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# **Information Sources Used by European Tourists: A Cross-Cultural Study**

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## **Abstract**

This study investigates which information sources European tourists use when making decisions about their travel/ holiday plans. Using survey data based on national representative samples of tourists from 27 member countries of the European Union allows generalizable conclusions to be drawn. The data were analysed using correspondence analysis of overall country data. The findings indicate that there are systematic differences in how information sources are related to one another and that the various national cultures within the European Union have influence on tourists' use of information sources. Six segments of information source behaviour are revealed. These segments reflect economic development and the national cultures of European nations. Management implications are highlighted. The findings of this study can be used to segment tourists' use of information sources according to economic development and national culture.

**Key words:** Cross-cultural, information search, European Union, economic development, national culture, tourism.

## **Introduction**

The ability to attract tourists is crucial for the success of tourism firms. There is therefore much interest in which information sources tourists use when selecting a destination. Tour operators, tourism providers and managers of tourist destinations are particularly concerned with which promotional media to use in order to attract tourists. In fact, any marketing strategy designed to attract tourists should include an identification of the information sources used by this market (McGuire, Uysal, and McDonald 1988; Uysal McDonald, and Reid 1990).

International segmentation may assist tourism firms become more successful in their promotional activities. Being able to identify one or more segments of tourists across countries may help tourism firms find and apply uniform sets of information sources within a group of countries. Such standardization can make it possible for tourism firms to leverage their experiences with promoting their product or services in one country into a segment of countries.

International segmentation can help tourism firms identify which information sources to use across several countries in order to facilitate communication with prospective tourists. Using the same information sources in multiple countries can lead to economies of scale and reduction in the average costs of advertising and marketing communication. When tourists within a targeted segment have the same or a similar pattern of information use, such strategies can be highly effective. International segmentation may then provide both the advantages of standardization in the use of information sources (e.g. lower costs, better communication) as well as the benefits of adaptation (e.g. adapted to the needs of the tourists).

It is not clear what the basis for international segmentation should be (Budeva and Mullen 2014), as this may depend on the type of products and services to be promoted, as well as characteristics of the markets. There are few studies that try to use information source use as a segmentation variable (Gursoy and Umbreit 2004). There is, therefore, a need for more research on international segmentation based on information source behaviour (Gursoy and Chen 2000; Money and Crofts 2003; Osti, Turner, and King 2009).

The purpose of this study is to investigate international segments in tourists' use of information sources when making decisions about their travel/ holiday plans. This study tries to shed light on why and to what degree tourists from different countries have similar or varying information source behaviour. In particular, we investigate how economic development and national culture are related to tourists' use of information sources. As there is great variation in economic development and national culture among the countries within the European Union (EU), the EU is well suited for an investigation of the relationship between economic development, national culture and tourists' information source use. The emphasis here is on information search behaviour among tourists from 27 member countries of the EU (data prior to Croatia's joining as the 28th country are used). This study replicates and extends previous research by explicitly focusing on European tourists.

This study contributes to the literature in four ways. First, by showing similarities and differences in the use of information sources, that is which information sources go together and which information sources contrast each other. Second, it identifies international segments within the EU with respect to use of information sources. Using representative samples of tourists from the 27 member countries of the EU allows drawing generalizable

conclusions about which information sources managers of tourist destinations may use to attract tourists from particular countries or segments of EU countries. Third, it proposes a framework for international segmentation of information search. Fourth, the study also has a methodological contribution by introducing into the tourism literature several innovations in the data analysis and presentation of the results, namely the use of a variant of correspondence analysis called subset correspondence analysis, which is an approach for dealing with missing responses, the testing for statistical significance of the dimensions resulting from the correspondence analysis, and the incorporation of external economic and cultural indicators into the results to support the interpretation.

The remainder of the article is organized as follows. In Section 2 the relevant literature is reviewed and a framework for studying tourists' use of information sources is provided. The research methodology underlying the empirical study is summarized in Section 3. This is followed by a discussion of the results in Section 4. Finally, in Section 5, conclusions are drawn in the form of theoretical and managerial implications.

## **Literature review**

### **Information source behaviour**

The search for information is an early step in the decision-making process of tourists (Gursoy and Umbreit 2004). Information search has been defined as the motivated activation or acquisition of knowledge stored in memory or acquisition of information from the environment (Engel, Blackwell, and Miniard 1995). Information search can be internal and external. Internal search means that tourists' previous experiences and knowledge are retrieved from memory (Fodness and Murray 1997). If the internal search turns out to be inadequate (Beatty and Smith 1987) or the information is not up-to-date, then tourists will

move to an external search for information (Gursoy and Umbreit 2004). External information search implies that information sources outside of personal experience are used as sources of information (Fodness and Murray 1998). Examples of external information sources are family and friends, destination specific literature, media and travel consultants (Snepenger and Snepenger 1993).

### **Segmentation of European information source behaviour**

International markets can be segmented in various ways. Many studies of international segments have used macro-level segmentation based on secondary data (Budeva and Mullen 2014). Such studies are mostly based on economic development (for a review, see e.g. Mitra and Goulder 2002) or on national culture (for a review, see e.g. Budeva and Mullen 2014).

Several studies build typologies using, for example, the cultural dimensions of Hofstede (1980, 2001). However, economic development and cultural influences can have different influences depending on the domain studied (Vanderstraeten and Matthyssens 2009). The existing literature of information search among European tourists does not give enough guidance to select any typology to use. We therefore create an empirically based taxonomy (Vanderstraeten and Matthyssens 2009) based on the information sources used by tourists in European countries, by using multivariate methods to show similarities and differences between countries and find clusters in the data. These clusters will be the basis for the international segmentation.

Europeans information source use has previously been used as a basis for international segmentation. Uysal, McDonald, and Reid (1990) investigated the use of information sources by tourists from France, United Kingdom, West Germany and Japan when visiting U.S. parks

and natural areas. The sample consisted of about 1,500 people from each country. Analysing the rank-ordering of tourists' use of seven information sources, they found that the tourists used multiple information sources and that the relative importance of information sources varied between countries.

Chen and Gursoy (2000) looked at the use of information sources among first-time and repeat tourists from France, Germany and United Kingdom who were visiting the United States. They used data obtained from in-flight surveys, consisting of tourists' rank-orderings of 12 information sources. Logit analysis and nonlinear discriminant analysis were used to analyse the data. They further used correspondence analysis to visualise patterns in the usage of information source usage. The correspondence analysis supplied two major dimensions. The first dimension was labelled "proprietary/public", whereas the second dimension was labelled "unfocused/focused". They found that first-time travellers have a significantly different information source usage than repeat travellers, and that there were differences in information source behaviour based on country of residence and purpose of trip. Four distinct market segments were found.

