Convergence and divergence in consumer behaviour

Marieke de Mooij, Comunicación y sociedad, 2002

Introduction

During the past decades business schools have delivered graduates who believe in global homogenisation of consumer behaviour. This is one of the greatest myths taught in international marketing courses. The phenomena that have caused the myth of converging consumer behaviour are convergence of technology and national wealth in the post-scarcity societies of the developed world. These are developments at macro-level. At the micro-level (markets are people!) much of consumer behaviour does not converge. The most widely used variable to compare countries for marketing purposes is national wealth (GNP/capita), but as national wealth converges, its predictive or explanatory power declines. Other explanations must be found for differences across countries. The question is: What are the characteristics of nations that drive differences in consumer behaviour?

The convergence hypothesis

In their writings, in business journals and books, authors tend to assume that convergence of national income, media and technology will lead to converging needs, habits and tastes of consumers. The following quotations reflecting this assumption are representative of many others:

> "In many vital ways, the trend [in Europe] is towards convergence, not divergence" [...] "A single youth culture is forming across Europe, even if it often mimics a kind of American model. Europe's teenagers listen to the same music […] on their MP3 players, talk to each other on their Nokia GSM phones, and surf and chat on the Net. Many Europeans are now more alike each other than they are distinct" (Rossant 2000).

> "In many ways, consumers are growing more alike, and we all know why. Mass communications, travel, multinational companies, the whole apparatus of the global village" (Bullmore 2000:48).

Also in academia many authors generally expect that convergence of technology, global media, increased communication between people, increased trade and travel act to bring people together. In textbooks of international marketing there are plenty of statements on convergence of lifestyles and values but they are not based on empirical evidence. Examples of such statements are "The development in communications will bring convergence in consumer markets" (Bradley 1991:384) and "With technological advancement also comes cultural convergence" (Czinkota and Ronkainen 1993:167).

McLuhan's (1964) concept of the 'Global Village' made many authors believe that in particular the new global media and increased travel would lead to convergence of values, lifestyles and consumption. Assael (1998), author of one of the leading textbooks on consumer behaviour, states:

> "Because of the advent of worldwide cable networks, television has become a global medium. Propelling this phenomenon is the global influence of MTV, the rock video channel, and CNN, the worldwide news channel. [...] Heavy viewers of TV will develop similar perceptions of reality because they are exposed to similar stimuli. [...] This implies that global TV networks such as MTV and CNN are promoting similar norms and values on a global basis" (Assael 1998:499).

Reality is different. Few people watch international (English language) television programs regularly. The English language cross-border channel CNN had to introduce Spanish and German language versions. MTV increasingly localizes its content across Europe.

In his famous article "The Globalization of Markets", Ted Levitt (1983) argued that new technology would lead to homogenisation of consumer wants and needs because consumers were expected to prefer standard products of high quality and low price as compared to more customized high price products. His argument was based on the assumption that consumer behaviour is rational and that consumers always want to maximize profit. The assumption of rationality is increasingly regarded as unrealistic and places consumers outside of a cultural context (Antonides 1998; McCracken 1989; Süerdem 1993).

There is increasing evidence that at the macro-economic level the convergence hypothesis must be questioned (Craig, Douglas and Grain 1992, Hollanders, Soete and Ter Weel 1999, Sarkar 1999). A few scholars have pointed out that convergence at micro-level remains mainly a belief since no empirical evidence has been brought to show homogenisation of tastes or the appearance of universal price-minded consumer segments (Usunier 1996). There is indeed little evidence of convergence of consumer behaviour across countries. The empirical evidence that does exist is usually based on macro-developmental data, such as the numbers of telephones, television sets or passenger cars per 1,000 population. Inkeles (1998) stated that such macro-level data often mask diversity at micro-level. Convergence at macro-level (e.g. convergence of GNP/capita) does not necessarily imply convergence of consumer choice. “Countries similar economically are not necessarily similar in their consumption behaviour, media usage and availability patterns” (Sriram and Gopalakrishna 1991:140). Although there certainly is evidence of globalisation of markets, there are also clear signs that differences in local consumer behaviour are persistent. Customs and traditions tend to persist and therefore concepts such as a “European consumer” are misnomers. As people around the globe become better educated and more affluent, their tastes actually diverge. With increased wealth, people increasingly accord greater relevance to their civilizational identity (Savitt 1998; Usunier 1996).

Meta-analysis of consumption and consumer behaviour

The findings presented in this paper are based on meta-analysis of time-series data of a large number of product categories at national level, using coefficients of variation (CV) and mean rates of convergence per year[1]. In order to analyse the varying influence of national wealth, three groups of countries are compared: an economically heterogeneous group of 44 countries worldwide[2], an economically more homogeneous group of 26 countries worldwide (GNP/capita > $8,000)[3] and an economically homogeneous group of 15 countries in Europe[4].

