypothesis*

Hall's (1976) cultural framework consists of a bi-polar construct of high-context and low-context cultures. In high-context cultures, less information is included in the verbal part of communication as much of the information is implicit and derived from the context of the communication. The language and communication are hidden and indirect in high context cultures. On the contrary, in low-context cultures, communication and message are direct and explicit and much of the ideas to be communicated are worded. Based on Hall's study, Portugal is

high-context culture and Netherlands is a low-context society. Then, we hypothesize that:

H5: The Portuguese websites of multinationals will depict lower levels of the low-context-oriented values than Dutch websites.

H6: The Portuguese websites of multinationals will depict higher levels of the high-context-oriented values than Dutch websites.

### **3. Methodology**

#### ***3.1 Sample***

For this investigation we will use a sample generated from the list of 500 Fortune largest multinational companies, ranked by revenues in 2014. Of these 500 companies, the ones with a country specific website for Portugal and Netherlands will be selected. In the end of the process we retained 20 Portuguese and Dutch websites (See Appendix).

#### ***3.2 Websites content analysis***

In this study, we will use content analysis methodology to investigate cultural values depicted on Portuguese and Dutch websites. These websites are analyzed for the presence or absence of the 31 predefined criteria. The degree of depiction of each cultural value is evaluated on a five-point scale: one (not depicted), two (slightly depicted), three (depicted), four (nicely depicted), and five (prominently depicted).

The analysis of the data was made with the SPSS, version 20, using descriptive statistics and one-way analysis of variance (ANOVA) statistical procedure.

#### ***3.3 Variables used in the study***

To develop the cultural categories for web cultural analysis, an extensive review of major cultural typologies in the business literature was done. The works of Hall (1976) and Hofstede (1984) were used to generate a list of cultural typologies, and relevant literature was reviewed to identify cultural value dimensions (Singh and Matsuo, 2004; Singh et al., 2006). Each cultural typology was translated to the context of web communication, and its applicability to studying web communications was explored through content analysis of websites. Thus, consistent with the literature, four cultural value dimensions proposed by Hofstede (1984) (individualism–collectivism, uncertainty avoidance, power distance, and masculinity–femininity), and the high/low-context cultural dimension proposed by Hall (1976) were also used in the study. To generate operational cultural value categories for website content, the first step was to create a list of all major interactive or multimedia features commonly presented on the websites and evaluate

which features would be more depicted in Portuguese and Dutch cultures. Based on Singh's studies (Singh et al. 2003; 2004; 2005; 2006), categories were developed for Hofstede's four cultural dimensions and Hall's high/low-context cultural values. The categories are presented for 6 cultural dimensions and 31 cultural features.

### *3.3.1 Individualism–Collectivism variables*

**Community relations** - Presence or absence of community policy, giving back to community, social responsibility policy.

**Clubs or chat rooms** - Presence or absence of members club, product-based clubs, chat with company people, chat with interest groups, message boards, discussion groups, and live talks.

**Newsletter** - Online subscriptions, magazines, and newsletters.

**Family theme** - Pictures of family, pictures of teams of employees, mention of employee teams and emphasis on team and collective work responsibility in vision statement or elsewhere on the web site, and emphasis on customers as a family.

**Symbols and pictures of national identity** - Flags, pictures of historic monuments, pictures reflecting uniqueness of the country, country specific symbols in the form of icons, and indexes.

**Loyalty programs** - Frequent miles programs, customer loyalty programs, and company credit cards for specific country, special membership programs.

**Links to local websites** - Links to country locations, related country specific companies, and other local web sites from a particular country.

### *3.3.2 Uncertainty avoidance variables*

**Customer service** - FAQ's, customer service option, customer contact or customer service e-mails.

**Guided navigation** - Site maps, well-displayed links, links in the form of pictures or buttons, forward, backward up and down navigation buttons.

**Tradition theme** - Emphasis on history and ties of a particular company with a nation, emphasis on respect, veneration of elderly and the culture, phrases like "most respected company", "keeping the tradition alive", "for generations", "company legacy".

**Local stores** - Mention of contact information for local offices, dealers, and shops.

**Local terminology** - Use of country specific metaphors, names of festivals, puns, and a general local touch in the vocabulary of the web page not just mere translation.

