

## **DOES DISTANCE REALLY PLAY NO ROLE AT ALL ON THE WEB?**

### **THE IMPACT OF PSYCHIC DISTANCE ON FOREIGN WEBSITE VISITS**

#### **Abstract**

Drawing on the psychic distance literature, we examine whether different dimensions of psychic distance affect the number of foreign website visits of 2654 US households. Analyzing more than two million website visits aggregated by host country and website category, we find that geographic and cultural distance have a negative impact on foreign website visits. A closer analysis reveals that cultural distance has a positive impact on the number of visits of taste-related websites. These findings have implications for the psychic distance literature and trigger new questions about the application of International Business theories in a borderless setting like the Web.

(100 words)

**Keywords:** Psychic distance, Internet

## **1. Introduction**

In December 2006 Time Magazine decided that the Person of the Year 2006 was ‘You!’ referring to the importance of the Internet in the lives of many of us around the globe. The economic importance of the Internet is also evident, as Internet sales in the United States (U.S.) have increased by more than 500% since 1999 and many firms have developed e-commerce strategies trying to increase their number or website visits and sales (U.S. Census 2007). However, despite the generally acknowledged economic importance of the Internet, international business (IB) scholars have only very limitedly studied the Internet and its effects (Lim et al., 2004). Given the international and comparative setting of IB and the fact that the Internet is borderless, one would a priori expect a greater interest of especially IB scholars in the World Wide Web.

In this paper we take issue with this omission by examining the number of foreign website visits of a sample of 2654 U.S. households, and test if psychic distance – a key construct in IB – affects the behavior of individuals when visiting foreign websites. The main question we aim to answer in this paper is whether psychic distance affects the number of foreign website visits. This is interesting because it has been argued and convincingly shown that psychic distance affects the behavior of firms and individuals in the real world, and the question arises if this is also true for the borderless world of the World Wide Web. We also investigate whether this effect differs across general and taste-related websites, because the latter websites may be expected to be more strongly related to the value- or culture-related component of psychic distance.

Drawing on the psychic distance literature, we distinguish between cultural, political and economic and geographic distance (Johanson & Vahlne, 1977; Dow,

2000). In line with the traditional role of physical distance on trade and investment flows (Loree & Guisinger, 1995; Grosse & Trevino, 1996; Habib & Zurawicki, 2002; Globerman & Shapiro, 2003; Sethi et al., 2003), we find that increasing geographic distance is associated with a lower number of foreign website visits. Controlling for cultural, political, and economic distance, kilometers still matter on the Internet. However, adding cultural distance as a psychic distance indicator reduces the effect size of geographic distance. Regarding cultural distance we find a negative effect as well, except for one specific taste-related category of websites which is positively affected to cultural distance: pornography. This sheds new light on the impact of cultural distance on consumer behavior, suggesting that larger cultural differences can be a source of attraction rather than distrust (cf. Morosini et al., 1998). Depending on the nature of the site, people may actually like websites from countries that are culturally remote from their home country. We do not find evidence for a role of political and economic distance in explaining the number foreign website visits.

Our contribution is twofold. First, we examine the role of psychic distance in a novel setting, i.e. the Internet. Second, we consider multiple aspects of psychic distance, including geographic distance, which has so far typically been considered as a proxy for transportation costs in the IB literature. By doing so, we put into practice Dow and Karunaratna's (2006) recent plea for a more careful analysis of the role of psychic distance. Our results also have a number of broader implications for the IB field. We show that psychic distance is not a homogeneous concept, because different components may be related to the phenomenon of interest in different ways. This is an important conclusion because although many psychic distance scholars acknowledge the multidimensionality of psychic distance, it is often implicitly assumed that all aspects of psychic distance have similar – often negative - effects. Moreover, our

results trigger further research on the similarity between the real world of IB and the borderless Internet world. Are existing theoretical and empirical concepts, measures, and frameworks equally relevant for explaining international Internet activity? Or are revisions required? And if so, along what lines?

This paper is exploratory in the sense that, as far as we know, no cross-cultural analysis of website visits has been performed yet, and no well-developed theoretical framework exists in this 'www'-context. Therefore we limit ourselves to a succinct review of the theoretical literature on psychic distance. Then we discuss the empirical set up of this paper, our data and estimation method. After a discussion of our findings, we provide some implications for psychic distance research in particular and IB research in general.

## **2. Theoretical background**

Understanding the role of differences in values and the (often negative) impact of these differences on international cooperation and on the location and type of international investments, has been a key issue in IB since its inception (Nehrt et al., 1970; Ricks, 1985). Over time, numerous articles have been published on the relation between culture and international business (Leung et al. 2005; Kirkman et al. 2006). Despite the insights generated, Buckley (2002) still sees a role for culture and IB research, not as a separate subfield, but parallel to and cross fertilizing 'mainstream' IB research. According to Buckley (2002), IB is at least partly defined by its attention to cultural differences and the comparative method.

