Research Notes

Convergence and divergence in consumer behavior: implications for international retailing

Marieke de Mooij[a,b,*], Geert Hofstede[b]

[a]*Cross Cultural Communications Company, University of Navarra, Pamplona, Spain*
[b]*Institute for Research on Intercultural Cooperation, Tilburg University, Tilburg, Netherlands*

Abstract

Converging technology and disappearing income differences across countries will not lead to homogenization of consumer behavior. Rather, consumer behavior will become more heterogeneous because of cultural differences. As consumer incomes converge across countries, the manifestation of value differences will become stronger. This phenomenon makes it increasingly important to understand values of national cultures and their impact on consumer behavior. Retailing strategies for one country cannot be extended to other countries without adaptation. Hofstede's model of national culture is applied to understand differences in consumer behavior across countries. Examples are provided of consumption differences, their relationships with culture discussed, and selected implications for international retailing management detailed. © 2002 by New York University. All rights reserved.

Keywords: Consumer behavior; Culture; International retailing

Introduction

At the turn of the century, consumers in many countries experienced increased spending power, and globalization, megamergers, and new communication capabilities changed the rules of the game in international retailing. Whereas in the 20th century global retailing focused on similarities of consumers across borders, in the 21st century effective retailing will require understanding differences among consumers across borders.

One aspect of globalization is the convergence of income, media, and technology. Many authors (e.g., Assael, 1998, p. 501; Bullmore, 2000, p. 48; Czinkota & Ronkainen, 1993, p. 67; Jain, 1987, p. 229) generally expect this convergence to lead to homogeneous consumer needs, tastes, and lifestyles. For example, cross-border music channels such as MTV, greater travel, and better global communication have encouraged the notion of a "global teenager," that is, the notion that teenagers possess similar values, regardless of their country of origin (e.g., Assael, 1998, p. 499).

In his famous article titled "The Globalization of Markets," Levitt (1983) argued that new technology would lead to homogenization of consumer wants and needs because consumers were expected to prefer standard products of high quality and low price (as compared to more customized, higher priced products). His argument was based on the assumption that consumer behavior is rational. Increasingly, however, scholars find that there are many consumption differences across countries because consumers are often not rational and do not make purchase decisions that maximize utility. The assumption of rationality is increasingly regarded as unrealistic and places consumers outside of a cultural context (Antonides, 1998; McCracken, 1989; Süerdem, 1993).

Until recently the impact of culture was not well understood. Ignoring culture's influence has led many companies to centralize operations and marketing, which instead of increasing efficiency resulted in declining profitability. Several large multinational firms have seen their profits decline because centralized control lacks local sensitivity. For example, in the mid-90s Ford centralized global management. "That move, Ford execs now say, took Ford of Europe's focus off local strategy. As a result it lacks competitive offerings in segments that make up 35% of the European market" (Welch & Tierney, 2000, p. 29).

In 2000 Coca-Cola decided to get closer to local markets because of declining profitability. Coca-Cola's CEO was quoted in the *Financial Times* (March 27, 2000) as stating that, "We kept standardizing our practices, while local sen-

* Corresponding author. Tel.: +31-111-658340.
E-mail address: mdemooij@knoware.nl (M. de Mooij).

sitivity had become absolutely essential to success." Coca-Cola's local managers and bottlers now have more leeway to set pricing, tailor advertising campaigns, and even introduce new brands (Foust, Rocks, & Kripalani, 2000, p. 33). Coca-Cola launched a series of innovation centers around the world wherein scientists are able to work directly with marketing managers to develop, package, and sell new drinks at local market levels. Coca-Cola's marketing chief stated that the firm's "big successes have come from markets where we read the consumer psyche every day and adjust the marketing model every day" (Byrnes, 2000, p. 126).

Clothing retailer C&A in Europe standardized buying in 1997. In June 2000 the company decided to close all 109 stores in the United Kingdom and Ireland after substantial losses because the taste of British and Irish consumers differed from the taste of continental Europeans. According to Murphy (1999), American and British retailers in particular tend to ignore cultural differences when expanding to offshore markets and tend to forget that retailing is a very localized concept that requires great sensitivity to local tastes and habits. In general, we do not believe there is any empirical evidence that consumption behaviors are converging across countries. Convergence is merely a persistent myth of international marketing.