Gursoy and Chen (2000) examined the external information search behaviour of travellers from Germany, United Kingdom and France, using data from in-flight surveys. Using correspondence analysis, they visualised patterns of information search behaviour based on information sources, country of residence and purpose of trip. The first dimension was a "leisure/ business" dimension and the second dimension was labelled as a "dependent/independent" dimension. Four distinct segments of information search behaviour were identified.

Gursoy and Umbreit (2004) did a cross-cultural comparison of the information source behaviour of travellers from the EU member countries. They used data collected from residents of the then 15 member countries of the European Union. Using Kruskal-Wallis tests they found statistically significant differences between countries with respect to travellers' external information search. They then used correspondence analysis to visualise patterns in the data. Six market segments emerged. These four studies did not use any conceptual framework. We extend them by suggesting a framework for international segmentation based on information source use.

### **Towards a framework for international segmentation based on information source use**

Building on Budeva and Mullen's (2014) suggestions, we use economic development and culture as a basis for this framework.

#### **Economic development and information source use**

Economic development is an important predictor of behaviour (Budeva and Mullen 2014).

Tourists from countries at a similar stage of economic development are more likely to have common demands, lifestyle patterns and purchasing power (Chung 2005). Such commonalities are likely to make information source use among these tourists more homogeneous. Their information source use can therefore be used as a basis for international segmentation, as a standardization strategy is most practical for markets that are at a similar stage of economic development (Chung 2005).

In less economic developed countries consumers are often constrained by financial resources. Some consumers in several European countries do not have the necessary financial resources to be able to afford to take their planned vacation. Staying home or visiting friends or relatives

are often the most realistic holiday options. Over time this holiday pattern leads to considerable knowledge of the holiday environment. Tourists from less economically developed countries will therefore both have personal experience with their holiday environment and a good understanding of the travel destination, its culture and language. Being repeat visitors they can draw on past experience as an information source and also use friends and relatives as a source of information (Hyde 2006).

In more economically developed countries consumers have more financial resources available to them. They can therefore afford to visit destinations that are further away from the home and thus more costly. Tourists from more economically developed countries may be interested in new experiences and variety seeking. This is expected to lead to a larger variation in choice of destination. They will therefore more often be destination-naïve first-time visitors – hence, their holiday may be more risky. Decisions must be made about tasks such as selection of destination, choosing travel mode and lodging (DiPietro et al. 2007). They will need more information as a vacation in an unknown destination appears more risky (Reiser and Movondo 2005). Having sufficient information reduces the perceived risk about these decisions (Fodness and Murray 1997). Although experienced with tourism, these travellers may only to a limited degree be able to draw on personal experience. We therefore expect tourists from more economically developed countries to use a larger number of information sources. These tourists are more affluent and will therefore have the ability to use information sources that must be purchased.

More economically developed countries tend to have high labour costs and therefore tend to exchange labour with technology. This makes them more advanced technologically and leads to better access to internet, faster internet and more use of internet. Tourists from more

economically developed countries will therefore tend to use the internet as a source of information.

All in all, people from more economically developed countries are able to travel far and wide. They are financially secure and have more information resources at their disposal and the choices for nuanced travel destinations are almost endless. However, those seeking a vacation who come from more humble financial backgrounds must often limit their information search to personal experience and friends and relatives.

### **Culture and information source use**

Culture can be defined as “the interactive aggregate of common characteristics that influence a group’s response to its environment” (Hofstede 1980, p. 19). Culture “is the collective programming of the mind that distinguishes the members of one group or category of people from others” (Hofstede and Hofstede 2005, p. 4). Culture is reflected in “general tendencies of persistent preference for particular state of affairs over others, persistent preferences for specific social processes over others, and general rules for selective attention, interpretation of environmental cues, and responses” (Tse et al. 1988, p. 82).

The national culture of a country is an important environmental characteristic influencing consumer behaviour (Kumar and Passari 2016). A standardized marketing program will only be workable when the cultural environment is similar across countries (Chung 2005).

Researchers agree that culture is an important variable influencing human behaviour.

Research shows, for example, that national culture influences consumer innovativeness (Stenkamp et al. 1999), word-of-mouth behaviour (Money et al. 1999) and tourists’ buying behaviour (Pizam and Reichheld 1996).

There are several framework of cultures. The two perhaps most rigorous of them are those of Hofstede (1980; 1991) and Schwartz (1994). Many differences in consumption can be understood by investigating how national culture is related to consumption by investigations using for example Hofstede's dimensions of national culture (Kumar and Passari 2016). The existing literature on European tourists' information source use does not, however, give enough guidance to select any typology to use.

So far there has been almost no research addressing how national culture influences tourists' use of information sources. Any theorizing about this issue would therefore be very speculative. We prefer to contribute by investigating empirically what relationships there are between particular national cultures and tourists' information search with the hope that our research will support further theorizing about relationships between national culture and tourists' information source use.

## **Methods**

In order to investigate the relationship between national culture and the use of information sources, this study uses data from national representative samples of the 27 EU countries. The data used came from the Eurobarometer survey "Flash Eurobarometer 258". This comprehensive survey on the attitudes of Europeans towards tourism included questions about EU citizens' information search behaviour (for details about the survey see [http://ec.europa.eu/public\\_opinion/flash/fl\\_258\\_en.pdf](http://ec.europa.eu/public_opinion/flash/fl_258_en.pdf)).

Many studies in tourism use country as a unit of analysis. A prerequisite for doing this is that there must be some meaningful degree of within-country communality and between-country

difference in culture (Steenkamp 2001), even though countries are not fully homogeneous. Such a within-country communality can be due to the fact that countries “are the source of a considerable amount of common mental programming of their citizens” (Hofstede 1991, p. 2). The reasons for such “mental programming” may be that tourists from one country have “a relatively similar history, language, political, legal and educational environment, among others” (Steenkamp 2001, p. 36). In a review of country classification, Vanderstrateten and Matthyssens (2008, p. 231) show that “within-country differences are deemed less significant than between-country differences” in Europe, although it is possible that some countries could be divided into two or three cultural regions. We follow current practice (e.g. Chen and Gursoy 2000; Gursoy and Chen 2000; Gursoy and Umbreit 2004) and use country as the unit of analysis in our international segmentation.