To analyse patterns of convergence-divergence we distinguish between macro- and micro level data. Generally the distinction macro-micro refers to the level of aggregation. This distinction is not useful for comparative research across nations, as data at national level are all aggregate. We follow the distinction of Hunt (1976) and Peterson & Malhotra (2000) who describe micro-level data as being more concerned with buying behaviour of consumers, as opposed to macro-level data being indicators of the macro-economic environment of countries. Next to convergence or divergence we demonstrate the diminishing effect of income and persistence of culture’s influence by correlation and step-wise regression analysis[5] using income (GNP/capita) and Hofstede’s cultural variables as

independent variables against data on product consumption or ownership and media usage as dependent variables.

"Culture" is for many a fuzzy concept. Only recently, scholars have made the concept more concrete. Countries can now be compared via dimensional scales and values of national culture can be quantified and correlated with various aspects of consumer behaviour. In particular Hofstede's (1980, 1991, 2001) dimensions of national culture are useful because of availability of country scores for a large number of countries. Hofstede's five dimensions relate for example to country differences in motives for buying products and services, dependence on brands, adoption of new technology and media use. Many consumption differences can be explained and predicted by correlation and regression analysis between consumption data and country scores of Hofstede's dimensions.

Hofstede's dimensions of national culture

Hofstede distinguishes five dimensions of national culture: power distance (PDI), individualism/collectivism (IDV), masculinity/femininity (MAS), uncertainty avoidance (UAI) and long-term orientation (LTO). For those who are unfamiliar with the model, a short description follows.

Power Distance is the extent to which less powerful members of a society accept that power is distributed unequally. In large power-distance cultures (e.g. France, Belgium, Portugal, all of Asia) everybody has a rightful place in society and ownership of status objects to demonstrate this position is important. In small power distance cultures people try to look younger and powerful people try to look less powerful (e.g. Great Britain, Germany, the Netherlands and Scandinavia).

Individualism versus *Collectivism*. In individualist cultures people look after themselves and their immediate family only; in collectivist cultures people belong to in-groups who look after them in exchange for loyalty. In individualist cultures people want to differentiate themselves from others. In collectivist cultures the need for harmony makes people want to conform to others. North Americans and Northern Europeans are individualists, in the South of Europe people are moderately collectivist. Asians, Latin Americans and Africans are collectivists.

Masculinity versus *Femininity*. In masculine cultures the dominant values are achievement and success. The dominant values in feminine cultures are caring for others and quality of life. In masculine cultures performance and achievement are dominant values. Status products and brands are important to show success. Feminine cultures have a people orientation, small is beautiful and status is not so important. In masculine cultures there is large role differentiation while in feminine cultures male and female roles overlap. Examples of masculine cultures are the US, Great Britain, Germany, Italy and Japan. Examples of feminine cultures are the Netherlands, the Scandinavian countries, Portugal, Spain and Thailand.

Uncertainty Avoidance is the extent to which people feel threatened by uncertainty and ambiguity and try to avoid these situations. In cultures of strong uncertainty avoidance, there is a need for rules and formality to structure life. Competence is a strong value resulting in belief in experts as opposed to weak uncertainty avoidance cultures with belief in the generalist. In weak uncertainty avoidance cultures people tend to be more innovative and entrepreneurial. The countries of South and East-Europe as well as Japan score high on uncertainty avoidance, England, Scandinavia and Singapore low.

Long Term Orientation versus *Short Term Orientation*. This fifth dimension distinguishes between long-term thinking and short-term thinking. Other elements are pragmatism, perseverance and thrift. This dimension distinguishes mainly between Western and East Asian cultures. Variance in degrees of thrift has implications for the use of credit

cards: low in long-term oriented cultures and high in short-term oriented cultures. In Europe the differences are small, but in some cases significant. The Netherlands score relatively high as compared with the UK and France.

The dimensions are measured on a scale from 0 to 100 (index), although some countries may have a score below zero or above 100, because they were measured after the original scale was defined. Hofstede (2001) provides scores for 66 countries and three regions. The combined scores for each country explain variations in behaviour of people and organisations. The scores indicate the relative differences between cultures.

With increased wealth cultural values become manifest

Most of the differences in product usage and buying motives are correlated with Hofstede's dimensions (De Mooij 1998, 2000, 2001). These differences are stable or become stronger over time. This is because people's attitudes and behaviour, related to consumption, are based on their values. Values and attitudes of people are surprisingly stable over time. Technological development does not produce "new values". In what we call "post scarcity" societies "old" values become manifest in consumption and consumer behaviour. If people have enough of everything to live a comfortable life, they will spend their incremental income on the things that fit their value pattern best. The ultimate American ideal is a five-car garage, the Dutch will buy even more luxurious caravans and the Spanish will go out eating with larger groups of people. Additional income gives people greater freedom of expression and their choices follow their distinct value patterns.