International marketers would like us to believe that in the "new Europe" with a single currency, consumers will become more similar, will increasingly eat the same food, wear jeans and cross-trainers, and watch the same television programs. Reality is likely to be different. There are large differences among the value systems of consumers in different European countries, value systems that are strongly rooted in history and appear to be very resistant to change. These differences were predicted to disappear with the single European market in 1992 and the advent of cross-border media, but to date they have not. Although there is evidence of converging economic systems in Europe, there is no evidence of converging value systems. On the contrary, there is evidence that consumer behavior is diverging in Europe as reflected in the consumption, ownership, and usage of many products and services.

Convergence or divergence?

The assumption that economic systems homogenization will lead to homogenization of consumer behavior is only supported by anecdotal evidence. The empirical evidence that does exist is usually based on macrodevelopmental data, such as the numbers of telephones, television sets, or automobiles per 1,000 population. Even with these data, though, only in a few cases can convergence be documented across European countries. In many other cases there are large consumption differences among countries that are stable over time or countries are actually diverging.

We have analyzed convergence (and divergence) in the consumption, ownership, and usage of a large number of products and services across countries at various points in time using the coefficient of variation (CV), the standard deviation of a variable divided by its mean, as an indicator of convergence/divergence, as well as the mean rate of convergence/divergence per year. (See Williamson & Fleming (1996) for a rationale and formulas.) The data used throughout this note were obtained from annual reports of the World Bank, Eurostat, and the United Nations, statistical data collected by Euromonitor, and surveys sponsored by Eurobarometer, *Reader's Digest,* and European Media and Marketing Surveys. (See the authors for details.) The results show, for example, that in Europe in 1997, CVs varied from 0.66 for sales of real jewelry per capita to 0.11 for television sets per 1,000 population for 18 different products and services. Only five product categories had a CV below 0.30, a threshold that suggests convergence across countries: television sets per 1,000 people (0.11), telephone main lines per 1,000 people (0.17), automobiles per 1,000 people (0.18), sales of household cleaning products in kilograms per capita (0.24), and consumption of soft drinks in liters per capita (0.29). The two products in the packaged goods category that evinced the most convergence, household cleaning products and soft drinks, were in categories that have been dominated by American multinational firms and thus are probably not representative of packaged goods in general in Europe.

Among durable products, the two that have converged the most are automobiles per 1,000 population and television sets per 1,000 population. For example, between 1960 and 1997, the CV for television sets per 1,000 population decreased from 1.00 in 1960 to 0.30 in 1975 and to 0.11 in 1997, with the mean rate of convergence per year being 2.4%. Simultaneously, though, radios per 1,000 population diverged and differences between countries with respect to newspaper circulation have remained stable over time. The CV for radios was 0.33 in 1960 and decreased to 0.24 in the next ten years; it then increased to 0.36. Between 1960 and 1997, the average annual rate of divergence of radios per 1,000 population was 0.2%. This analysis suggests, at least minimally, that countries converge with respect to relatively recent media (e.g., television) whereas they diverge or remain stable with respect to relatively old media (e.g., radio and newspapers). New technology or media might be expected to follow a similar pattern as the old media: from convergence to stability or divergence. Computer penetration is still converging, in part because it is linked to the economic development of countries. The Internet is too recent a phenomenon for meaningfully calculating convergence or divergence. Variation in the use of the Internet, however, is large, even in economically homogeneous Europe.

Comparing countries for international retailing

Within countries socio-demographic and psychological factors tend to be used to explain consumption variations. For international retailing we want to understand what it is about countries (as "systems") that influences consumption. We want to understand the characteristics of the systems because of their impact on the behavior of individuals within these systems. When investigating these characteristics, the most widely used unit of analysis is the nation-state because every aspect of a socio-cultural system is represented in it (Douglas & Craig, 1997; Inkeles, 1998).

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. Although countries differ considerably with respect to GNP/capita when all countries in the world are considered, GNP/capita is converging among developed countries. To illustrate, using data from various United Nations *Statistical Yearbooks,* the coefficient of variation for GNP/capita was calculated to be 0.86 for 44 countries worldwide in 1997, whereas for 15 European countries it was 0.33. Between 1960 and 1997 the average annual rate of *divergence* of GNP/capita per year was 0.10% for the 44 countries whereas the average annual rate of *convergence* of GNP/capita was 0.53% for the 15 European countries.