### **Sample**

Over 27,000 randomly selected citizens aged 15 and over were interviewed in the 27 EU member states. The sample size varied within the EU countries, ranging from 501 in Cyprus to 2000 in Germany, with an average sample size per country of 1004. The interviews were predominantly carried out by telephone. Due to the low fixed-line telephone coverage in Bulgaria, the Czech Republic, Estonia, Latvia, Lithuania, Hungary, Poland, Romania and Slovakia, face-to-face interviews were also conducted in those countries. The non-response rate varied between 3.8% for Ireland and 27.6% for Bulgaria. The overall non-response rate was 5.1%.

### **Measurement**

Information source use was measured using the responses to the question: “From the following information sources, which one do you consider to be the most important when you

make a decision about your travel/ holiday plans?”. Then followed seven information sources: a) personal experience, b) recommendation of friends and colleagues, c) guidebooks and magazines, d) catalogues, brochures, e) the internet, f) travel / tourist agencies, g) media (newspaper, radio, TV).

Research shows that a culture can validly be conceptualized at the national level (Steenkamp 2001). National culture was measured using the respondents’ country of residence. This measure has previously been used as a measure of nationality by Chen and Gursoy (2000). A possible weakness of this measure of national culture is that it does not account for the possibility that the country of residence may not in all cases reflect a particular national culture. This would, for example, be the case if a respondent has recently moved from one country to another. However, we do not expect this to influence the result of the analysis in a substantial way.

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Insert Table 1 about here  
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Table 1 presents the information sources used by the respondents from the EU countries. Column one includes the 27 countries that are part of this study with their two-letter codes. The following seven columns present each of the seven information sources included in the study and the percentage of respondents within each country that evaluate each of these information sources to be the most important. The “dont' know/non-response” percentages are also included, in the eighth column. Percentages were calculated relative to the country totals (*N*) after reweighting the data according to the respondent weights that accompanied the Eurobarometer data file – this removes sample bias from the estimates of the percentages for each country. In the last row of Table 1, which shows overall estimates for the EU, we see

that "recommendation of friends and colleagues" was, with 29.3% of the cases, the information source most often reported to be the most important. This was followed by the internet (21.9%) and personal experience (18.8%), travel/ tourist agencies (11.4%), catalogues and brochures (5.5%), guidebooks and magazines (4.8%) and media (3.2%). All in all, Table 1 shows a considerable variation both within and across information sources and national cultures.

### **Analysis**

Correspondence analysis (CA) was performed to show similarities and differences in information source behaviour between the respondents from the various national cultures included in the study. CA may be seen as a special type of principal component analysis of both the rows and/or the columns of a table (Benzécri 1973; Greenacre 1984, 2007). One of the advantages of CA is the possibility to simultaneously visualize the row and column categories of a table. "The visualization is achieved by projecting points that represent the categories in multidimensional space onto a subspace, usually a plane, resulting in an approximate map of the categories" (Le Roux and Rouanet 1998, p. 228). In this application of CA we analyse the percentages in Table 1 rather than the raw frequencies, which means that each country receives the same weight. Notice that CA does not require the data to be normally distributed, but is applicable to frequency or percentage data where there exists an increasing, approximately linear, relationship between the variance and the mean, as is the case for the present data. This justifies the use of the chi-square distance as a measure of statistical proximity between the countries (Greenacre 2007, chap.5). If the missing data column is maintained in the analysis, it usually turns out to be an important feature of the result, which was indeed true for this data set – see, for example, the large percentage of missing data for Bulgaria. Hence, a novelty of our approach is the use of subset CA

(Greenacre and Pardo 2006; Greenacre 2007, chap. 21), which allows all data to be analysed, including the missing data percentages, but uses just the percentages for the subset of seven information sources to determine the solution. A further novelty is the testing of the dimensions of the CA solution for statistical significance, which is generally not done in other literature applications. This can be achieved in two different ways, either by generating replicate tables by a type of Monte Carlo randomization scheme, under the hypothesis of no difference between the countries, or by randomizing the country labels of the respondents (see Greenacre 2007, Chapter 25, for details). Additional indicators for the countries were also added to the CA solution *a posteriori*, using regression analysis – these are called “supplementary variables” (Greenacre 2007, Chapter 13). These indicators are regressed on the dimensions and the regression coefficients are used as coordinates to indicate directions in the style of a biplot (see, for example, Greenacre 2010). Computations were performed using the **ca** package by Nenadić and Greenacre (2007) in the R software platform (R Core Development Team 2015), as well as R code written specially for the novel aspects of this application.

To segment the countries, we performed a hierarchical cluster analysis based on the chi-square distances between the countries from the subset CA, using the function `hclust` in R and the cluster-joining option of average linkage.

## **Results**

Figure 1 shows the set of variances, called inertias, for the CA dimensions, in the form of a “scree plot”, showing that the first two dimensions are above the average and well separated from the remaining inertias. These dimensions explain respectively 51.4% and 22.6% of the total inertia, totalling 74.0% for the two-dimensional solution. Either using Monte Carlo

random sampling based on the probabilities in the last row of Table 1, or by a permutation test procedure where country labels of respondents are randomly permuted, both these dimensions can be concluded to be highly statistically significant ( $p < .001$  in both cases).

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Insert Figure 1 about here  
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**National culture and information source behaviour**

A visualization of the two major dimensions presenting the relationship between information source use and national culture is shown in the CA “map” of Figure 2 (we will explain later the groupings of the countries and the two arrows representing additional variables). The distances between information sources can be interpreted as similarities: the closer two information sources are, the more similar they are across countries. Figure 2 shows, for example, that personal experience and recommendation are close to each other and could effectively be combined. Similarly, guidebooks, internet and catalogues are relatively close to one other. The distance between national cultures can be interpreted in a similar way. For example, Latvia, Lithuania, Bulgaria, Poland, and Hungary are close to one other, but far away from the group formed by France, Belgium, Austria, Germany, Luxemburg, Cyprus and Malta.

The map can also be interpreted with respect to the information sources one at a time or with respect to the axes. In the latter case, projecting the information sources perpendicularly onto the two dimensions shows which information sources can be used for describing the dimensions. Variables that are close to the centroid are generally close to average use, but may be associated with higher dimensions (Blasius and Friedrichs 2008).