Although many IB scholars have focused on cultural distance, mostly by comparing the differences between home and host country on Hofstede's dimensions, the concept of cultural distance is strongly related to the broader and older concept of

psychic distance. And according to Dow and Karutnaratna (2006: 578), psychic distance is ‘one of the most commonly cited, yet vaguely measured constructs within the realm of international business’. Although the origins of psychic distance has been traced back to Beckerman (1956), psychic distance has been popularized in IB by the Uppsala school of internationalization (Clark & Pugh, 2001; Drogendijk, 2001). Starting in the mid 1970s researchers at the Uppsala school included psychic distance in their research in a structured way by looking at:

- a) the establishment of a formal definition. Johanson and Vahlne (1977: 24) defined psychic distance as “the sum of factors preventing the flow of information to and from the market”. The sum of factors includes a several elements, ranging from differences in language, political systems, cultural differences, and level of economic development.
- b) the measurement of psychic distance.
- c) its potential applications, focusing on entry modes and location choice.

Ideally, psychic distance is theorized and measured at the individual level, i.e. at the level of the individual manager making a decision (O’Grady & Lane, 1996). National cultural differences may increase the psychic distance at the individual level, and Dow and Karutnaratna (2006) propose to think of psychic distance as a sequence of related constructs. They distinguish between psychic distance stimuli at the country level and what they call the perceived psychic distance at the individual level. Although psychic distance and cultural distance - with the latter often being operationalized through the Kogut-Singh (1988) index – have often been used interchangeably, psychic distance should be interpreted as the total of economic, political, and cultural distance (Boyacigiller 1990; Evans et al. 2000). We also include geographic distance because Huang recently (2007) found that the same distance in

kilometers had a larger or smaller impact on trade flows depending on the cultural characteristics of the home country. Moreover, Blum and Goldfarb (2006) have shown that geographic distance affects the number of foreign website visits. By including geographic, cultural, political and economic distance we also extend Blum and Goldfarb's research by examining the impact of a broader set of psychic distance measures on the preferences of US consumers for foreign websites.

In the context of the Internet it is interesting to explore the role of psychic distance, if only for one important reason. Because the Web is borderless, the costs of visiting a website in a country close by or far away are equal. Assuming there are no differences in download times between websites from a country close to one's home country and those further away, the transport costs are zero. In case people decide to consume on the Web by ordering goods that require shipment, transportation costs are obviously not zero, but most often categorized in terms of regions. Ordering a book at an American bookshop from the Netherlands or from Turkey does in fact not make a difference in terms of transportation costs, despite the fact that the physical distance between the US and Turkey is larger than the distance between the US and the Netherlands. Nevertheless, in our empirical test we restrict ourselves to those websites where transportation costs are zero and consumption is realized on the web.

Given this absence of transportation costs, the question arises how psychic distance may affect the preferences for websites of people from different countries. There are at least two effects in play. The first relates to the perception that a country is geographically distant. Although physical distance should not play any role on the borderless Web, it may still have an effect on website selection. The larger the geographic distance to the country hosting the website, the further away a consumer may consider the website to be away in psychic terms. Secondly, people may not visit

websites in certain countries because – independent of the geographic distance – people feel less ‘connected’ in terms of shared value systems. A large cultural distance between home and host countries may increase the psychic distance and lead to a lower number of foreign website visits. This may especially be true for those websites that are not value-neutral. We expect a larger impact of one’s value system and the associated differences in preferences between home and host country for taste-related categories of websites like gambling or gaming. In contrast to geographic distance, cultural distance reflects differences in values and preference structures which may logically affects peoples’ choice for their website visits. Hence, we may expect that the negative impact of the value-related component of psychic distance, i.e. cultural distance, will be especially relevant for taste-related website categories. Overall, we expect a negative relationship between psychic distance and the number of foreign website visits.

### **3. Empirical test**

#### **Sample**

To test our thesis of the impact of psychic distance we use data of 2654 American households of which each website visit in the period December 27, 1999 and March 31, 2000 is tracked. The data are collected on the basis of information provided by Plurimus corporation and website visits are identified on the basis of individual clickstream data meaning that both the web address and the exact time of each website visit are included in this database. Plurimus identified 25 categories, listed in Table 1. It clearly shows the popularity of pornography, ranked 2<sup>nd</sup> after general search portals like Yahoo and Google. Websites including shipping are not included because we want to test our psychic distance thesis in a borderless world, implying

zero transportation costs. Hence, for all categories it holds that consumption is realized on the web.

<Insert Table 1 about here>

Based on the country suffixes of the web-address (eg. .dk, .nl, .uk), we identified the country of origin of the website visited. For extensions like .org or .com the country of origin was identified on the basis of the location of the company's head quarter. In total we have data for 36 countries. The countries included are listed in Table 2.

<Insert Table 2 about here>

The 25 categories consist of both taste and non taste related websites. In our analysis we specifically analyze taste related categories, because we expect these to be specifically sensitive for value-related aspects of psychic distance. These are games, gambling, music and pornography (Blum & Goldfarb, 2006).

### **Dependent variable: website visits**

Our dependent variable is measured as the aggregate number of foreign website visits of US households by host country. We aggregate the individual household data to the country level for several reasons. First, and most importantly, our psychic distance measures are operationalized at the country level. Second, analyzing more than 2 million website visits nested in 25 categories in 36 countries is statistically too complex to yield clear results. Third, an individual level analysis requires independent



variables at the individual level to control for individual-level characteristics and these data are not available. Hence, we aggregate to the country-category level, resulting in a final sample of 900 observations (25 website categories for 36 countries).