In brief, the analyses we conducted demonstrated that, in Europe, differences in national wealth could initially explain differences in the ownership and usage of products across countries. At some point in time, though, the countries converged and differences in national wealth did not do a good job of predicting or explaining product ownership and usage. When that point was reached, culture became a more useful explanatory variable.

Effectiveness in marketing means adapting to cultural values. "Culture," however, is for many a fuzzy concept. Only recently have scholars made the concept more concrete. Countries can now be compared by means of dimensional scales and culture quantified and correlated with various aspects of consumption. In particular, Hofstede's (1980, 1997, 2001) five dimensions of national culture are useful because of the availability of "scores" for a large number of countries. His five dimensions relate to country differences in motives for buying products and services, the degree of dependence on brands, adoption of new technology, and media use. Many consumption differences can be predicted and explained by analyzing the relationship between consumption and scores on Hofstede's dimensions of national culture. For example, culture has been shown to influence the volume of mineral water and soft drinks consumed, preferences for new or used cars, ownership of insurance products, possession of private gardens, readership of newspapers and books, television viewing, ownership of consumer electronics, use of the Internet, use of cosmetics, deodorants, toothpaste and hair care products, and consumption of fresh fruit, ice cream and frozen food as well as numerous other products and services (de Mooij 1997, 1998, 2000, 2001).

Hofstede's dimensions of national culture have been applied to the management of international retailing (e.g., Sternquist, 1998), but they are equally useful for statistically analyzing consumption differences across nations. In this note we apply them to consumption and media behavior, both of which are relevant for international retailing.

Hofstede's dimensions of national culture

Hofstede distinguished five dimensions of national culture: Power Distance (PDI), Individualism/Collectivism (IDV), Masculinity/Femininity (MAS), Uncertainty Avoidance (UAI), and Long-Term versus Short-Term Orientation (LTO). For those readers who are unfamiliar with his dimensional model, a short description follows. The dimensions are measured on index scales from 0 to 100, although some countries may have scores above 100 on certain dimensions because they were measured after the original scale was developed. Hofstede's original data were derived from matched populations of employees from national subsidiaries of one multinational firm, IBM. More than 116,000 questionnaires were administered in 72 countries and in 20 languages between 1967 and 1973. The results were originally validated against some 40 cross-cultural studies from a variety of disciplines and have been extended by Hofstede (2001).

Power distance

Power Distance is the extent to which less powerful members of a society accept the fact that power is distributed unequally. In cultures with large power distance, everybody has his/her rightful place in society, there is respect for old age, and status is important to show power. In cultures with small power distance, people try to look younger than they are and powerful people try to look less powerful. Malaysia scores highest on power distance at 104, Mexico scores 81, the United States scores 40, and Sweden scores 31.

Individualism versus collectivism

In individualist cultures, people look after themselves and their immediate family only. In collectivist cultures, people belong to groups that look after them in exchange for loyalty. In individualist cultures, the identity is in the person; in collectivist cultures, identity is based in the social network to which one belongs. In individualist cultures there is more explicit, verbal communication; in collectivist cultures communication is more implicit. The United States possesses the most individualist culture in the world and scores 91. Germany scores 67, Portugal scores 27, Indonesia scores 14, and Venezuela scores 12.

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 important. Status is important to show success. Feminine cultures have a people orientation, small is beautiful, and status is not very important. In masculine cultures there is substantial role differentiation between males and females; in feminine cultures there is less role differentiation. Japan possesses the most masculine culture and scores 95. The United States scores 62. The lowest score is for Sweden, a 5.

Uncertainty avoidance

Uncertainty Avoidance is the extent to which people feel threatened by uncertainty and ambiguity and try to avoid them. In cultures of strong uncertainty avoidance, there is a need for rules and formality to structure life, and competence is a strong value resulting in belief in experts. In weak uncertainty avoidance cultures there is a strong belief in the generalist. Moreover, in weak uncertainty avoidance cultures, people tend to be more innovative and entrepreneurial. In cultures of strong uncertainty avoidance, people tend to be better groomed than in cultures of weak uncertainty avoidance because it is one way to face a threatening world. Similarly, purity in food is an important need in cultures of high uncertainty avoidance. High uncertainty avoidance scores are observed for Greece with 112 and Mexico with 82. Low scores are observed for Denmark with 23 and the United Kingdom with 35. The United States scores 46.