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Insert Figure 2 about here  
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The first dimension (the horizontal axis) is determined by the opposition of travel/ tourist agencies, catalogues, guidebooks and internet on the left hand side, versus personal experience and recommendation of friends and colleagues on the right. Media is located close to the centre, suggesting that it has close to uniform use across countries. The first dimension seems to be a dimension contrasting those who tend to use professional information sources (on the left) versus those that tend to use non-professional information sources. We label this dimension *professional information sources*. The explained variance of this dimension is 51.4%.

The second dimension separates out travel/ tourist agencies from all the other information sources, especially catalogues and internet. The second dimension thus contrasts use of non-personal information sources versus use of personal information sources within the category of professional sources identified on the first dimension. This dimension is here termed *personal information sources*. The explained variance of the second dimension is 22.6%.

From the point of view of national culture, the first dimension (professional information sources) contrasts western European countries (Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Italy, Luxembourg, Netherlands, Spain and Sweden) on the left, which tend towards having a high use of professional information sources, versus eastern European countries (Bulgaria, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia and the Czech Republic) on the right, which tend to have a high use of non-professional information sources. These countries belong in a group generally referred to as eastern Europe, although it

is more the political and military demarcations that separate the east from the west, rather than geography (The Economist 2010). Dimension one seems to be mainly an opposition between western and eastern Europe, although Portugal is located together with the eastern European countries.

The second dimension opposes northern European countries (Denmark, Finland and Sweden) which tend to have a high use of non-personal information sources versus southern European countries (Italy and Spain) which tend to have a high use of personal information sources. This dimension seems to have a relatively clear opposition between northern and southern Europe. West European countries (United Kingdom, Ireland) and middle European countries (Luxembourg, France, Belgium, Malta, Austria and Germany) are located between northern and southern Europe making this dimension reflect the geographical longitude of the location of each national culture.

In summary, from an information source point of view, the first dimension contrasts professional information sources versus non-professional information sources, whereas the second dimension opposes non-personal versus personal information sources. From a national culture point of view, the first dimension opposes western Europe versus eastern Europe, while the second dimension opposes northern Europe versus southern Europe, with a few exceptions noted above. It seems that use of professional information sources tend to go together with western Europe, while non-professional information sources tend to go together with eastern Europe. Non-personal information sources tend to go together with northern Europe, while personal information sources tend to go together with southern Europe. One may speculate about possible reasons for this structure. Western Europe is relatively advanced, with relatively high education levels, relatively high average incomes and good

access to various types of external information sources. The countries of eastern Europe are less advanced, have lower average income and less access to external information sources. Perhaps a history of communism and authoritarian rule has led to less belief in public information sources and more reliance and trust in information from friends and relatives. Northern European countries are slightly richer and with slightly better access to various information sources, while southern Europe is perhaps more used to personal contact in their information search behaviour.

### **Segmentation of countries**

We now proceed with a more detailed investigation identifying segments of countries. Figure 3 shows the results of a cluster analysis of the data based on the inter-country chi-square distances between the countries in the subset CA. We have based our interpretation on a six-cluster solution shown by the cutpoint at approximately 0.38 on the vertical "height" scale, which is in terms of average chi-square distance between clusters. The groupings of countries coinciding with these six numbered clusters are shown in Figure 2.

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Insert Figure 3 about here  
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The first cluster is an eastern European cluster consisting of Romania, Bulgaria, Hungary, Lithuania, Latvia and Poland. Cluster two is created by Ireland, Sweden and United Kingdom. Cluster three is also mainly an eastern European cluster constituted by Czech Republic, Slovenia, Slovakia and Estonia. Somewhat surprisingly, Portugal and Greece are clustered together with these eastern European countries. The northern European countries Netherlands, Denmark and Finland constitute cluster four. Cluster five is a southern European

cluster (Spain and Italy). The middle European sixth cluster is composed of French speaking and Germanic countries (Belgium, France, Austria , Germany and Luxembourg) along with Cyprus and Malta.

These six clusters generally coincide with the geographical and cultural location of the countries, with a few exceptions. Portugal and Greece are included in the eastern European cluster three, whereas Cyprus and Malta are included in the middle European cluster six.

**Validation of framework for international segmentation**

Table 2 shows the relationships between countries, clusters, economic development and cultural classification. The left column in Table 2 shows the various countries included in each of the six clusters. The following columns show World Bank indicators of economic development (<http://data.worldbank.org/indicator/NY.GDP.PCAP.PP.KD?page=1>): GDP per capita, average GDP per capita per cluster, internet (per 100 people), average internet (per 100 people) per cluster. Then follow columns showing the cultural classification of the various countries and their geographical location.

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Insert Table 2 about here  
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The GDP per capita for the countries for the first cluster varies between 15720 for Bulgaria and 23440 for Hungary. The average GDP per capita for cluster one is 20350. The GDP per capita of cluster one and three (average GDP per capita of 28367) are considerably lower than in the four other clusters. These two clusters consisting of (mostly) eastern European countries are less economically developed than the other four clusters. Our framework for international segmentation suggests that tourists from less economically developed countries

would tend to use personal experience and friends and relatives as sources of information use. Inspection of Figure 2 shows that indeed the tourists from these two clusters tend to use personal experience and recommendations from friends and relatives as their most important information source.

The indicators GDP/capita and internet usage are shown in Figure 2, added as supplementary variables to the CA solution, where the endpoints of the arrows are defined by the regression coefficients of the indicators on the two dimensions. It turns out that both these variables are highly significantly related to dimension 1 ( $p = 0.0004$  for GDP,  $p = 0.002$  for internet), whereas only internet is significantly related to dimension 2 ( $p = 0.26$  for GDP,  $p = 0.0006$  for internet). The coincidence of the cultural and geographic categorizations with the clusters in Table 2 is clear as well, and the combined message is that the positions of the countries in Figure 2 have a strong relationship to their economic and cultural indicators.

From a cultural point of view most of the countries of the first and third cluster are quite homogeneous. The first cluster consists of Slavic countries. Most of the countries in the third cluster are Slavic too. These countries have a shared history of communism and a common culture. It seems likely that they would have a homogeneous use of information sources. The exceptions here are that Portugal and Greece are quite different from the other countries in the third cluster from a cultural point of view. These two countries have respectively a Latin culture and a Greek culture. From a cultural point of view we could expect them to have a different pattern of information source use than the other countries in this cluster. Previous research has shown that Portugal does not have the same pattern of information source use as the other Latin countries. Gursev and Umbreit (2004) found that tourists from Portugal do not

have any external information search, which fits well with having an emphasis on personal experience as an information source.