Similar to analyses relating FDI flows to countries' characteristics, we relate the number of international website visits to countries' characteristics. Our key variable is psychic distance. We also include a number of controls related to website visits and/or psychic distance.

### **Key independent variable: psychic distance**

Following the theoretical debate on psychic distance we use a number of indicators potentially relevant for an overall psychic distance measure. In line with Johanson and Vahlne 's (1977) theoretical definition, we measure psychic distance as the sum of differences in values, language, level of economic development and political systems. We operationalize psychic distance on the basis of these indicators. As Huang (2007) has shown that geographic distance is at least partly related to the perceptions people hold towards host countries, and Blum and Goldfarb (2006) have shown the relevance of geographic distance in the context of website visits, we include geographic distance as our fifth component. Thus, our indicators are:

*Geographic distance:* As is commonly done in the field of trade and FDI, physical distance between the U.S. and the host countries is measured as the number of kilometers between the capital cities of these countries.

*Cultural distance:* We measure the cultural distance between the US and our host countries by the Kogut and Singh (1988) index, which is based on the differences

in scores on each of Hofstede's (1980) four dimensions of national culture, i.e. power distance, uncertainty avoidance, individualism, and masculinity.

*Language differences:* The presence of a common language has traditionally been included in analyses of trade flows as a dummy variable obtaining a 1 if both countries share a similar official language (Geraci & Prewo, 1977; Srivastava & Green, 1986; Anderson & Marcouiller, 2002; Frankel & Rose, 2002; Rose, 2004). Dow and Karutnatna (2006) have developed a continuous measure building on language families, and the reported incidence of one language within another country. Although all aspects of psychic distance are important, language differences may be especially relevant to include in this context because it can be expected to affect the likelihood that a U.S. citizen visits a website if it is written in the English language.

*Political distance:* Based on Beck et al.'s (2001) analysis of Right-Centre-Left scales, Dow and Karutnatna (2006) measure the differences in political ideology. The political distance between countries is based on a calculation comparing the ideological leanings of the chief executive's political party (e.g., the president or prime minister) and the largest political party in government across the period 1993-1998. Acknowledging that this measure captures political preferences in a rather crude way, to our knowledge it is the best one available at such a scale.

*Economic distance:* Following the literature dating back to Linder (1962), we include differences in level of economic development as countries that are economically close to the U.S. have consumer preferences that are relatively close compared to those countries further away economically. The measure is operationalized by taking the log of the absolute value of differences in GDP per capita between the U.S. and the host country.

In order to obtain one psychic distance measure, we perform a factor analysis on these 5 aspects of psychic distance. We obtain three factors with an eigenvalue above 1. The results are shown in Table 3.

<Insert Table 3 about here>

Factor analyzing the 5 indicators clearly indicates that we cannot pool the different psychic distance drivers together in one psychic distance measure. Other than the first factor grouping together the Kogut and Singh (1988) index and the language difference measure by Dow and Karutnaratna (2006), we do not find clear dimensions for factor 2 and 3. Both geographic and political distance are separate dimensions. Economic distance loads relatively low on all three factors and should therefore be interpreted as a separate indicator as well. The Cronbach's alpha for factor 1 including the Kogut and Singh index and Dow and Karutnaratna 's language differences variable equals 0.83. Based on the results of this factor analysis we include four factors all measuring separate aspects of the overall psychic distance to the host countries in our sample; geographic distance, political distance, economic distance, and cultural distance. The latter is a composite variable consisting of the Kogut and Singh index based on Hofstede's cultural dimensions and language differences. All our estimations include these 4 drivers of psychic distance. When we included language differences and the Kogut and Singh index separately in our models, we obtained similar results in terms of significance levels.

## Control variables

We include a number of control variables. First we include a measure for the size of the country measured by gross domestic product (GDP). *GDP* data come from the CIA World Fact Book. We control for country size (economically) as we expect the likelihood of a U.S. citizen to visit a foreign website to be positively related to the size of that country. In a sense, GDP proxies for the number of websites. Secondly, we include a measure for level of economic development. Data on *GDP per capita* also come from the CIA World Fact Book. We control for GDP per capita as countries that are economically more developed may be expected to have a better infrastructure and higher quality of Internet connectivity. Finally, we include the number of Internet hosts. Data on the *number of hosts* are obtained from the International telecommunications Union ([www.itu.int](http://www.itu.int)). We control for the number of Internet hosts as countries that are better connected to the web may be expected to generate more visits from U.S. citizens.

## Method

We apply a left-censored Tobit model using category-based weights. Given the fact that many countries' websites are never visited in particular countries (e.g. Chat websites in the Netherlands), and we do not want to assume that these websites are not available (because in reality they are), we include these website by applying a left-censored truncation (Tobit). Instead of assuming that websites with zero market shares do not exist, we truncate these observations by using the inverse of the number of observations in a category. For example, Australia has zero website hits in the 'chat' category, and the total number of hits in this category equals 62,240. In this case we left-truncate the 'chat' category in Australia with a score of  $1/62,240$ . Hence,

because a zero score in a specific category is a result of the fact that our sample is based on American households, and not because the category as such does not exist, we do not throw these observations out, but include them by left-censoring them. Finally, we apply a weighted regression analysis and weigh our data by the total number of visits in a category. Doing so avoids the problem that the results may be driven by the largest categories. Our estimations are performed in Stata 9.