Long-term orientation versus short-term orientation

Long-term orientation is the extent to which a society exhibits a pragmatic, future-oriented perspective rather than a conventional historic or short-term perspective. Long-term oriented cultures are particularly found in East Asia and value acceptance of change, perseverance, thrift, and pursuit of peace of mind. Short-term orientation is found in the Western world. China has the highest long-term orientation score (118). Brazil scores 65 and the United Kingdom scores 25. The United States scores 29.

Understanding culture's influence on consumption

To investigate the possible influence of culture on consumption, correlation and step-wise regression analyses were conducted using national wealth (GNP/capita) and Hofstede's cultural dimensions as independent variables and a variety of consumption and purchase behaviors as dependent variables. The first analysis employed as dependent variables the percentage of consumption expenditures allocated to various product and service categories for 13

European countries (with dependent variable data obtained from Eurostat, the Statistical Office of the European Communities). Because of space constraints, only selected results will be highlighted. Detailed results are available from the authors (as well as a listing of specific countries included in the various analyses).

Contrary to Leeflang & Van Raaij (1995), who suggested similar developments in service categories in Europe, we found that the percentage of consumption expenditures allocated to leisure and entertainment diverged between 1986 and 1996. Moreover, the percentage was negatively correlated (-0.70) with power distance. A likely explanation is that free time is spent with family and relatives in the cultures of large power distance, whereas in cultures of small power distance people spend more time on organized leisure activities. The percentage of consumption expenditures dedicated to food is negatively correlated (-0.76) with individualism. In collectivist cultures in Europe, people allocate a higher percentage of consumption expenditures to food than do people in individualist cultures, perhaps because food has an important social function in collectivist cultures. Providing food and having food in the home for any guest who drops by is an important social value. More time is spent on preparing food in collectivist cultures than in individualist cultures. In supermarkets, the variation and display of food needs more attention in collectivist cultures than in individualist cultures, where people are more focused on convenience and fast food.

The relationship between uncertainty avoidance and the need for being well groomed was confirmed by the significant correlation (0.66) between uncertainty avoidance and the percentage of consumption expenditures spent on clothing and footwear, a relationship that was stable over time. We found a similar relationship between uncertainty avoidance and the percentage of consumption expenditures going to furniture and household equipment (0.65). This relationship may be why IKEA, selling no-nonsense cheap furniture, originated in the weak uncertainty avoidance Swedish culture, whereas solid design furniture, such as that by Rolf Benz, originated in strong uncertainty avoidance cultures like Germany and Italy.

A second analysis focused on newspaper circulation. In general, differences in the circulation of newspapers between 1950 and 1998 across countries have remained more or less constant. Worldwide, 64% of the variability in newspaper circulation across countries was accounted for by national wealth in 1996. In developed countries, however, both newspaper circulation and readership were related to power distance. In Europe, in 1996, 58% of the variance in newspaper readership as measured in a McCann Erickson survey (Coen, 1997) was explained by small power distance. Data from Eurobarometer surveys provide the same results. In general, more newspapers are read in more egalitarian cultures than in less egalitarian cultures.

Privacy is a typical issue in individualist cultures. One manifestation of this issue is ownership of private gardens.

Across 14 countries in Europe, differences in the ownership of private gardens were not related to differences in national wealth and were stable over time. Although individualists tend to assume that with increased wealth, everyone would prefer to live in a single-family house with a private garden, such an assumption is incorrect. Countries do converge with respect to living in single-family houses, but not with respect to ownership of private gardens. Based on Reader's Digest surveys in 1970 and 1991, ownership of private gardens correlated significantly with individualism. In 1970, $r = 0.86$; in 1991, $r = 0.80$. Private gardens are common in individualist cultures, where people entertain friends in the privacy of their own garden. In collectivist cultures, people get together in public places such as parks and bars. This is confirmed by comparative data on cafés per million population (www.Hotrec.org 1997) that show a negative correlation with individualism ($r = -0.55$). When internationalizing, product and service categories that are related to socializing can best be screened on differences in usage in individualist versus collectivist cultures.