**Free trials or downloads** - Free stuff, free downloads, free screen savers, free product trials, free coupons to try the products or services, free memberships, or free service information.

**Toll-free numbers** – Calls can be made at any time around the clock.

### *3.3.3 Power distance variables*

**Company hierarchy information** - Information about the ranks of company personnel, information about organizational chart, and information about country managers.

**Pictures of CEOs** - Pictures of executives, important people in the industry or celebrities.

**Quality assurance and awards** - Mention of awards won, mention of quality assurance information and quality certification by international and local agencies.

**Vision statement** - The vision for the company as stated by the CEO or top management.

**Pride of ownership appeal** - Websites depict satisfied customers, fashion statement for the use of product, and the use of reference groups to portray pride.

**Proper titles** - Titles of the important people in the company, titles of the people in the contact information, and titles of people on the organizational charts.

### *3.3.4 Masculinity–femininity variables*

**Quizzes and games** - Games, quizzes, fun stuff to do on the web site, tips and tricks, recipes, and other fun information.

**Realism theme** - Less fantasy and imagery on the web site, straight to-the-point information.

**Product effectiveness** - Durability information, quality information, product attribute information, and product robustness information.

**Clear gender roles** - Separate pages for men and women, depiction of women in nurturance roles, depiction of women in positions of telephone operators, models, wives, and mothers; depiction of men as macho, strong, and in positions of power.

### *3.3.5 High- and low-context cultures variables*

**Politeness and indirectness** - Greetings from the company, images and pictures reflecting politeness, flowery language, uses of indirect expressions like "perhaps", "probably" and "somewhat".

**Soft-sell approach** – Uses an affective and subjective impression of intangible aspects of a product or service.

**Aesthetics** - Attention to esthetic details, liberal use of colors, high bold colors, emphasis on images and context, and use of love and harmony appeal.

**Hard-sell approach** - Discounts, promotions, coupons, and emphasis on product advantages using explicit comparison with other companies.

**Use of superlatives** - Use of superlative words and sentences: like "We are the number one", "The top company", "The leader", and "World's largest".

**Rank or prestige of the company** - Features like company rank in the industry, listing in Forbes or Fortune, and numbers showing the growth and importance of the company.

**Terms and condition of purchase** - Product return policy, warranty, and other conditions.

#### 4. Results and analysis

The objective of the research is to analyze whether the corporate websites of multinationals listed on Fortune 500 depict cultural values regarding its digital presence on Portugal and Netherlands. The objective is to show the extent to which multinationals firms take into account Portuguese and Dutch cultural values in their website communication strategy. A one-way ANOVA was conducted on all the cultural categories to study the cultural differences of Portuguese and Dutch websites.

The findings suggest that under the collectivistic dimension (Table 1), Dutch websites scored higher than Portuguese websites on depiction of features like community relations, clubs or chat rooms, newsletters, national symbols and pictures, loyalty programs and links to local websites. The only exception is “Family theme”, where Portuguese websites score higher than Dutch websites. It worth mentioning that for “National symbols and pictures” category, there is no statistical significance between Dutch and Portuguese websites ( $F = 2.05, P < 0.1589$ ).

**Table 1. Descriptive statistics and ANOVA for Individualism – Collectivism**

Categories	NL websites		PT websites		SS	MS	F-value	P-value
	Mean	SD	Mean	SD				
Community relations	4.10	0.72	3.95	0.60	3.80	1.90	10.25	0.0012**
Clubs or chat rooms	2.95	1.05	2.85	0.93	6.75	2.25	3.67	0.0347**
Newsletter	4.25	0.64	4.05	0.60	2.61	1.31	5.12	0.0182**
Family theme	3.85	0.67	4.00	0.65	4.50	2.25	10.93	0.0009***
National symbols and pictures	3.30	0.57	3.25	0.55	1.12	0.56	2.05	0.1589
Loyalty programs	4.00	0.73	3.95	0.76	6.85	3.43	14.20	0.0002***
Links to Local web sites	3.90	0.72	3.85	0.81	6.96	2.32	6.64	0.0040**

SD: Standard Deviation, SS: Sum of Squares, MS: Mean Squares

\*  $P < 0.1$ , \*\*  $P < 0.05$ , \*\*\*  $P < 0.01$

In the dimension of uncertainty avoidance (Table 2), the Portuguese websites depict high levels of the uncertainty avoidance on features such as guided



navigation, tradition theme, local stores, and toll-free numbers, while Dutch websites have higher score on customer service. There is no statistical significance difference for “Free trials or downloads” category between Dutch and Portuguese websites ( $F = 2.23$ ,  $P < 0.1246$ ).