### **Analysis**

An overview of the mean, standard deviation and the correlations of our variables can be found in Table 4. The correlations are moderate to low. We find a moderate correlation (-.58) between economic distance and GDP per capita, which corresponds with the fact that as countries have higher levels of GDP per capita, the economic distance with the US is smaller. We also find a moderate negative correlation (-.44) between political distance and GDP per capita, which suggests that countries with a different political ideology than the United States have lower levels of GDP per capita. A moderate negative correlation is also found between economic distance and the number of hosts (-.49), which given the relatively high level of GDP per capita of the United States corresponds with the idea that relatively poor countries have a lower number of hosts. The sheer size effect of a country and its positive relationship with the number of hosts is reflected in the moderate correlation between GDP and number of hosts (.55). The .37 positive correlation between number of hosts and GDP per capita is sensible given that they both relate to the level of technological development of a host country. Other than these logical findings, all correlations are below .30.

<Include Table 4 about here>

Our testing procedure consists of a stepwise hierarchical regression in which we start from a basic model and subsequently add our variables of interest. Model 1 includes our control variables, and these behave according to expectation; GDP, GDP per capita and the number of hosts are significant and have a positive sign. Adding geographic distance in model 2 yields a negative and significant coefficient. The size of the coefficient decreases in model 3 when we add our cultural distance indicator, confirming our thesis that Blum and Goldfarb's (2006) strong negative effect of geographic distance on foreign website visits should at least be partly attributed to cultural distance and not just to physical distance. Cultural distance is negative and significantly related to the number of website visits. In model 4 we add economic distance to our regression equation but this does not result in a significant effect. Model 5 finally includes all aspects of psychic distance. Both geographic and cultural distance have a significantly negative effect. Economic and political distance are both insignificant. For all models we find that the model fit is acceptable with  $p < .000$  for Chi2 tests.

<Include Table 5 about here>

The main results of Table 5 suggest that countries that are both geographically and culturally further away from the United States enjoy less website visits from the Americans in our sample. Psychic distance affects the location of the websites visited. In addition we explore if the impact of geographic and cultural distance differs for website categories. Although the web is global, tastes and preference structures are strongly related to one's home culture. Generally speaking, one would expect a

stronger negative effect of cultural distance on taste-related website categories. For geographical distance we expect this size effect to be smaller, because we may expect people to visit taste-related websites more deliberately thereby reducing the physical distance effect. Therefore, Table 6 summarizes our main findings regarding the relationship between these two psychic distance stimuli and taste-related website visits.

<Include Table 6 about here>

Model 6 limits the sample to those website categories that are taste-based: these are games, gambling, music and pornography (Blum & Goldfarb, 2006). The reduced sample yields a significant and negative effect for geographic distance. Using the full sample in model 7, we test the effect of taste-based categories by including an interaction effect of the taste category dummy and both geographic and cultural distance. Model 7 shows the results. We find both a significant and negative main effect for geographic and cultural distance, and a significantly positive effect of the taste-based dummy. The latter finding reflects the popularity of the taste-based categories. Interestingly, we find a positive interaction effect for cultural distance. The estimated coefficients of cultural distance indicate that the total impact of cultural distance on the number of taste-related website visits is actually positive ( $-1.19 + 1.53 = .34$ ). The interaction effects of cultural distance for taste-based and general website categories are graphically illustrated in figure 1.

<Insert Figure 1 about here>

This differential effect of the two main psychic distance indicators suggests that for taste-related products a higher cultural distance is associated with an increase in website visits. Given the inclusion of pornography in the taste-related categories, the popularity of pornographic websites, and the fact that of all the taste-based categories there are, one's preferences will probably be most clearly reflected in one's online behavior regarding pornography, we specifically look at this category. The intimate nature of web browsing in case of pornography is expected to make it closely related to one's preferences. Therefore it is important to test if the opposing effects of cultural and geographic distance in model 7 are caused by this specific category.

In model 8 we run the full model including all taste-based interactions but we exclude pornography as a taste-based category. Logically, the sample is reduced by 36. In line with the previous findings in Table 5 and model 7 in Table 6, the main effects of cultural and geographical distance are negative and significant. However, exclusion of pornography as a taste-based category results in an insignificant interaction effect of cultural distance, suggesting the interaction effect reported in model 7 is entirely driven by the inclusion of pornography as a taste-based category. To corroborate this finding, we specifically include a pornography dummy, and two interaction variables between cultural distance, respectively geographical distance and the pornography dummy. The results are shown in model 9 and clearly indicate that the positive interaction effect of cultural distance is specifically related to the pornography category. The overall effect of cultural distance on website visits is even larger than for the broader category of taste-based websites; the estimated coefficient of cultural distance is .87 (-1.36+2.23) *versus* .34 for the taste-based category as a whole. Model 10 further supports this conclusion. Similar analyses for the other taste-based categories (music, gambling and games) yield insignificant interaction effects



confirming the special position of pornography as a taste-based category (results not shown but available upon request).