Batra & Sinha (2000, p. 177) described how some consumer characteristics are likely to influence propensity to purchase private label brands. One of the characteristics is the degree of reliance by consumers on extrinsic cues; consumers who rely on extrinsic cues prefer well-known brands to a greater extent than do consumers who do not rely on extrinsic cues. Extension of this characteristic to the national level suggests that people in collectivist cultures are more likely to prefer national or global brands to private label brands.

The private label phenomenon is indeed common in individualist cultures, but it is also related to short-term orientation. Market share percentages for private label brands for 21 countries worldwide correlated positively with individualism ($r = 0.43$) and negatively with long-term orientation ($r = -0.55$). There are two reasons for preferring national or global brands to private label brands in collectivist cultures. First, national or global brands are used to demonstrate one's status or "rightful place" in society. Status needs are related to power distance that in many cases is in turn related to collectivism. Second, the need for harmony makes people more brand loyal. Long-term orientation adds to this because it includes a preference for long-term relationships between customers and known (i.e., national or global) brands.

Because luxury articles can be used as manifestations of one's success, they are likely to be more attractive to members of masculine cultures than to members of feminine cultures. Table 1 presents correlations between ownership of watches, instant cameras, and an expensive suit or dress as well as sales of real jewelry and national wealth and masculinity/femininity.

Logically, a predictor of ownership of cheap watches is wealth. In less wealthy countries people will have less money to spend on watches than people in more wealthy countries. But there also is a negative relationship with

Table 1
Status Needs, National Wealth, and the Masculinity Dimension of Culture

	GNP/capita	Mas/Fem
Watches owned		
Value main watch under $150	−.70[a]	−.50[b]
Value main watch over $1,500	.38	.56[b]
More than four watches in use	−.01	.53[b]
Main watch is branded Swatch	.47[b]	.75[a]
Sales real jewelry (in value)		
Worldwide 44 countries	.34	.44[b]
26 developed countries worldwide (GNP/cap > $8,000)	.25	.61[a]
15 European countries	.18	.51[b]
Ownership of:		
Instant camera	.20	.63[a]
Suit or dress over $750	.01	.68[a]

Sources: Hofstede (1997); Euromonitor 1997; EMS 1995/1999.
[a] Statistically significant at $p < .001$.
[b] Statistically significant at $p < .05$.

masculinity. In feminine cultures there is less need to own expensive watches for demonstrating one's success. Ownership of watches costing more than $1,500 was not related to national wealth; it was only related to cultural masculinity ($r = 0.56$). Owning more than four usable watches also is a matter of status and correlated 0.53 with masculinity. Owning a Swatch watch was also significantly correlated with masculinity ($r = 0.75$), even though a Swatch is not a very expensive watch. Perhaps it is reverse snobbery to say that one's main watch is a Swatch. Other items that are status symbols are instant cameras and expensive clothes, and the ownership of both was correlated with masculinity. Sales of real jewelry (gold and diamonds), a major status symbol, were also correlated with masculinity, but not national wealth, across the group of 44 countries worldwide, 26 developed countries, and 15 European countries.

Although consumption of mineral water has increased everywhere in Europe, the differences across countries have remained similar since 1970 or have become even larger. In France, Germany, Italy, and Belgium, cultures evincing strong uncertainty avoidance, people drink increasing volumes of mineral water, as compared to the UK and Scandinavia, cultures evincing weak uncertainty avoidance, where people have different perceptions of what is necessary for their health. As Table 2 (de Mooij, 2000, p. 108) shows, in 1970 only the need for purity, a value included in the uncertainty avoidance dimension, was significantly related to mineral water consumption. By 1991 masculinity/femininity was also significantly related to mineral water consumption, and by 1996 three of the four cultural dimensions (uncertainty avoidance, masculinity, and power distance) 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.