**Table 2. Descriptive statistics and ANOVA for Uncertainty avoidance**

Categories	NL websites		PT websites		SS	MS	F-value	P-value
	Mean	SD	Mean	SD				
Customer service	4.55	0.51	4.40	0.50	1.37	1.37	7.16	0.0154**
Guided navigation	4.60	0.68	4.75	0.44	1.29	0.64	4.43	0.0282**
Tradition theme	4.05	0.83	4.25	0.91	7.39	3.70	7.52	0.0046***
Local stores	4.25	0.85	4.40	0.75	7.50	3.75	19.32	0.0000***
Local terminology	3.45	0.76	3.45	0.60	2.48	0.83	2.96	0.0638*
Free trials or downloads	4.00	0.79	3.90	0.64	2.30	0.77	2.23	0.1246
Toll-free numbers	3.80	0.62	3.90	0.55	2.20	0.73	3.26	0.0491**

SD: Standard Deviation, SS: Sun of Squares , MS: Mean Squares

\*  $P < 0.1$  , \*\*  $P < 0.05$ , \*\*\*  $P < 0.01$

Under power distance dimensions (Table 3) Portuguese websites scored higher on all categories than Dutch websites, such as company hierarchy information, pictures of CEOs, pride of ownership appeal and proper titles. Quality assurance and awards and vision statement are categories with no statistical significance.

**Table 3. Descriptive statistics and ANOVA for Power distance**

Categories	NL websites		PT websites		SS	MS	F-value	P-value
	Mean	SD	Mean	SD				
Company hierarchy information	3.80	0.89	3.90	0.85	10.62	5.31	28.35	0.0000***
Pictures of CEOs	3.60	1.05	4.05	1.00	8.05	2.68	3.94	0.0279**
Quality assurance and awards	4.05	0.76	4.25	0.72	0.56	0.28	0.52	0.6042
Vision statement	3.90	0.85	3.65	0.81	2.34	1.17	1.95	0.1728
Pride of ownership appeal	3.35	0.75	3.40	0.75	4.49	1.50	3.79	0.0315**
Proper titles	3.70	0.80	3.85	0.88	12.32	6.16	46.88	0.0000***

SD: Standard Deviation, SS: Sun of Squares , MS: Mean Squares

\*  $P < 0.1$  , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

On the masculinity dimension, both Portuguese and Dutch websites performed significantly low on the depiction of clear gender roles, which is shown in Table 4. The category “quizzes and games” are below 3, while “product effectiveness” and “realism theme” are above that value.

**Table 4. Descriptive statistics and ANOVA for Masculinity – Femininity**

Categories	NL websites		PT websites		SS	MS	F-value	P-value
	Mean	SD	Mean	SD				
Quizzes and games	2.45	0.76	2.45	0.69	5.90	2.95	16.46	0.0001***
Realism theme	3.15	0.75	3.10	0.55	2.20	1.10	5.18	0.0175**
Product effectiveness	4.20	0.52	4.25	0.64	4.82	2.41	13.99	0.0003***
Clear gender roles	1.40	0.99	1.45	0.89	5.89	2.95	5.53	0.0141**

SD: Standard Deviation, SS: Sun of Squares , MS: Mean Squares

\*  $p < 0.1$  , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

As we can see on high-context category (Table 5), Portuguese websites have higher score on politeness and indirectness and soft-sell approach, but with no significant difference ( $F = 1.2$ ,  $P < 0.3033$ ;  $F = 2.57$ ,  $P < 0.1062$ , respectively), while Dutch websites score higher on aesthetics.