The countries in the other four clusters have a higher level of economic development than the countries in the first and third cluster. Our framework suggests that tourists from countries in these four clusters will have other holiday patterns and other patterns of information source use than those in the first and third clusters. We expect these tourists to use more external information sources, including information sources that must be purchased. This is indeed the case.

The GDP per capita for the countries in cluster two varies between 37751 for United Kingdom and 47908 for Ireland. The average GDP per capita for this cluster is 43027.

The GDP per capita for the countries in cluster four varies between 42122 for Finland and 47463 for Netherlands. The average GDP per capita for cluster four is 44867. The countries in cluster two and cluster four tend to utilise written information sources, such as catalogues and brochures, internet, guidebooks and magazines.

Table 2 shows that the countries with the highest internet penetration are Sweden (90.0), Netherlands (87.4), Denmark (85.0), Finland (83.7), Luxemburg (82.2) and United Kingdom (78.4). We see that this is consistent with their placement in the map in Figure 2. Sweden in cluster two is a Nordic county, like Denmark and Finland in cluster four. In Figure 2 we see how Sweden is placed more towards the Nordic countries Denmark and Finland in the map, while the Anglo-Saxon United Kingdom is placed closer towards the Anglo-Saxon Ireland.

The economic development in the Latin countries (Spain and Italy) in cluster five is homogeneous, with the average GDP per capita being 36066. This gives them the third lowest level of economic development, after the two eastern European clusters (cluster one and cluster three). As shown in Figure 2, this cluster tends to use professional information sources, that is many information sources, including those that can be purchased. Cluster five has a particular high use of travel agencies. We do not really know why this is the case, but it may be related to a more traditional orientation along with the low penetration of internet in these two countries.

Cluster six consists of countries with a large variation in GDP per capita. Malta (27872) has the lowest GDP per capita, while Luxemburg (94179) has the highest. The average GDP per capita in this cluster is 45596. This cluster has a high economic development. As shown in Figure 2, this cluster tends to combine written information sources, such as catalogues and brochures, internet, guidebooks and magazines, and travel agents. The countries in this cluster have Germanic or Latin culture, with the exception that Cyprus has a Greek culture. All in all, our findings seem to validate our suggested framework using economic development and culture for international segmentation.

### **Conclusion and implications**

The purpose of this article is to investigate which information sources European tourists use, and in particular, to determine how economic development and the national cultures within the EU are related to information source use. Using data from a Eurobarometer survey on the attitudes of Europeans towards tourism allows us to answer this research question. The findings are that economic development and national culture impact highly on use of information sources. There are important differences in the information source use by the

various national cultures of the EU. Perhaps somewhat surprisingly, these national cultures form relatively well-defined segments related to geographical location and to cultural heritage.

There are segments based on information source behaviour. These segments are strongly related to the geographical location of the national cultures, thus there are one northern European segment, one western European segment, one middle European segment, a southern European segment and two eastern European segments. This result is somewhat consistent with previous research (i.e. Chen and Gursoy 2000; Gursoy and Chen 2000; Gursoy and Umbreit 2004), except that the present research finds a clearer structure relating information sources to national culture and to the geographical location of each national culture. One reason for this finding is perhaps that the present research effort is the first that actually spans all 27 member countries of the EU. Using a dataset that has a large variation in use of information sources and in national cultures allows a clear structure to emerge.

### **Managerial implications**

This study identifies six segments of information source use within the national cultures of the EU. Knowledge of these segments can be used to design marketing strategies to attract respondents from selected segments. This can be done by tailoring use of information sources to fit the selected segment(s) based on the results of the correspondence analysis shown in Figure 2 and the results of the cluster analysis shown in Figure 3. It is important that these segments span multiple countries that are neighbors geographically, as this makes it easier and less costly to target them.

Segments two and four consist of respondents from northern European and western European countries. These segments tend to utilise written information sources, such as catalogues and brochures, internet, guidebooks and magazines. Tourism marketers who want to reach these segments should focus on written information sources. This can be done by developing and providing free information catalogues and brochures, and by working with government travel offices to achieve good distribution of these information sources. Tourism marketers who want to reach travelers in segment two should focus in particular on using internet, by developing good web sites that contain useful and practical information. To secure coverage in guidebooks and magazines, tourism marketers may want to work closely with publishing companies to try to get coverage in guidebooks and magazines.

The sixth segment consists of respondents from middle Europe. This segment is more likely to utilise a combination of written information sources, such as catalogues and brochures, internet, guidebooks and magazines, and travel agents. Those who want to reach this segment ought to work with public relations managers to ensure written coverage. Tourism marketers that want to reach travellers in this segment should focus in particular on using internet, by developing good web sites that contain useful and practical information.

Segment five consists of respondents from southern Europe. This segment is more likely to use travel/ tourist agencies than other segments of information search. This finding suggests that tourism marketers who want to reach this segment should have a particular focus on travel/ tourist agencies as information sources. Gursoy and Umbreit (2004) suggest that by establishing good relationships with travel agencies and agency franchises in target countries one may be able to increase the number of tourists from those countries.

Segment one and three consist of respondents from eastern Europe. These segments are hard to reach as they tend to use personal experience and recommendations from friends and relatives to a larger degree than other segments and are lower on the use of non-personal information sources. Tourism marketers who want to influence this segment may try to encourage positive word-of-mouth through increased customer satisfaction. Satisfied friends and relatives are likely to recommend a destination.

### **Limitations and further research**

Although this paper contains much information about how economic development and the various national cultures of the EU are related to Europeans' use of information sources, there is still work to be done. This study found differences in information search behaviour based on economic development and national culture. Even though a theoretical framework was provided, there is need for research that develops and tests theoretical models of predicting the relationship between economic development, national culture and information source behaviour. There is a strong association between the geographical location of the segments and their information source use. This should be looked into. Is this related to the level of economic and social development? Previous investigations that have used correspondence analysis to increase the understanding of human behaviour have shown how economic capital, cultural capital and social capital (e.g. Bourdieu 1979) are related to behaviour. It would be useful to include these concepts in future studies of information source behaviour. Further, national culture was equated with country of residence. Each country may contain subcultures that have their own distinct patterns of information search behaviour. This would be interesting to look into.