The need for purity is related to the sales of many food

Table 2
Mineral Water Consumption, National Wealth, and Four Cultural Dimensions

	Product moment correlations					Step-wise regression
	GNP/cap	PDI	IDV	MAS	UAI	Predictors
1970	.31	.32	−.21	.24	.46[b]	None
1991	.21	.32	−.05	.53[b]	.57[b]	UAI, GNP/cap, MAS[c]
1996	.04	.56[b]	−.10	.57[b]	.73[a]	UAI, MAS, GNP/cap[d]

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

[a] Statistically significant at $p < .001$.
[b] Statistically significant at $p < .05$.
[c] Incrementally, UAI ($R^2 = .32$) + GNP/cap ($R^2 = .57$) + MAS ($R^2 = .75$)
[d] Incrementally, UAI ($R^2 = .53$) + MAS ($R^2 = .69$) + GNP/cap ($R^2 = .79$)

products. Generally speaking, consumption of processed food is negatively correlated with uncertainty avoidance. Consider the following correlations between uncertainty avoidance and sales volume per capita in European countries (sales data were derived from Euromonitor 1997)—frozen food: r = -0.77; frozen ready meals: r = -0.62; ice cream: r = -0.76. Differences among countries with respect to the need for purity may account for the aversion to genetically modified food in strong uncertainty avoidance cultures. The strong protests against GMF originated in France, a culture of strong uncertainty avoidance.

The use of several financial products and services relates to long-term orientation. One of these is the use of credit cards. Long-term orientation cultures are cash or debit card cultures, not credit card cultures. The European Media and Marketing Survey asks questions about the use of credit cards in 15 countries in Europe. Daily use of credit cards was negatively correlated with long-term orientation (r = -0.79). When credit cards are used in long-term orientation cultures, they are typically used as debit cards. This obviously has consequences for the development of e-commerce in long-term orientation cultures.

In retailing, preference for discounters is not necessarily related to long-term orientation, although this dimension includes values of thrift. Euromonitor market share data of discounters in Belgium, Denmark, Germany, Norway, Sweden, and the United Kingdom showed a negative relationship with long-term orientation in 1998. Discounters offer short-term saving opportunities. What appeals to long-term orientation cultures are promotional activities that offer long-term saving opportunities, such as saving stamps, that build relationships with a retailer or brand.

Another consequence of long-term orientation is variation in willingness to pay for convenience, which is likely to be of importance for e-commerce. A key value of long-term orientation is being sparing with resources, and a high score on this dimension implies that consumers prefer to go to a store and pick up merchandise rather then having merchandise delivered at home. Thus, a long-term orientation suggests less receptivity to e-commerce.

Over time culture replaces income as an explanatory variable

The introduction of new technologies such as the Internet and mobile telephony has raised expectations, just like the introduction of radio and television did in the past. By understanding past behavior patterns of consumers, we may better understand these patterns in the future.

An analysis of time-series data revealed that ownership of many products and services is initially best predicted on a country level by national wealth. Even so, at a certain point in time, culture replaces wealth as a predictor variable. Consider the adoption of radio, television sets, and automobiles in Europe. Table 3 contains CVs for these products for selected years from 1960 to 1997 as well as the proportion

Table 3
CV and R^2 Values for Three Durable Products Over Time

	Radios/1,000 pop.			TV sets/1,000 pop.			Autos/1,000 pop.	
	CV	GNP/cap R^2	IDV R^2	CV	GNP/cap R^2	IDV R^2	CV	GNP/cap R^2
1960	.33	.81		1.00		.37	.56	.80
1970	.24	.69		.30	.61		.34	.82
1980	.36	.58		.24	.55		.23	.69
1990	.35		.72	.17	.35		.18	.47
1997	.36		.48	.11	none		.18	none

Sources: Hofstede (1997), United Nations Statistical Yearbooks

of variance (R^2) respectively accounted for by national wealth or the individualism dimension of culture.

Time-series data for radios per 1,000 population show a breaking point between 1980 and 1990, when culture replaced income as an explanatory variable. In 1990 individualism accounted for 72% of the variance in radio ownership per 1,000 population; national wealth and radios per 1,000 population were no longer significantly correlated.