An example of how value differences can increasingly be explained by cultural variables can be found in the Reader's Digest (2001) report "European Trusted Brands". In the survey, a few questions about the degree of trust in institutions such as the police and the legal system were repeated from an earlier survey by Reader's Digest (1991). Differences in trust in the police and the legal system correlate significantly with Hofstede's cultural dimension power distance: in cultures of large power distance there is less trust than in cultures of small power distance. Regression analysis shows that for the thirteen countries involved in both surveys[6], in 1991 the percent of variance explained by power distance was 52% for trust in the police and 41% for trust in the legal system. In 2001 the figures were 72% and 69%.

Culture and consumption

How people spend their private income is related to culture. As an example of how culture explains variance of consumption categories we use the structure of private consumption in Europe. The examples are of 1996, but they are representative for a longer time span: between 1986 and 1996 the differences have remained stable. Consistently, in collectivist cultures people spend a higher percent of private consumption on food than in individualist cultures, also in the economically homogeneous Europe. In collectivist cultures food has a much more important role in social life than in individualist cultures. The explaining variable for differences in expenditures on clothing, footwear and furniture is uncertainty avoidance. In two of the four categories, GNP/capita plays only a secondary role in explaining variance.

Often mentioned examples of assumed convergence in Europe are greying populations and similar increases in expenditures of services such as leisure activities (e.g. Leeflang and Van Raaij 1995). Leisure expenditures, however, do not converge. Between 1986 and 1996 in Europe the percents of private income spent on leisure diverged with a mean divergence

per year of 1.35 percent. The differences are related to culture. Table 1 presents the correlation coefficients for four consumption categories and the Hofstede dimensions.

Table 1. Structure of private consumption

Structure of private consumption in Europe (13 countries) 1996: Correlation Coefficients					
Percent private expenditures	PDI	IDV	MAS	UAI	GNP/capita
Food and beverages	.43	-.79***	-.15	.49*	-.69***
Clothing and footwear	.31	-.56*	.41	.59*	-.55*
Leisure, entertainment, recreation	-.75**	.05	-.15	-.50	.33
Furniture and household equipment	.42	-.11	.48*	.67**	.11
Sources: Eurostat Yearbook 1998/1999 and Hofstede 1991					

An example of a specific food product category is mineral water. The differences between countries have been similar since 1970. In France, Germany, Italy and Belgium, all strong uncertainty avoidance cultures, people drink much more mineral water than in the UK and Scandinavia, weak uncertainty avoidance cultures, where people have different perceptions of what is necessary for their health. These differences cannot be explained by differences in income or quality of tap water. As table 2 shows, in 1970 only the need for purity, a value included in Hofstede's dimension uncertainty avoidance, was significantly related to mineral water consumption. In 1991, the relationship became stronger and masculinity/femininity was also significantly related to mineral water consumption. By 1996 three cultural variables were significantly related to mineral water consumption. Note that there was no relationship between national wealth and mineral water consumption in any of the three years examined.

Table 2: Mineral water consumption across Europe

Mineral water consumption, Europe, 15 countries						
Product moment correlation coefficients						Step-wise regression
	GNP/cap	PDI	IDV	MAS	UAI	Predictors
1970	.31	.32	-.21	.24	.46*	None
1991	.21	.32	-.05	.53*	.57*	UAI (R^2 = .32); GNP/cap (R^2 = .57); MAS (R^2 = .75)
1996	.04	.56*	-.10	.57*	.73***	UAI (R^2 = .53); MAS (R^2 = .69); GNP/cap (R^2 = .79)

Sources: Hofstede 1991 and:
1970: Reader's Digest 70: drink taken in the past year: mineral spring water
1991: Reader's Digest 91: drinking mineral water almost every day
1996: Euromonitor 1997, litres/cap. sales total mineral water in 1996

The mineral water example also demonstrates the stability of consumption differences. The stability of cultural values is in contrast to what economists expect: that with converging incomes, cultural values and habits will also converge. The opposite is true, cultural values are stable and with converging incomes they become manifest.

Convergence-divergence: a pattern

Analysis of time-series data demonstrates that at macro level and at micro level, both convergence and divergence take place, but to varying degrees in different regions. If products converge across countries, convergence is weakest in economically heterogeneous regions and strongest in economically homogeneous regions. But even in economically homogeneous regions, such as Europe, only a few cases of true convergence can be demonstrated. There are many large differences between countries that are stable over time, or countries diverge. We also find that convergence of ownership of products does not mean convergence of usage. People may own modern technology, but they do not use

it the same way across countries. So, even if there is convergence at macro-level, substantial differences are likely to exist at micro-level. For example, countries have converged for the total number of passenger cars per 1,000 population, but the distribution across the population, numbers owned per household, or type of car owned diverge.