**Table 5. Descriptive statistics and ANOVA for High-context culture**

	NL websites		PT websites		SS	MS	F-value	P-value
	Mean	SD	Mean	SD				
Politeness and indirectness	2.55	0.51	2.65	0.49	0.27	0.27	1.12	0.3033
Soft-sell approach	2.70	0.66	2.55	0.69	2.08	1.04	2.57	0.1062
Aesthetics	3.45	1.00	3.25	1.02	14.86	3.72	11.40	0.0002***

SD: Standard Deviation, SS: Sun of Squares , MS: Mean Squares

\*  $P < 0.1$  , \*\*  $p < 0.05$ , \*\*\*  $P < 0.01$

On the other hand, as it is shown in Table 6, in the category of low-context, Dutch websites have higher score on the use of superlatives, rank or prestige of the company in contrast with Portuguese websites that are higher on the feature “Hard-sell approach”.

**Table 6. Descriptive statistics and ANOVA for Low-context culture**

Categories	NL websites		PT websites		SS	MS	F-value	P-value
	Mean	SD	Mean	SD				
Hard-sell approach	3.65	0.75	3.70	0.73	6.44	2.15	9.15	0.0009***
Use of superlatives	4.30	0.66	4.05	0.76	2.85	1.43	2.99	0.0771*
Rank or prestige of the company	3.75	0.72	3.55	0.83	7.85	3.93	13.10	0.0004***
Terms and condition of purchase	4.00	0.79	3.95	0.89	10.12	5.06	17.79	0.0001

SD: Standard Deviation, SS: Sun of Squares , MS: Mean Squares

\*  $P < 0.1$  , \*\*  $p < 0.05$ , \*\*\*  $P < 0.01$

The global content analysis for Portuguese and Dutch websites is shown in Table 7. Since the cultural values were rated from one (lowest-not depicted) to five (highest-prominently depicted), we took 3 as the point distinguishing high and low levels; values below 3 are low level of depictions whereas those 3 and higher are high level of depictions. Similarly, we took 60 as the point distinguishing low and high levels in the Hofstede's cultural values.

**Table 7. Descriptive statistics and ANOVA results Dimensions**

	NL websites		PT websites		SS	MS	F-value	P-value
	Mean	SD	Mean	SD				
Individualism - Collectivism	3.76	0.41	3.70	0.41	2.56	0.26	3.71	0.0306**
Uncertainty avoidance	4.10	0.28	4.15	0.33	0.98	0.16	2.03	0.1340
Power distance	3.73	0.56	3.85	0.52	3.36	0.37	2.21	0.1159
Masculinity - Femininity	2.80	0.30	2.81	0.23	0.56	0.14	4.85	0.0103**
High-context culture	2.90	0.47	2.82	0.44	2.57	0.51	6.58	0.0024**
Low-context culture	3.93	0.45	3.81	0.58	4.09	0.68	3.91	0.0188**

SD: Standard Deviation, SS: Sun of Squares , MS: Mean Squares

\*  $P < 0.1$  , \*\*  $P < 0.05$ , \*\*\*  $P < 0.01$

Based on the list of hypothesis (Table 8) our analysis do not supported the hypotheses H2 (uncertainty avoidance) ( $F=2.03$ ,  $P<0.134$ ) and H3 (power distance) ( $F=2.21$ ,  $P<0.1159$ ). Regarding hypotheses H1 (individualism – collectivism), H4 (masculinity – femininity), H5 and H6 (high/low-context) the differences are statistical significant ( $P<0.05$ ).

**Table 8. Hypotheses testing results**

	Hypotheses		Website analysis		Hypotheses test results
H1: Individualism - Collectivism	NL: <b>High</b> PT: <b>Low</b>	NL > PT	NL: <b>High</b> PT: <b>High</b>	NL = PT	<b>No</b>
H2: Uncertainty avoidance	NL: <b>Low</b> PT: <b>High</b>	NL < PT	NL: <b>High</b> PT: <b>High</b>	NL = PT	<b>n. s.</b>
H3: Power distance	NL: <b>Low</b> PT: <b>High</b>	NL < PT	NL: <b>High</b> PT: <b>High</b>	NL = PT	<b>n. s.</b>
H4: Masculinity	NL: <b>Low</b> PT: <b>Low</b>	NL = PT	NL: <b>Low</b> PT: <b>Low</b>	NL = PT	<b>Yes</b>
H5: Low context culture	NL: <b>High</b> PT: <b>Low</b>	NL > PT	NL: <b>High</b> PT: <b>High</b>	NL = PT	<b>No</b>
H6: High context culture	NL: <b>Low</b> PT: <b>High</b>	NL < PT	NL: <b>Low</b> PT: <b>Low</b>	NL = PT	<b>No</b>