In 1960 country differences in the ownership of television sets per 1,000 population were related to individualism. From 1970 to 1994 country differences in television set ownership were related to GNP/capita. After 1990, ownership differences between countries became so minor that neither national wealth nor individualism was an effective predictor. There were, however, large differences in television viewing across countries in Europe, and these differences were explained by differences in masculinity. Differences in the ownership of wide screen television sets were explained by strong uncertainty avoidance, whereas differences in the use of Teletext were explained by individualism. Members of individualist cultures are more textual and verbally oriented than members of collectivist cultures. Individualists read more books than collectivists, who are more visually oriented. This difference may help to explain why there are twice as many radios as television sets in Sweden and Germany, whereas in Portugal and Spain the number of television sets exceeds that of radios.

A similar pattern was found for automobiles. Until 1990, differences in the numbers of automobiles per 1,000 population across the countries in Europe were correlated with national wealth. After 1990, the numbers converged, although there has been increased variability in the number of automobiles per family, variability that is explained by differences in masculinity. Further, country differences in preferences for new automobiles instead of used automobiles correlate with uncertainty avoidance, and in masculine cultures consumers are more interested in the size and power of the engine than are consumers in feminine cultures. In large power distance cultures consumers are particularly interested in the design of an automobile (de Mooij, 1998).

In sum, when countries converge with respect to national wealth, cultural variables start to explain more of the differences in country-level consumer behavior. The wealthier countries become, the more manifest is the influence of culture on consumption. When income levels are such that consumers have satisfied their basic needs and wants, they will spend their discretionary income on what best fits their value systems. The stereotypic ideal of Americans is a five-car garage, the Dutch will buy more luxurious holiday trailers, and the Spanish will eat out even more than they do now. Incremental discretionary income gives people more freedom to express themselves and that expression will be based in part on their national value system.

Technology drivers of the "new economy"

Ownership of the drivers of the "new economy" is concentrated in developed countries. In 1998, there were 459 personal computers per 1,000 population in the United States. In the Netherlands there were 318 personal computers per 1,000 population, in Spain 145, and in India 2.7. Ninety percentage of the personal computers in the world are owned by half of the 44 countries studied here, and 56% are owned by 25% of the 44 countries.

Personal computers are only one of the drivers of the new economy. For the other drivers we see a similar phenomenon. All new communication technologies belong to one product constellation, which is a driver of the new economy. Country penetrations of telephone trunk lines, mobile phones, personal computers, and the Internet are all significantly correlated. The average CV for the five product categories in 1998 was 1.04 worldwide, 0.64 in a group of 26 developed countries, and 0.54 in Europe. Even in Europe, variation is relatively large across countries: the CV for the number of Internet hosts per 10,000 population was 0.93 in 1999 (based on a 2000 World Bank Development Report). Thus, Europe certainly was not homogeneous with respect to drivers of the new economy in 1999.

Worldwide, national wealth explains between 45 and 84% of the variance in country-level adoption of faxes, mobile phones, cable television, personal computers, and the Internet. In the group of 26 developed countries studied, national wealth is also the main driver for most of these technologies, but cultural variables also explain variation. In particular, uncertainty avoidance is related to the ownership of personal computers and mobile phones across countries. In Europe both uncertainty avoidance and masculinity/femininity explain much of the variation in Internet adoptions across countries.

As with other new technologies, we expected that early adoption of the Internet would be in weak uncertainty avoidance cultures, while after some time differences in usage would be influenced by other cultural dimensions. Indeed, countries scoring low to medium on the uncertainty avoidance index (e.g., the United States, New Zealand, Australia, and the Scandinavian countries) were the first to embrace the Internet and still are leading with respect to usage of it, whereas countries with strong uncertainty avoidance (e.g., Italy, France, and Germany) are lagging.

The Internet can be used for a variety of different purposes ranging from educational and scientific endeavors to business, leisure, and other personal reasons. These differences in usage are culture-bound. If we look at the daily use of the Internet for the four different purposes in 1997 and 1999, small power distance and weak uncertainty avoidance explain daily usage for business. Low masculinity and weak uncertainty avoidance explain daily usage for education and science. Daily usage for leisure and personal purposes is explained by low masculinity and additionally by weak uncertainty avoidance. Across the four purposes, daily use

of e-mail is explained by both weak uncertainty avoidance and low masculinity.