In Europe, in 1997, for 20 product categories reviewed[7], the CVs varied from .66 (sales of real jewellery) to .11 (TV sets per 1,000 population). If we take as criterion for convergence a threshold of convergence at .20, there are only a few categories that have truly converged. In Europe, only a few categories have reached a CV below that level: television sets per 1,000 (.11), telephone main lines per 1,000 (.17), and passenger cars per 1,000 (.18). These are all examples of convergence of durable products at macro-level, so the average numbers per 1,000 population of a few product categories converged. Of the non-durable (packaged goods) categories examined (e.g. food, drink, personal care products), the only categories that had to a certain degree converged were household cleaning products (CV is .34) and soft drinks (CV is .29). These are the two product categories that have been dominated by American multinationals during the past half-century. They are not representative of the total package of consumption.

The durable products that converged are relatively recent high investment products. For lower investment type products or media such as radio, countries diverged. In Europe, the CV for TV sets/1,000 population decreased from 1.00 in 1960 to .11 in 1998. The CV for radios was only .33 in 1960 and it decreased to .24 in the next ten years. After 1970 it increased again, to .36. In the time-span 1970-1998, the mean *convergence* per year of television sets/1,000 was 2.26 percent, while the mean *divergence* per year of radios/1,000 was 0.37 percent. The differences between countries with respect to newspaper circulation have remained stable in the past fifty years. There is neither convergence nor divergence.

There is a pattern of convergence-divergence. For durable products – in particular those related to wealth such as passenger cars, television sets and computers – initially, with increased wealth countries converge, but in the developed world, at a certain level of wealth, convergence reaches a ceiling after which there is no further convergence and differences remain stable or increase. With converging wealth convergence of consumption turns into divergence. For "old" products such as newspapers and radio that ceiling was reached long ago. New products such as computers have not yet reached a ceiling and differences between countries are still large. The point of convergence lies in the future. But it can be predicted by understanding the pattern of the old products.

Table 3 presents the means of convergence or divergence per year at the macro-level, for five product categories (telephone main lines, passenger cars, television sets, radios and newspapers per 1,000 population), for the period 1970-1998, for the country-groups worldwide 44, Developed 26 and for Europe 15.

In the long term, at macro level, products linked with economic development of countries converged fastest in the economically homogeneous Europe, while older, cheaper products such as radios and circulation of newspapers diverged.

Table 3. Convergence-divergence at macro level

Convergence or divergence per year (%) at macro level 1970-1998			
	Worldwide 44	Developed 26	Europe 15
Telephone main lines/1,000 population	1.42	2.16	2.40
Passenger cars per 1,000 population	0.89	1.53	1.74
Television sets per 1,000 population	1.50	1.61	2.26
Radios per 1,000 population	1.18	1.48	**- 0.31**
Newspapers per 1,000 population	0	**- 0.15**	**- 0.37**

Sources: UN Statistical Yearbooks and World Bank Development Reports

Data for calculating convergence-divergence at micro level are not readily available worldwide. A few data are available for Europe, but only for shorter time spans. These data provide evidence of divergence. Table 4 presents divergence at micro-level for five categories. The numbers of passenger cars per family between 1995 and 1999 (data EMS) diverged. For daily viewing minutes (data IP) countries converged between 1991 and 1993 and diverged after 1993. Newspaper readership in Europe, measured by the question "did you read a newspaper yesterday?" (McCann Erickson) diverged between 1991 and 1996. Countries also diverged with regard to book readership, measured by the question "did you read more than 8 books (1970) or 12 books (1991) in the past year" (Reader's Digest Surveys).

Table 4. Divergence at micro level.

Divergence per year (%) at micro level (Europe)	
	Mean divergence per year (%)
Cars: One car in family 1995-1999	2.00
Cars: Two cars in family 1995-1999: stability	0
Cars: Three cars in family 1995-1999	1.74
TV: Daily viewing minutes 1991-1999	.69
Newspaper readership: "Read yesterday" 1991-1996	3.03
Books: Heavy book readership 1970-1991	1.12
Sources: EMS, IP, McCann Erickson, and Reader's Digest Surveys	

Differences in media usage are persistent because the media are part of countries' culture. Radio ownership in Europe is related to individualism: in 1997 48 percent of variance was explained by individualism. Over time the significance of the relationship has become stronger. While in collectivist cultures one radio per family is enough, in individualist cultures everyone wants his/her own radio. In the UK there are 1,400 radios per 1,000 people as compared with 330 per 1,000 people in Spain.

Newspaper circulation and readership are related to power distance. In 1996, 58 percent of variance of newspaper readership was explained by small power distance. In the more egalitarian cultures people read more newspapers. In 1991 52 percent of variance of heavy book readership was explained by individualism. Measurement of book readership by Eurobarometer in 1992 (answers to question "did you read a book last week?") shows an even stronger relationship: 65 percent of variance was explained by individualism. In individualist cultures people are more verbally oriented, while in collectivist cultures people are more visually oriented. In the collectivist cultures television is a more important medium than the press.