The fact that geographic distance is insignificant in model 10 (taste categories excluding pornography) suggests that people visit taste-based website independent of the physical distance, and that cultural distance limits the number of visits for the taste categories excluding pornography. Although an individual level analysis is required to test this, the combined results of Table 6 seem to suggest that when taste is involved (or preferences are more important) people deliberately choose to visit certain websites: if taste is a relevant issue, people will deliberately choose a certain site independent of its physical location (hence an insignificant geographic distance effect), and for the same reason people visiting pornographic sites will like sites better from culturally distant countries (hence the positive effect of cultural distance on pornographic sites).

These mixed results on taste-based categories provide a complex picture on the role of psychic distance in taste-based website visits. We can deduce from these findings that first of all the different components of psychic distance need not be related to website visits in a similar fashion, but may have opposing effects. Strictly speaking, depending on one's preference structure cultural distance can both have a negative and a positive effect for taste-based websites. People may also like certain products *because* of the larger cultural distance. More specifically, the positive impact of cultural distance on pornography may be interpreted along this line, meaning that for this specific taste-based category the love for variety outweighs the traditional negative psychic distance arguments. The combination of the negative main effect of geographic distance and the positive interaction effect of cultural distance suggests that regarding pornography, the households in this sample prefer to visit portals in

countries that are geographically close to the United States, and offer pornographic material that is culturally remote from the United States. Table 7 provides some additional data.

<Insert Table 7 about here>

In Table 7 we have included the countries that according to the ranking shown in Table 2 have pornography as the number 1 category of website visits. For these 13 countries we include their scores on cultural and geographic distance. As the factor scores clearly indicate, the mean value of cultural distance in this sub-sample of 13 countries is .25, and -.14 in the other countries in which pornography is not the first ranked category. Excluding the culturally-close United Kingdom increases the mean value for cultural distance in the 12 remaining countries from .25 to .44. For geographic distance we find an opposite relation; the average geographic distance for the sub-sample is smaller than for the other countries (8.72 versus 8.96). With the exception of Luxemburg (-0.02) and the United Kingdom (-2.03), all countries in which pornography is ranked the most popular category have positive cultural distance scores, implying that these are above the mean (=0) score of cultural distance. These descriptive statistics further support our earlier findings as reported in Table 6.

We further test the robustness of our main findings by including additional control variables and reducing the sample size by excluding those countries of which more than 50% of the total website visits concerns pornography.

<Insert Table 8 about here>

To check if the impact of cultural and geographic distance is driven by immigrants in the United States browsing “home-country” websites (Dutch-Americans visiting Dutch websites), we control for the number of immigrants<sup>1</sup> and re-run our models 5, 7 and 9. Except for the geographic distance variable losing its significance and having a lower effect size, our main conclusions regarding the cultural distance variable do not change. The main effect of cultural distance is negative, and the interaction effects with taste-based categories and the more narrow category pornography is positive. A similar conclusion holds for including a control variable measuring the number of Americans that travel to a specific host country. Including a dummy taking the value of 1 if the host country uses the Latin alphabet yields results similar to the ones reported earlier.

Our final robustness check concerns a test if the results on cultural distance and pornography are driven by a number of countries that may serve as pornography hubs on the Internet. People may choose to visit culturally distant countries, but we can not rule out that our finding is driven by supply related factors; if it is only a specific number of countries that offers pornography, the cultural distance effect is not so much the result of a demand-driven love for variety but caused by the limited availability of Internet pornography in countries that happen to be culturally distant. Excluding the countries of which more than 50% of their website visits concerns pornography (the thirteen countries in Table 7 excluding Canada, France and the UK), still yields a negative main effect in model 9 and a positive interaction effect of cultural distance. The effect size however decreases leading to a zero overall effect of cultural distance. Although it seems highly unlikely given the number of countries

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<sup>1</sup> The number of immigrants is measured on the basis of the weights of immigrants in the population by country of origin.

involved (10 of the 25), this finding does not allow us to fully exclude the possibility that the cultural distance effect is partly affected by supply related factors.

#### **4. Implications**

In this paper we have tested if increasing psychic distance negatively affects the number of foreign website visits. We defined psychic distance to consist of four components: geographic, cultural, economic and political distance. Whereas geographic distance captures the impact of physical (real world) distance on people's psychological perceptions of distance, cultural distance captures the value-related aspects of psychic distance. Existing studies using psychic distance or its value-related component cultural distance have been applied in the context of real world IB activity. More specifically concepts like cultural distance and language differences have been applied in analyses of trade and investment flows between countries. As far as we know no analysis has been done of the role of psychic distance on international activities on the Web. Doing so is interesting because the Internet differs from the 'real' world in one important way: it is borderless.

Testing the relationship between psychic distance and foreign web site visits, we employed several measures of psychic distance. In line with our expectations, geographic distance is negatively related to the number of foreign website visits. Even in a borderless world, controlling for cultural distance, physical distance still matters. We also find substantial evidence that cultural distance has a negative effect on foreign website visits. No significant relationship exists between political or economic distance and the number of foreign website visits. However, when differentiating between taste-based and general website categories, we find a positive relationship between cultural distance and taste-based website visits. Our finding that the cultural

distance component of psychic distance positively affects the number of taste-based website visits suggests that people may deliberately visit these types of websites, because these are directly related to one's preferences and underlying values. A closer analysis of the taste-based categories shows that it is especially the pornography category that drives these results.