Demographic factors such as age, gender and ethnicity are not reflected in this research based on economic development and national culture, neither are personal variables such as education, income, and personal values. Such variables should be included in further research about Europeans' use of information sources. The relationship between economic development, national culture and tourists' information search should be investigated in other parts of the world. This study only analysed seven information sources. Other information sources should be included. Other important areas of research are whether factors, such as type of vacation, prior travel experience, travel motives, stage in the buying process, risk perception and purchase involvement have effect on information search behaviour. Furthermore, investigating the relative importance of information sources and how and why information sources are related to each other are important research tasks. Although there has been considerable research on tourists' information sources, much research is still needed on cross-national information source behaviour. Tourism is, after all, often a cross-cultural phenomenon.

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## References

- Beatty, S.E. and Smith, S.M. (1987). "External search effort: an investigation across several product categories." *Journal of Consumer Research*, 14 (1): 83-95.
- Benzécri, J.-P. (1973). *L'Analyse des Données. Tôme II : L'Analyse des Correspondances*. Paris : Dunod.
- Blasius, J., and Friedrichs, J. (2008). "Lifestyles in distressed neighborhoods. A test of Bourdieu's "taste of necessity" hypothesis." *Poetics*, 36 (1): 24-44.
- Bourdieu, P. (1979). *La Distinction: Critique social de jugement*. Paris: Edition de Minuit.
- Budeva, D.G. and Mullen, M.R. (2014). "International market segmentation Economics, national culture and time." *European Journal of Marketing*, 48 (7/8): 1209-1238.
- Chen, J.S., and Gursoy, D. (2000). "Cross-Cultural Comparison of information sources used by first-time and repeat travelers and its marketing implications." *International Journal of Hospitality Management*, 19 (2): 191-203.
- Chung, H.F.L. (2005). "An investigation of crossmarket standardization strategies: experiences in the European union." *European Journal of Marketing*, 39 (11/12): 1345-1373.
- DiPietro, R.B., Wang, Y., Rompf, P. and Severt, D. (2007). "At-destination visitor information search and venue decision strategies." *International Journal of Tourism Research*, 9: 175-188.
- Engel, J., Blackwell, R.D., and Miniard, P. (1995). *Consumer Behavior*. 8th ed. Forth Worth, Texas: The Dryden Press.
- Fodness, D. and Murray, B. (1998). "A typology for tourist information search strategies." *Journal of Travel Research*, 37 (2): 108-120.
- Fodness, D. and Murray, B. (1997). "Tourist information search." *Annals of Tourism Research*, 24 (3): 503-523.

- Greenacre, M.J. (1984). *Theory and Applications of Correspondence Analysis*. London: Academic Press.
- Greenacre, M.J. (2007). *Correspondence Analysis in Practice*. 2nd. ed. London: Chapman and Hall/CRC Press.
- Greenacre, M.J. (2010). *Biplots in Practice*. Bilbao: BBVA Foundation. Available at <http://www.multivariatestatistics.org>
- Greenacre, M.J. and Pardo, R. (2006). "Subset correspondence analysis: visualizing relationships among a selected set of response categories from a questionnaire survey." *Sociological Methods and Research*, 35: 193-218.
- Gursoy, D., and Chen, J.S. (2000). "Competitive analysis of cross-cultural information source behavior." *Tourism Management*, 21 (6): 583-590.
- Gursoy, D., and Umbreit, W.T. (2004). "Tourist information source behaviour: cross-cultural comparison of European Union member states." *International Journal of Hospitality Management*, 23 (1): 55-70.
- Hofstede, G.H. (1980). *Culture's consequences*. Beverley Hill, CA: Sage Publications, Inc.
- Hofstede, G. (2001). *Culture's Consequences: Comparing Values, Behaviors, Institutions and Organizations Across Nations*. Thousand Oaks, Ca.; Sage Publications, Inc.
- Hofstede, G.H. (1991). *Cultures and Organizations: Software of the Mind*, London: McGraw-Hill.
- Hofstede, G. and Hofstede, G.J. (2005). *Cultures and Organizations: Software of the Mind*, 2nd.ed., New York: McGraw Hill.
- Hyde, K.F. (2007). "Contemporary information search strategies of destination-naive international vacationers." *Journal of Travel & Tourism Marketing*, 21 (2/3): 63-76.
- Kumar, V. and Passari, A. (2016). "National culture, economy and customer lifetime value: assessing the relative impact of the drivers of customer lifetime value for a global retailer." *Journal of International Marketing*, 24 (1): 1-21.

- Le Roux, B., and Rouanet, H. (2010). *Multiple Correspondence Analysis*. Thousand Oaks, CA: Sage.
- McGuire, F.A., Uysal, M., and McDonald, C.D. (1988). "Attracting the Older Traveler." *Tourism Management*, 9 (2): 161-164.
- Money, R.B., Gilly, M.C. and Graham, J.L. (1998). "Explorations of national culture and word-of-mouth referral behavior in the purchase of industrial services in the United States and Japan." *Journal of Marketing*, 62 (October): 76-87.
- Mitra, D. and, Gouldner, P.N. (2002). "Whose culture matters? Near-Market knowledge and its impact on foreign market entry timing." *Journal of Marketing Research*, 39 (3): 350-366.
- Money, R.B., and Crotts, J.C. (2003). "The effect of uncertainty avoidance on information search, planning, and purchase of international travel vacations." *Tourism Management*, 24 (2): 191-202.
- Nenadić, O. and Greenacre, M. (2007). "Correspondence analysis in R, with two- and three-dimensional graphics: the ca package." *Journal of Statistical Computing*, 20 (3). Available at <http://www.jstatsoft.org/v20/i03/>.
- Osti, L., Turner, L.W., and King, B. (2009). "Cultural differences in travel guidebooks information search." *Journal of Vacation Marketing*, 15 (1): 63-78.
- Petersen, J.A., Kushwaha, T. and Kumar, V. (2015). "Marketing communication strategies and consumer financial decision making: the role of national culture." *Journal of Marketing*, 79 (January): 44-63.
- Pizam, A. and Reichgelt, A. (1996). "The effect of nationality on tourist behavior: Israeli tour-guides perceptions." *Journal of Hospitality & Leisure Marketing*, 4 (1): 23-49.
- Reisinger, Y. and Mavondo, F. (2005) Travel anxiety and intentions to travel internationally: implications of travel risk perceptions." *Journal of Travel Research*, 43 (February): 212-225.