New media and technology are converging at macro level, but differences at micro level emerged soon after introduction. Internet penetration (numbers of hosts per 10,000 population) converges, but the way the Internet is used varies.

The communication means of the new economy

The means of the new economy (e.g. PCs, Mobile phones and the Internet) are concentrated in the developed world. Ninety percent of personal computers are owned by half of our group of 44 countries worldwide. The coefficients of variation for the group of countries worldwide (1998) vary between .88 for personal computers per 1,000 population and 1.53 for Internet hosts per 10,000 population. Countries are converging with respect to mobile phones and computers although the time-span that can be measured is relatively short. With respect to the Internet, convergence was only found in Europe. Worldwide and

in the group developed 26 we found divergence. In 1998/1999 worldwide GNP/capita was the main predictor for variance of mobile phones, PC ownership and the Internet. In the developed world culture increasingly explains variance. Table 5 presents the relationships for mobile phones, PCs per 1,000 people and Internet hosts per 10,000 people.

Communication means of the new economy: income and culture

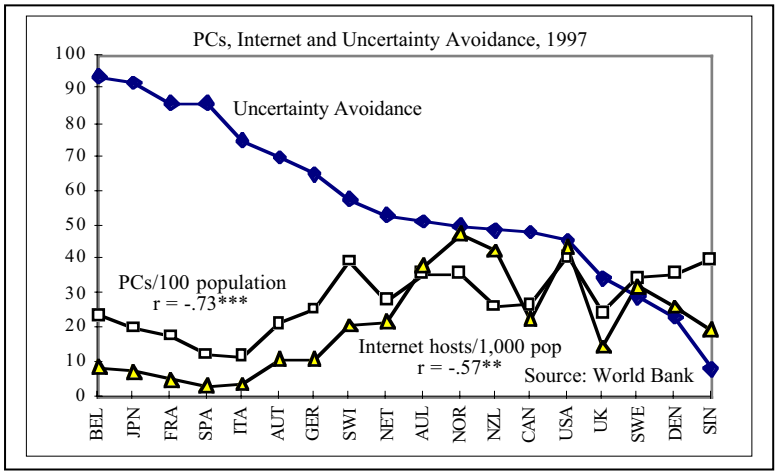
	GNP/cap	PDI	IDV	MAS	UAI	LTO	Pred.1	R^2	Pred.2	R^2	Pred.3	R^2
Worldwide 44												
Mobile 98	.76***	-.61***	.63***	-.08	-.35**	-.06	GNP	.58				
PCs 98	.92***	-.63***	.75***	-.06	-.50***	-.25	GNP	.84	UAI (-)	.89		
Internet 99	.67***	-.55***	.63***	-.23	-.43***	-.31	GNP	.45	MAS (-)	.51	IDV	.56
Developed 26												
Mobile 98	.43*	-.40*	.31	-.23	-.42*	.07	GNP	.18				
PCs 98	.79***	-.42*	.57***	-.21	-.76***	-.23	GNP	.63	UAI (-)	.83		
Internet 99	.49***	-.42*	.50***	-.37*	-.49***	-.32	IDV	.25				
Europe 15												
Mobile 98	.43	-.53*	-.38	.38	-.59*	-.18	UAI (-)	.34				
PCs 98	.86***	-.59**	.55*	-.27	-.69***	-.28	GNP	.74	UAI (-)	.86		
Internet 99	.45*	-.46*	.18	-.58*	-.48*	-.31	MAS (-)	.34	PDI (-)	.55		

Source: World Development Reports and Hofstede, 1991

Table 5 Communication means of the new economy: Relationship income and culture

Worldwide, next to GNP/capita, weak uncertainty avoidance is a predictor for PC ownership while variance of the Internet is also explained by both low masculinity and individualism. In the group developed 26, GNP/capita is also the main predictor for mobile phones and PCs, but cultural variables also play a role in explaining variance. A second predictor is weak uncertainty avoidance that explains acceptance of new technology (Figure 1 illustrates this). Individualism explains variance of Internet hosts per 10,000 population.

Figure 1: PCs, the Internet and Uncertainty Avoidance.



In Europe weak uncertainty avoidance explains variance of ownership of mobile phones and it is a second predictor for computer ownership. For the Internet low masculinity and small power distance explain much of variance. There is also a significant negative correlation with uncertainty avoidance.

The Internet in Europe

The Internet is so new that time series are only available for a short time period. In Europe the CV for the number of Internet hosts per 10,000 population was .80 in 2000, so with respect to the Internet Europe is certainly not a homogeneous area. Low masculinity explained 35 percent of variance of the number of Internet hosts per 10,000 population in 2000. Likewise, 49 percent of variance of access of the Internet (access in past few weeks, data Initiative Media) was explained by low masculinity. This explains the high use of the Internet in the Scandinavian countries, all low on masculinity.