The fact that we find opposing relationships between certain foreign website visits on the one hand, and geographic and cultural distance on the other hand, is important. Though it is traditionally assumed – often implicitly – that increasing cultural distance negatively affects the phenomenon of interest (often international trade or investment flows, or commitment levels in entry mode research) this need not be the case. If people actually prefer products that are from culturally more distant countries than a positive effect of cultural distance may be expected (cf. Morosini et al., 1998). This is clearly illustrated by our finding on the positive effect of cultural distance on pornographic website visits. In other words, an important implication of our paper concerns our perception of the impact of psychic distance, either in the 'real' world or on the Internet. The different components of psychic distance need not necessarily behave in similar directions, and secondly this need not always be a negative relationship.

In addition to this need for IB scholars to more carefully model the role of psychic distance, the results of our paper also trigger us to sharpen our thoughts about the difference between international business activity in the real world or on the Internet. What theoretical concepts traditionally included in real world IB activity become obsolete in a borderless Internet world? Are there perhaps new elements that come into play? Are there perhaps theories that need to be revised? In the context of this paper, our analysis clearly showed that psychic distance, especially geographic

and cultural distance are two traditional IB indicators that are still relevant for explaining international Internet activity.

A full test of the role of psychic distance on the Web requires an empirical set-up at the individual level. As clearly argued by O'Grady and Lane (1996) and Dow and Karunaratna (2006), psychic distance is an individual level concept, but there are national level drivers. Given our country analysis of these national drivers, it would be interesting to complement our study by examining individuals, preferably by tracking their website behavior over time. Such a panel would also allow us to test the Uppsala stepwise internationalization process theory in a borderless www-setting (Johanson & Vahlne, 1977; Anderson, 1993). Does the Uppsala model reflect the behavior of web-browsing individuals? In other words, do individuals start visiting websites that are close by in psychic terms, and do they start to visit more and more websites that are further away in psychic terms as their web experience grows?

Finally, our sample dates back to early 2000, when the Internet was still emerging. In the last seven years the Internet has penetrated our lives and the 'real' business world in an impressive way. Online business to business and business to consumer sales have increased tremendously. One of the latest developments noteworthy in the context of this paper is the emergence of virtual (business) communities, like for example Second Life<sup>2</sup>. Although these virtual worlds were mostly limited to 'gamers', it is now being adopted by more and more non-gamers. These virtual worlds like Second Life are also interesting for IB scholars, as the borderless nature of the Web increases the likelihood of international cooperation and exposure to people from foreign cultures for people who may be relatively nationally

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<sup>2</sup> <http://secondlife.com/whatis/>

oriented in their real worlds. How does psychic distance affect their behavior in these virtual worlds like Second Life?

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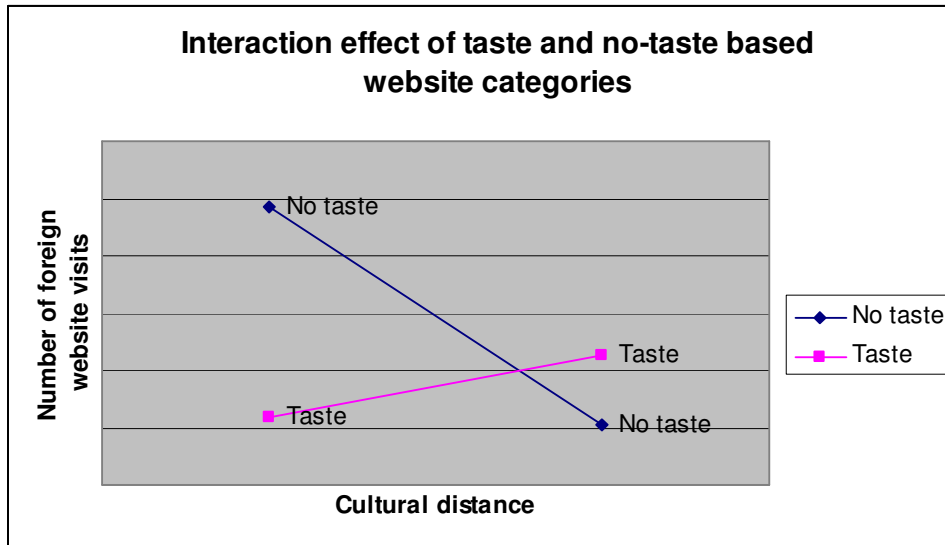
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**Figure 1:** Interaction effect of cultural distance and taste-based website categories



Note: based on model 7 of Table 6.

**Table 1:** Overview of website categories ranked on popularity

	<b>Category</b>	<b>Example<sup>1</sup></b>	<b>Total website visits</b>
1	Portal/search	Yahoo	876,595
2	Pornography	Porncity	444,042
3	E-mail	Hotmail	193,526
4	News-sports	CNN	186,884
5	Internet; webdesign & hosting	Desktoppublishing	183,850
6	Vertical portals	Canada.com	153,926
7	Community	Geocities	144,209
8	Financial information	YahooFinance	130,152
9	Software	Tuconews	128,874
10	Games	Boxerjam	68,993
11	General information	Brittannica	65,591
12	Chat	YahooChat	62,240
13	Non profit-education	Utoronto	42,901
14	Technology information	CNET	39,530
15	Financial transactions	TDWaterhouse	36,542
16	Travel	Expedia	27,940
17	Gambling	Lotto	26,582
18	E-cards	Bluemountain	22,715
19	TV-movies	TVGuide	22,174
20	Music	MP3	19,345
21	Travel information	Citysearch	17,197
22	Brochureware	Nike	16,662
23	Automotive information	Cartrackers	14,116
24	Comparison shopping	MySimon	8,064
25	Astrology	Astronet	2,323