- Sethi, P. and Holton, R. (1973). "Country typologies for the multinational corporation: a new basic approach." *California Management Review*, 15 (3): 105-118.
- Snepenger, D., and M. Snepenger (1993). «Information Search by Pleasure Travelers." In *Encyclopedia of Hospitality and Tourism*, edited by M. A. Kahn, M. D. Olsen, and T. Var. New York: Van Nostrand Reinhold, pp. 830-835.
- Schwartz, S.H. (1994). "Beyond individualism/collectivism: new cultural dimensions of value." In *Individualism and Collectivism: Theory, Method and Application*, edited by U. Kim, H.C. Triandis, C. Kagitcibasi, S.C. Choi and G. Yoon. Thousand Oaks, CA: Sage, pp. 85-119.
- Steenkamp, J.-B.E.M. (2001). "The role of national culture in international marketing research." *International Marketing Review*, 18 (1): 30-44.
- Stenkamp, J.-B., Hofstede, F.T. and Wedel, M. (1999). "A cross-national investigation into the individual and national cultural antecedents of consumer innovativeness." *Journal of Marketing*, 63 (April): 55-69.
- The Economist (2010), "Eastern Europe, Wrongly labeled." January 9<sup>th</sup>-15<sup>th</sup>: 27-28.
- Tse, D.K., Kam-hon, L., Vertinsky, I and Wehrung, D.A. (1988). "Does culture matter? A cross-cultural study of executives' choice, decisiveness, and risk adjustment in international marketing." *Journal of Marketing*, 52 (October): 81-95.
- Uysal, C.A., McDonald, C.D., and Reid, L.J. (1990). "Sources of information used by international visitors to US parks and natural areas." *Journal of Park and Recreation Administration*, 8 (1): 51-59.
- Vanderstraeten, J. and Matthyssens, P. (2008). "Country classification and the cultural dimension: a review and evaluation." *International Marketing Review*, 25 (2). 230-251.

Table 1. Percentages of most important information sources for 27 EU countries. Abbreviations of countries and information sources, used in Figure 2, are shown in parentheses.

COUNTRY	Personal experience (personal)	Recommendations of friends & colleagues (recommends)	INFORMATION SOURCES					Don't know/No response (DK/NA)	Sample size (N)
			Guidebooks & magazines (guides)	Catalogues & brochures (catalogs)	Internet (internet)	Travel/tourist agencies (agencies)	Media (newspaper, TV, radio) (media)		
Austria (AT)	7.2	27.3	7.2	8.6	19.7	17.6	5.4	6.9	1002
Belgium (BE)	12.1	23.5	4.0	9.3	14.9	12.3	4.2	19.6	1002
Bulgaria (BG)	8.3	30.1	2.9	4.1	12.1	7.4	7.6	27.6	1002
Cyprus (CY)	11.6	29.6	10.3	9.1	11.5	13.4	6.5	8.0	501
Czech Rep. (CZ)	12.9	35.7	5.8	11.7	13.8	6.5	3.9	9.8	1001
Germany (DE)	12.5	28.2	7.8	8.7	18.0	12.0	7.6	5.2	2000
Denmark (DK)	14.7	26.9	8.3	12.6	16.9	7.9	8.8	3.9	1004
Estonia (EE)	17.1	30.0	4.5	4.0	16.1	10.0	5.7	12.6	512
Greece (EL)	13.3	30.2	9.6	5.7	13.9	7.5	8.0	11.7	1008
Spain (ES)	10.0	24.0	3.2	8.6	17.9	16.6	2.6	16.9	1506
Finland (FI)	11.3	29.7	6.6	13.0	16.9	8.3	9.2	5.1	1009
France (FR)	10.1	26.9	7.2	11.6	18.0	11.0	4.0	11.1	1505
Hungary (HU)	18.3	31.7	9.3	9.1	7.9	5.7	6.8	11.2	1013
Ireland (IE)	15.4	26.7	8.7	8.7	19.8	8.1	8.7	3.8	1000
Italy (IT)	8.9	21.1	6.6	8.8	14.8	12.7	4.5	22.7	1507
Lithuania (LT)	12.0	26.9	5.1	2.4	18.7	9.3	7.9	17.8	503
Luxembourg (LU)	12.7	27.8	10.0	11.3	14.8	12.3	7.1	4.0	503
Latvia (LV)	15.8	30.0	6.2	4.2	16.6	6.5	5.5	15.2	503
Malta (MT)	8.7	20.1	10.5	12.8	15.3	13.6	8.9	10.1	504
Netherlands (NL)	11.8	29.3	7.9	9.6	18.3	8.7	5.5	8.9	1000
Poland (PL)	15.9	32.7	8.2	5.8	16.8	6.0	4.0	10.6	1515
Portugal (PT)	19.5	26.2	4.9	2.1	16.1	8.0	4.2	19.1	1001
Romania (RO)	12.3	30.9	7.7	4.2	10.2	9.5	8.1	17.0	1008
Sweden (SE)	11.9	28.6	7.5	10.8	19.9	7.2	8.0	6.1	1000
Slovenia (SI)	11.1	28.2	6.7	11.9	17.3	13.7	6.0	5.1	503
Slovakia (SK)	19.7	29.6	3.8	10.7	10.8	11.1	5.9	8.4	1014
United Kingdom (UK)	12.6	29.8	9.2	9.3	17.4	9.0	8.3	4.3	1501
<b>AVERAGE (EU)</b>	<b>18.8</b>	<b>29.3</b>	<b>4.8</b>	<b>5.5</b>	<b>21.9</b>	<b>11.4</b>	<b>3.2</b>	<b>5.1</b>	<b>27127</b>

Table 2. Economic development and culture indicators of countries, grouped according to the cluster analysis of Figure 3.