The Internet can be used for various applications: for e-mail and communication, for educational and scientific reasons, for business purposes, for leisure and other personal reasons, for banking, for e-commerce and many others. From various sources we found that these differences in usage are culture-bound. Eurobarometer (1997), for example, measured the information society by asking people their willingness to pay 10 Euro per month for eleven Internet applications. Six of these were significantly correlated with the cultural variables: to contact a politician on-line in view of participating in political activities, distance learning applications, information for travel, electronic newspaper, e-mail access, and home banking. The coefficients of variation for these six applications varied between .30 for distance learning and .62 for e-mail access. Of the percents answers to the answer category *to contact a politician on-line*, 31 percent of variance was explained by low individualism, which fits the need for personal contacts in collectivist cultures. Of the *distance learning* application 39 percent of variance was explained by weak uncertainty avoidance. Distance learning implies low reliance on the expertise of a teacher and fits best weak uncertainty avoidance cultures. Low masculinity explained 36 percent of variance of the application *electronic newspaper*, 54 percent of variance of the application *e-mail access* and 42 percent of variance of *home banking*. In the feminine cultures all possible applications are embraced to enhance the quality of life.

EMS data on the various applications of the Internet in 1997 and 1999 show that use of the Internet converge, but also that use of the various applications of the Internet vary and are related to culture. The coefficient of variation for daily use of the Internet for business was 1.28 in 1997 and .55 in 1999. This points at convergence. Use of the Internet for three purposes varied strongly in Europe. Of the EMS respondents, 45.4 percent of the Danes said they used the Internet for three purposes, while 33.4 percent of the British and Dutch and only 16.9 percent of the Spanish gave that answer.

Variance of Internet use for *business purposes* was explained by small power distance and weak uncertainty avoidance. In cultures of small power distance and weak uncertainty avoidance the Internet is more used for business than in cultures of large power distance and strong uncertainty avoidance. Small power distance means that values of equality are strong. That is what the Internet stands for: it does not allow for inequality related values such as status, power play, settled positions, rigid structures, authority and the like. Variance of daily use for *leisure* was explained by low masculinity and by weak uncertainty avoidance. Variance of daily use of the Internet for *education* was explained by low masculinity in 1997 and by weak uncertainty avoidance in 1999. This confirms our findings for use of the Internet for distance learning from Eurobarometer. Variance of use of the Internet for *e-mail*, both daily, once a week and once per month, was explained by weak uncertainty avoidance. Use of the Internet for *e-commerce* is in its infancy. GNP per capita explained variance of use for purchases. Table 6 presents for 1997 and 1999 the percents explained by the main predicting dimension and the dimension that explains an additional percent of variance (marked by a + sign).

Table 6: Differences in use of the Internet.

Use of the Internet for four different purposes; Europe 15, 1997-1999

	Percents explained: Use of the Internet almost daily for							
	business		education/science		e-mail		leisure, personal reasons	
	1997	1999	1997	1999	1997	1999	1997	1999
Power distance (-)	41%							
Masculinity (-)			39%			+13%	57%	45%
Uncertainty Avoidance (-)	+31%	76%		31%	49%	62%	+14%	+26%

Source: EMS and Hofstede 1991

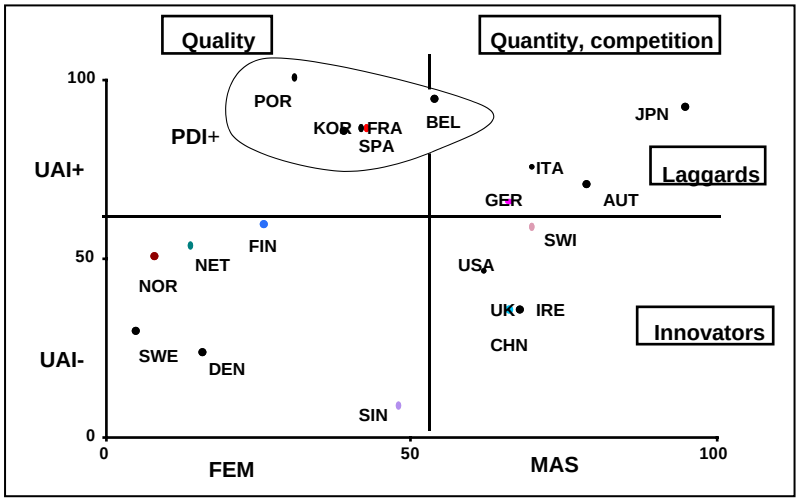
After only a decade of Internet existence, in Europe the way it is used appears to vary across countries and variance can only be explained by cultural differences. Understanding the differences will make companies more successful in using the Internet.