<sup>1</sup> Taken from Blum and Goldfarb (2006)

**Table 2:** Overview of countries included in the sample

Country	Total visits	Most popular category
Australia	1,587	E-mail (370)
Austria	387	Pornography (294)
Brazil	351	Pornography (281)
Canada	16,411	Pornography (4,499)
China	297	Vertical portals (178)
Czech rep.	1,458	Vertical portals (1,334)
Denmark	1,780	Vertical portals (778)
Finland	466	News/sports (260)
France	2,025	Pornography (907)
Germany	3,491	Vertical portals (1,532)
Greece	2	Non profit-education (2)
Netherlands	13,992	Pornography (8,555)
Hungary	64	Pornography (64)
India	1,093	Vertical portals (875)
Ireland	767	Portal-search (422)
Israel	1,033	Software (395)
Italy	559	Portal-search (171)
Japan	6,801	Games (1,606)
Korea	298	Pornography (172)
Luxemburg	621	Pornography (621)
Mexico	4,148	Pornography (4,093)
New Zealand	1,217	News-sports (1,060)
Norway	487	Pornography (280)
Panama	3,319	Pornography (3,114)
Poland	102	Technology information (52)
Portugal	132	Vertical portals (123)
Russia	4,796	Portal-search (2,028)
South Africa	188	Internet (77)
Singapore	51	Internet (30)
Spain	2,638	Vertical portals (1,301)
Sweden	2,572	Vertical portals (1,690)
Switzerland	1,064	Financial transactions (580)
Taiwan	199	Community (199)
Thailand	48	Pornography (34)
Turkey	379	Pornography (376)
UK	8,453	Pornography (1,982)
USA <sup>1</sup>	2,841,987	Portal-search (866,831)

<sup>1</sup> The USA is not included in the analysis, because it is the home country. It is shown for reasons of comparison.

**Table 3:** Rotated factor loadings for psychic distance indicators ( $N = 36$ )

	Factor 1 Eigenvalue=1.80 Explained variance=.36	Factor 2 Eigenvalue=1.14 Explained variance=.23	Factor 3 Eigenvalue = 1.07 Explained variance=.21
Geographic distance	.14	.16	.87
Kogut and Singh index	.89	.17	.06
Language difference	.93	-.14	.02
Political distance	-.04	.93	.10
Economic distance	.35	.45	-.55

**Table 4:** Descriptive stats and correlations

	Mean	St. dev.	1	2	3	4	5	6
1. GDP <sup>1</sup>	5.98	1.31	1					
2. GDP per capita <sup>1</sup>	9.74	.65	-.29	1				
3. Number of hosts <sup>1</sup>	12.88	1.43	.55	.37	1			
4. Geographic distance <sup>1</sup>	8.90	.54	.06	-.18	-.10	1		
5. Cultural distance <sup>2</sup>	.00	.85	.02	-.25	-.21	.10	1	
6. Economic distance <sup>1</sup>	8.72	.79	-.02	-.58	-.49	-.07	.21	1
7. Political distance	.32	.17	.08	-.44	-.16	.08	.04	.14

<sup>1</sup> log values<sup>2</sup> composite indicator includes the Kogut-Singh index and Dow and Karutnaratna's measure of language differences**Table 5:** Estimating the impact of psychic distance on foreign web visits

	Model 1 Controls only	Model 2 + Geographic Distance	Model 3 + Cultural Distance	Model 4 + Economic Distance	Model 5 + Political Distance
GDP	1.10 (.25) **	1.10 (.25) **	1.15 (.24) **	1.16 (.24) **	1.17 (.23) **
GDP per capita	2.38 (.48) **	2.10 (.47) **	1.83 (.44) **	2.00 (.49) **	2.34 (.53) **
Number of hosts	.73 (.24) **	.61 (.23) **	.46 (.23) *	.49 (.23) *	.49 (.23) *
Geographic distance		-1.80 (.33) **	-1.60 (.32) **	-1.53 (.34) **	-1.47 (.33) **
Cultural distance			-.97 (.22) **	-.99 (.22) **	-.96 (.22) *
Economic distance				.26 (.33)	.34 (.34)
Political distance					2.26 (1.21)
N	900	900	900	900	900
Log likelihood	-892.4	-878.32	-868.18	-867.89	-874.40
LR Chi square	528.78 (.000)	556.93 (.000)	577.22 (.000)	577.80 (.000)	564.78 (.000)

\*\* p &lt; .01, \* p &lt; .05, (two tailed), censored normal regression (Tobit) including category fixed effects.