Notes: n. s. not significant; Yes = Supported; No = Not Supported

With respect to the dimension individualism - collectivism, the mean value in the Dutch sample is 3.76 and 3.70 for Portuguese websites and both with statistical significance. However, H1 is not supported as Dutch and Portuguese websites contrary to the expected performed higher on individualistic values. This result suggests that while Dutch websites has been culturally adapted by the companies the Portuguese websites maintain the same differences. The hypotheses H2 and H3 are both not statistical significant, meaning that both uncertainty avoidance and power distance are not variables to consider in the analysis of website cultural adaptation.

Regarding the masculinity-femininity dimension, the mean value in the Dutch sample is lower (2.80) than the central value 3. The same applies for Portuguese websites, where mean value is also lower (2.81). Thus, H4 is supported meaning that the management of site facilities such as quizzes and games, realism themes, product effectiveness and clear gender roles are culturally adapted for both Portuguese and Dutch websites.

Hypothesis 5 and 6 (high/low-context culture) shows that, although statistical significant, only the Dutch websites were adapted to high/low context cultural values while Portuguese websites are different from the hypothesized.

## 5. Conclusions

This study attempted to demonstrates that there are significant cultural differences between Portuguese and Dutch in the websites of 20 companies listed on Fortune 500. Based on the results, we can conclude that Dutch websites differ from the Portuguese website for several of the cultural category items analyzed,

specifically on the masculinity/femininity dimension. Indeed, Portuguese and Dutch websites prominently exhibited feminine values depicted in clear gender roles and product effectiveness.

Portuguese society has been viewed as collectivistic and group-oriented (Hofstede, 1980), but based on the analysis of Portuguese and Dutch websites it scores high on individualism, not supporting the formulated hypothesis for Portuguese websites. The uncertainty-avoidance and power distance dimensions hypothesis are not confirmed due to lack of statistical significance in both cases.

The Portuguese and Dutch websites scored low on Hall's (1976) high/low-context dimension, which contradicts the hypothesis formulated previously, meaning that whether Dutch websites were adapted to high and low context values, the Portuguese websites maintain significant differences.

The results found in this study can benefit digital marketers in four important ways. First, these results show that there are significant differences in the depiction of cultural values between different cultures. Thus, digital marketers need to be more aware that the website is not a culturally neutral medium; instead, it is impregnated with the cultural values of the local websites. On the other hand, this study presents a cultural value framework that can be used by digital marketers to design culturally congruent, country-specific websites. Furthermore, this work also outlines the cultural categories and their explanation, which can be of use for analyzing country-specific websites for cultural values. Finally, by studying cultural content on websites, it can give us insights into cultural characteristics of a particular national culture when marketing globally on the web.

This research can serve as a good starting point for further work on the cultural analysis of websites and can open up an avenue for future research that can further validate and strengthen the proposed cultural value framework.

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#### **Appendix - Official websites of the companies included in the sample**

Official website of BP, <http://www.bp.com/>  
 Official website of Total, <http://www.total.com>  
 Official website of Samsung Electronics, <http://www.samsung.com/>  
 Official website of Apple, <http://www.apple.com/>  
 Official website of General Electric, <http://www.ge.com/>  
 Official website of Petrobras, <http://www.petrobras.com/>  
 Official website of Allianz, <https://www.allianz.com/>  
 Official website of HP, <http://www8.hp.com/>  
 Official website of Siemens, <http://www.siemens.com/>  
 Official website of NESTLE, <http://www.nestle.com>  
 Official website of HITACHI, <http://www.hitachi.com>  
 Official website of Hyundai motor, <http://www.hyundai.com>  
 Official website of Microsoft, <http://www.microsoft.com/>  
 Official website of Sony, <http://www.sony.com>  
 Official website of Panasonic, <http://www.panasonic.com>  
 Official website of BNP Paribas, <http://www.bnpparibas.com>  
 Official website of Coca-Cola, <http://www.cocacola.com>  
 Official website of ABB, <http://www.abb.com>  
 Official website of Accenture, <http://www.accenture.com/>  
 Official website of NEC, <http://www.nec.com/>