Business application

The major application of our findings for business is the possibility to map cultures. Figure 2 is an example of such a map. For understanding the development of the Internet, countries are clustered according to the dimensions masculinity/femininity and uncertainty avoidance. The bottom quadrants include countries that are of weak uncertainty avoidance. These countries are leading in adoption of innovations. The countries in the top two quadrants are laggards. The two quadrants at the left are of low masculinity. Countries in this cluster will adopt new technology for enhancing the quality of life. The countries in the quadrants on the right are high on masculinity and will adopt new technology for enhancing competitiveness.

Power distance is introduced as a third dimension that explains variation of government involvement. In the top quadrants are the countries Portugal, Korea, France, Spain, Belgium and Japan that are of large to medium (Japan) power distance. In the bottom quadrant is Singapore that is of large power distance. In large power distance cultures governments can take a leading role in advancing levels of technology. An example is South Korea, where in 2001 the government heavily invested in infrastructure for broadband communications.

Figure 2: Mapping cultures for adoption and application of the Internet

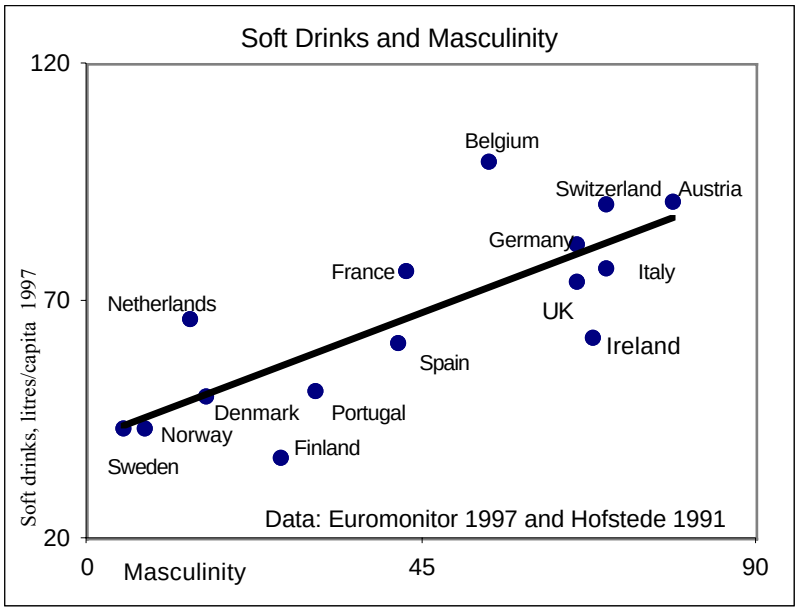


Unexpected effects of global advertising

Of the fast-moving consumer goods categories included in our analysis only three product categories have become relatively homogenous, that is, the differences in usage across countries are relatively small: household cleaning products, soft drinks and cigarettes. Initially the use of these products in Europe converged with converging incomes, but convergence stopped at a certain level.

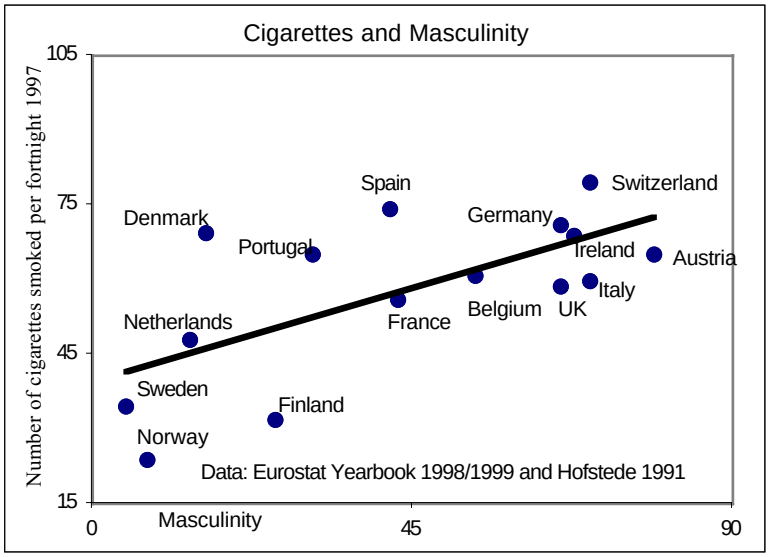
In particular the soft drink and cigarette categories have for long been dominated by Anglo-American global brands (e.g. Coca-Cola, Pepsi-Cola, Fanta, Seven-Up, Sprite, Schweppes, Marlboro, Camel, Rothmans). These early global brands may have caused convergence of their product category because they were the first to apply advanced marketing techniques. With increased global competition the owners of these brands started to standardise their marketing and advertising for increased efficiency. Global advertising, however, does not appeal to universal values, because there are no universal values. Because many global advertising campaigns are developed in London or New York, they generally include Anglo-American values. For decades global campaigns for soft drinks and cigarettes have reflected Anglo-American values like masculinity, adventure, status and success, which are not equally appealing to all cultures. This is reflected in the differences in volume sales across countries. In Europe (data Euromonitor, 1997), 60 percent of variance of soft drink consumption (litres per capita) is explained by Hofstede's cultural dimension masculinity (r = .78***, figure3). For cigarettes (data Eurostat, 1997) it is 44 percent (r = .66***, figure 4).