Cluster/ Country	Cluster	GDP per Capita	Average GDP per Capita	Internet	Average Internet	Culture	Geographic location
<b>Cluster 1</b>			<b>20350</b>		<b>50.3</b>	<b>Slavic</b>	
Romania (RO)	1	18558		32.4		Slavic	East
Bulgaria (BG)	1	15720		39.7		Slavic	East
Hungary (HU)	1	23440		61.0		Slavic	East
Lithuania (LT)	1	23245		52.2		Slavic	East
Latvia (LV)	1	21021		63.4		Slavic	East
Poland (PL)	1	20117		53.1		Slavic	East
<b>Cluster 2</b>			<b>43027</b>		<b>77.9</b>		
Ireland (IE)	2	47908		65.3		Anglo-Saxon	West
Sweden (SE)	2	43421		90.0		Nordic	North
United Kingdom (UK)	2	37751		78.4		Anglo-Saxon	West
<b>Cluster 3</b>			<b>28367</b>		<b>56.7</b>		
Czech Rep. (CZ)	3	29128		63.0		Slavic	East
Slovenia (SI)	3	30823		58.0		Slavic	East
Slovakia (SK)	3	24729		66.1		Slavic	East
Greece (EL)	3	32473		38.2		Greek	South-East
Estonia (EE)	3	25300		70.6		Slavic	East
Portugal (PT)	3	27747		44.1		Latin	South
<b>Cluster 4</b>			<b>44867</b>		<b>85.4</b>		
Netherlands (NL)	4	47463		87.4		Germanic	Middle
Denmark (DK)	4	45017		85.0		Nordic	North
Finland (FI)	4	42122		83.7		Nordic	North
<b>Cluster 5</b>			<b>36066</b>		<b>52.1</b>		
Spain	5	34657		59.6		Latin	South
Italy	5	37475		44.5		Latin	South
<b>Cluster 6</b>			<b>45596</b>		<b>66.0</b>		
Belgium (BE)	6	41260		66.0		Germanic/ Latin	Middle
France (FR)	6	37502		70.7		Latin	Middle
Cyprus (CY)	5	35828		42.3		Greek	South-East
Austria (AT)	6	41287		72.9		Germanic	Middle
Germany (DE)	6	41229		78.0		Germanic	Middle
Luxembourg (LU)	6	94197		82.2		Germanic	Middle
Malta (MT)	6	27872		50.1		Latin	South

Figure 1. Scree plot of the variances (i.e. inertias) of the correspondence analysis of national differences, showing the average variance (dashed lines). The first two dimensions have more than average inertia and are well separated from the remaining variances.

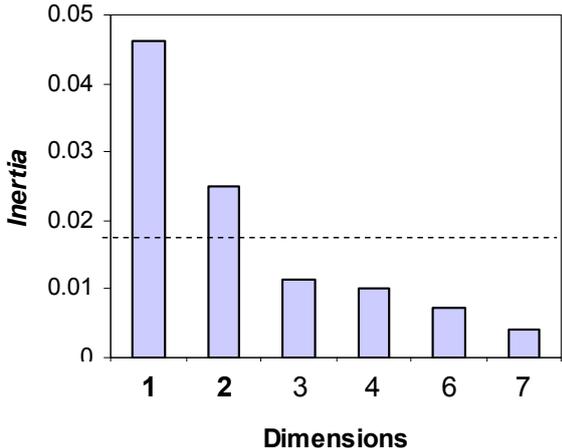


Figure 2. Correspondence analysis of use of information sources by national culture.

These are the optimal two dimensions for interpreting country differences, , accounting for 74.0% of the country variance of 0.1276. The centre of the map corresponds to the averages of the seven information sources. Numbers correspond to the clusters in Figure 3. The indicators "GDP/capita" and "internet usage" have been added as supplementary variables.

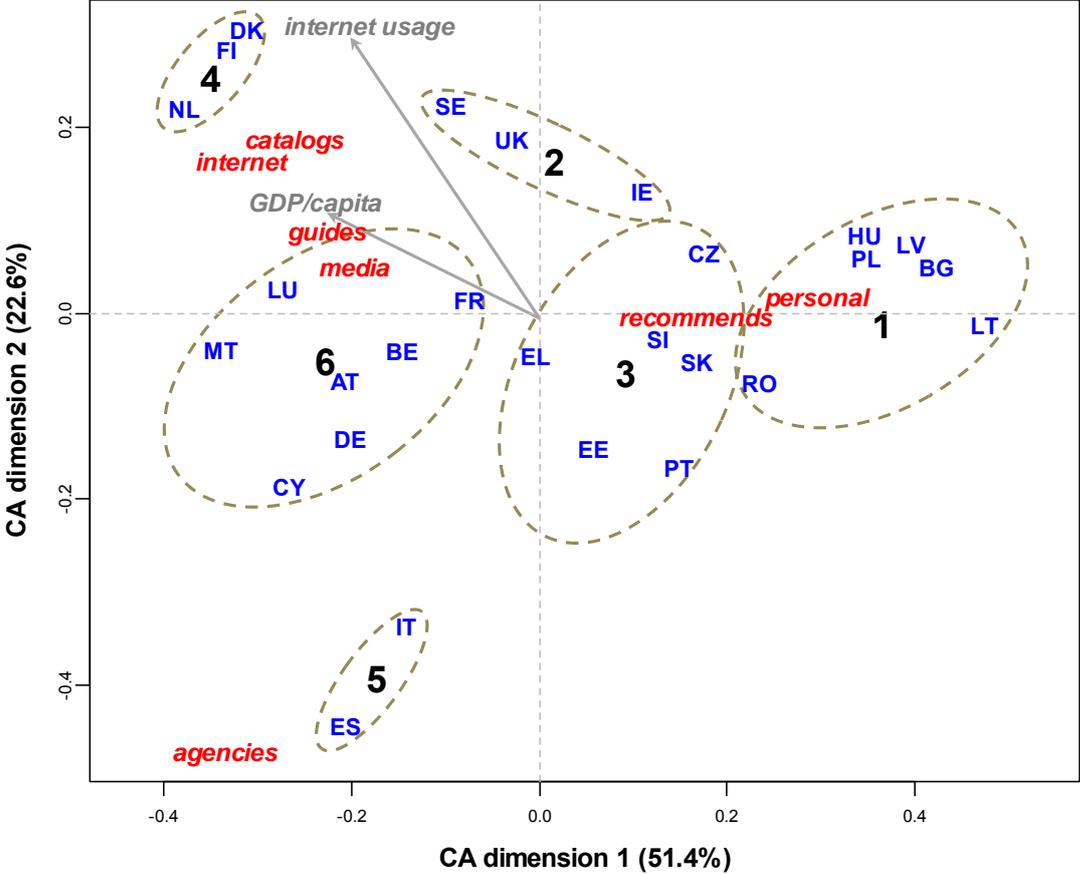


Figure 3. Cluster dendrogram of the countries (abbreviations in Table 1), using average linkage clustering based on the chi-square distances between the countries. Six clusters are indicated.