**Table 6:** The interaction between taste dependent website categories and psychic distance

	Model 6 Taste categories only	Model 7 Full model incl. Taste interactions	Model 8 Full model incl. Taste interactions, excluding pornography	Model 9 Full model Incl. pornography interaction	Model 10 Taste categories only, excluding pornography
GDP	.40 (.52)	1.19 (.23) **	1.38 (.25) **	1.19 (.23) **	-.23 (.89)
GDP per capita	1.44 (1.10)	2.36 (.52) **	2.42 (.59) **	2.38 (.52) **	.31 (1.84)
Number of hosts	.52 (.51)	.49 (.23) *	.58 (.24) *	.49 (.22) *	1.67 (.88)
Geographic distance	-2.52 ( .59) **	-1.14 (.37) *	-1.04 (.34) **	-1.16 (.36) **	-1.07 (1.02)
Cultural distance	-.06 (.51)	-1.29 (.24) **	-1.18 (.22) **	-1.36 (.23) **	-2.18 (.72) **
Economic distance	.75 (.73)	.34 (.34)	.23 (.36)	.33 (.33)	1.19 (1.28)
Political distance	.52 (2.73)	2.26 (1.19)	2.62 (1.25) *	2.27 (1.18)	-1.58 (4.33)
Taste category dummy		64.66 (13.32) **	39.38 (10.72) **		
Taste*Geographic distance		-1.36 (.74)	-.54 (1.52)		
Taste*Cultural distance		1.53 (.39) **	-1.75 (1.04)		
Pornography dummy				64.98 (13.4) **	
Pornography*Geographic distance				-1.44 (.79)	
Pornography*Cultural distance				2.23 (.52) **	
N	144	900	864	900	108
Log likelihood	-183.21	-860.27	-764.10	-856.11	-91.98
LR Chi square	83.61 (.000)	593.05 (.000)	534.98 (.000)	601.36 (.000)	32.14 (.000)

\*\* p< .01, \* p < .05 (two tailed), censored normal regression (Tobit) including category fixed effects.

Taste dependent: games, gambling, music, and pornography.

**Table 7:** Cultural and geographic distance for those countries in which “Pornography” is the first ranked category

		Cultural distance <sup>1</sup>	Geographic distance <sup>2</sup>
1	Austria	.06	8.87
2	Brazil	.52	8.82
3	France	.41	8.73
4	Netherlands	.31	8.73
5	Hungary	.39	8.90
6	Luxemburg	-.02	8.74
7	Mexico	.35	8.01
8	Panama	.55	8.11
9	Thailand	.75	9.56
10	Turkey	.66	9.07
11	UK	-2.03	8.68
12	Korea	.80	9.32
13	Norway	.50	8.73
	Mean value for 13 countries <sup>3</sup>	.25	8.72
	Mean value for the rest of the sample	-.14	8.96

<sup>1</sup> Factor scores

<sup>2</sup> Log values

<sup>3</sup> Excluding the culturally close UK increases the mean cultural distance value from .25 to .44.



**Table 8:** robustness analysis

		Model 5	Model 7	Model 9
<i>Immigrants</i>  Additional control variable	Geographic distance	-.93 (.41)*	-.77 (.42)	-.75 (.42)
	Cultural distance	-.98 (.21)**	-1.26 (.23)**	-1.33 (.22)**
	Taste dummy	-	51.81 (12.72)**	-
	Taste*geographic distance	-	-.71 (.72)	-
	Taste*cultural distance	-	1.28 (.46)**	-
	Pornography dummy	-	-	53.32 (12.90)**
	Porn*geographic distance	-	-	-.93 (.78)
	Porn*cultural distance	-	-	1.98 (.49)**
<i>Travels</i>  Additional control variable	Geographic distance	-1.25 (.54)*	-.94 (.56)	-.95 (.55)
	Cultural distance	-.89 (.25)**	-1.22 (.27)**	-1.29 (.26)**
	Taste dummy	-	64.59 (13.31)**	-
	Taste*geographic distance	-	-1.35 (.74)	-
	Taste*cultural distance	-	1.53 (.48)**	-
	Pornography dummy	-	-	64.90 (13.41)**
	Porn*geographic distance	-	-	-1.43 (.78)
	Porn*cultural distance	-	-	2.22 (.52)**
<i>Latin alphabet</i>  Additional control variable	Geographic distance	-1.56 (.35)**	-1.22 (.38)**	-1.24 (.37)**
	Cultural distance	-1.03 (.24)**	-1.36 (.25)**	-1.43 (.25)**
	Taste dummy	-	64.83 (13.61)**	-
	Taste*geographic distance	-	-1.38 (.74)	-
	Taste*cultural distance	-	1.54 (.48)**	-
	Pornography dummy	-	-	65.22 (13.42)**
	Porn*geographic distance	-	-	-1.47 (.80)
	Porn*cultural distance	-	-	2.22 (.52)**
<i>Exclude pornography hubs</i> (10 countries with >50% of their visits are pornography based), <i>N</i> = 650	Geographic distance	-.97 (.33)**	-.96 (.36)**	-.94 (.35)**
	Cultural distance	-.93 (.20)**	-1.02 (.22)**	-1.12 (.22)**
	Taste dummy	-	42.56 (12.75)**	-
	Taste*geographic distance	-	-.06 (.73)	-
	Taste*cultural distance	-	.48 (.47)	-
	Pornography dummy	-	-	43.35 (12.97)**
	Porn*geographic distance	-	-	-.15 (.79)
	Porn*cultural distance	-	-	1.11 (.50)*

\*\* p < .01, \* p < .05 (two tailed), censored normal regression (Tobit) including category fixed effects.