Figure 3. Soft drinks and Masculinity



Thus, the result of global advertising is other than intended. Global advertising may have stopped the convergence process of the product category and *caused* the current differences in usage. In countries with values that differ from Anglo-American values standardised advertising campaigns have resulted in sub-optimisation of sales. As consumer motives and needs are not the same across countries the effect of global advertising is not the same in all countries. There is waste in countries where consumer values are different from the values in global advertising campaigns.

Figure 4. Cigarettes and Masculinity



Conclusions

Although for some durable products and new technology, at macro level (ownership of products per 1,000 people), countries convergence, countries diverge with respect to how people use these products. Over time consumption differences between countries are stable or they increase. These differences can be explained by culture. Analysis of the influence of income or culture on consumption at country-level over time shows that when countries converge with respect to national wealth, cultural variables increasingly explain the differences in country-level behaviour. The model developed by Hofstede explains most of the variation of consumption and consumer behaviour across countries and enables marketing executives to quantify the effects of culture.

The cultural variety of countries worldwide as well as in Europe implies that success in one country does not automatically mean success in other countries. Instead of mapping countries according to geographic proximity or economic development, mapping according to cultural characteristics is more effective. In some cultures, for example, people are on average more innovative than in other cultures. In Europe, Denmark is the country where new innovations are adopted fastest, while in Asia it is Singapore. The most important characteristics these countries share are not their geographic position or economic development, but their position on one of Hofstede's scales of national culture that measures the degree of innovativeness. Using such countries as test markets for a region to predict future development is not realistic. Countries can better be mapped according to their behavioural variations, such as degree of innovativeness, motivations or preferences that are included in their cultural characteristics.

Nearly four decades after Marshall McLuhan's (1964) phrase "the global village" was coined, there is increasing evidence of the correctness of his philosophy that new technology is merely an extension and enhancement of ourselves. The new media allow us to do more of the same, more of what we like to do most and what we have been doing, but in more efficient ways. With the introduction of new technology and with increased wealth no "new" values emerge. Instead, existing "old" values become manifest.

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[1] For measuring convergence or divergence, the coefficients of variation (the ratio of the standard deviation to the mean) were computed and compared over time. The coefficient of variation (CV) is explained in Williamson and Fleming (1996:349-350), who prefer the coefficient of variation rather than "the more common alternatives such as the standard deviation or variance because the coefficient of variation is adjusted for shifts in the mean. .. The greater the decrease in the coefficient of variation over a specified period of time, the greater the convergence".

Williamson and Fleming (1996:354) express the mean convergence per year symbolically as follows:

$$MC/year = \frac{(CV_{t1} - CV_{t2})}{CV_{t1}} \times 100 / (t_2 - t_1)$$

where MC/year = mean convergence per year, CV_{t1} = coefficient of variation at the earlier date, CV_{t2} = coefficient of variation at the later date, t_1 = the earlier date, and t_2 = the later date.

[2] The 44 countries of this group are: Argentina, Australia, Austria, Belgium, Brazil, Canada, Chile, Colombia, Costa Rica, Denmark, Ecuador, El Salvador, Finland, France, Germany, Great Britain, Greece, Indonesia, India, Ireland, Israel, Italy, Japan, South-Korea, Malaysia, Mexico, Netherlands, Norway, New Zealand, Pakistan, Panama, Peru, Philippines, Portugal, South Africa, Singapore, Spain, Sweden, Switzerland, Thailand, Turkey, Urugay, U.S.A., Venezuela.

[3] The 26 countries of this group are: Argentina, Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Israel, Italy, Japan, Korea, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, United Kingdom, USA, Venezuela. Currently, Venezuela's GNP/capita is below US$8,000, but Venezuela used to be part of the "top 25 income countries" until 1988 when South Korea took its place. For continuity in our time-series calculations we kept including both Venezuela and South Korea in all our calculations.

[4] In this article, when we refer to calculations for Europe, these are for 15 countries: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom. When Eurostat data (available only for EU countries) are used, calculation is only for 13 countries (Norway and Switzerland excluded).

[5] Correlation analysis: significance was established with the Pearson product moment correlation coefficient. Significance levels are indicated by $*p < .05$; $**p < .01$; and $***p < .005$, one-tailed. Linear regression analysis: significant contributions in stepwise regression, R^2 = share of variance explained.

[6] Belgium, Denmark, Finland, France, Germany, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom

[7] Telephony, passenger cars, television, radio, the press (newspapers, books), food, mineral water, soft drinks, alcoholic drinks, cigarettes, jewellery, personal computers, Internet, audio, household appliances, watches, cameras, personal care products, household cleaning products and financial products.