Thus, after only a decade of existence in Europe, the way in which the Internet is used varies across cultures. Large power distance means centralized control (Hofstede, 1997, p.35). The egalitarian aspect of the Internet is not very compatible with centralized control. It is basically an unstructured means of communication. This is more difficult to accept in cultures of strong uncertainty avoidance than in cultures of weak uncertainty avoidance and accounts for the relatively low daily use of e-mail in France and Germany, as compared with the United Kingdom and Scandinavian countries, which were the early adopters of the Internet for e-mail. Education/science and leisure purposes are similar with respect to their relationship with low masculinity. The key here is probably quality of life. People enjoy using the Internet as much in their private lives as in their working lives. This is reflected in the extensive use of the Internet for leisure and personal purposes in the (feminine) Scandinavian countries.

In Japan, which is high on both masculinity and uncertainty avoidance, penetration of home computers has been low and as a result penetration of the Internet has lagged. The Internet is becoming more widely used in Japan now that new carriers such as the WAP phone are introduced.

Because of cultural differences, the fact that the Internet is accessed by mobile phones in Japan does not necessarily mean this will also happen the same way in Europe. One popular Japanese I-mode service is downloading cartoon characters, which is consistent and compatible with the popularity of cartoons in Japan. Such a service is not expected to be popular in Europe. Offering Internet services through television sets is not necessarily a successful option for collectivist cultures because they are more visually oriented. The Internet is still mainly a verbal medium and transferring the current, unadapted type of Internet service to television will not make the Internet more popular in collectivist cultures. Country-level use of Teletext, for example, a verbal mode used with a visual medium, has always been strongly correlated with individualism.

Overall, our findings indicate that new technologies are not changing people's values. Individuals who have integrated the Internet into their daily lives are using it to enhance current activities. Nearly four decades after Marshall McLuhan (1964) coined the term "the global village," there is more evidence than ever of the correctness of his philosophy that technological innovations are merely enhancements or extensions of ourselves. They allow us to do more of the same and more of what we like to do most and what we have been doing in more efficient ways. They do not change our values.

Managerial implications

In the new century with increased wealth, predicting and explaining consumer behavior differences across countries is indispensable for international retailers. Expanding operations to countries with different cultural values than one's own, without adapting to these differences, can lead to serious losses. This applies to the retail format used as well as to sourcing for different cultures. Acceptance of the Internet and in particular e-commerce varies across cultures. The varying success of e-commerce across countries can be predicted given knowledge of cultural differences. Cultural characteristics such as the degree of uncertainty avoidance and long-term orientation in particular would seem to be potentially useful when segmenting countries as to the potential of e-commerce.

If test markets are used for new products or new retail formats, managers must be aware that this does not automatically mean that other, culturally dissimilar countries will show the same effects. But countries can be grouped according to the type of cultural effect. For each product category, clusters can be formed of countries that are expected to have similar reactions. Hofstede's model of national culture is a powerful instrument for international retailing strategy.

References

Antonides, Gerrit (1998). An attempt at integration of economic and psychological theories of consumption. In M. Lambkin, G. Foxell, & F. van Raaij (Eds.), *European perspectives on consumer behavior*, (pp. 317–334). London: Prentice Hall Europe.

Assael, Henry (1998). *Consumer behavior and marketing action,* (6th ed.). Cincinnati, OH: South Western College Publishing.

Batra, Rajeev and Indrajit Sinha (2000). Consumer-level factors moderating the success of private label brands, *Journal of Retailing, 76*(Summer), 175–191.

Bullmore, Jeremy (2000). Alice in Disneyland, a creative view of international advertising. In J. P. Jones (Ed.), *International advertising*: *Realities and myths* (pp. 41–56). Thousand Oaks, CA: Sage.

Byrnes, N. (2000). Brands in a bind. *BusinessWeek, 3696*(August 28), 234–238.

Coen, Robert J. (1997). *The insider's report.* McCann-Erickson (June).

Czinkota, Michael R. and Ilkka A. Ronkainen (1993). *International marketing* (3rd ed.). Fort Worth, TX: The Dryden Press.

de Mooij, Marieke (1997). Mapping cultural values for global marketing and advertising. Paper presented at *ESOMAR,* 50th Congress:Edinburgh, Scotland.

de Mooij, Merieke (1998). *Global marketing and advertising*: *Understanding cultural paradoxes.* Thousand Oaks, CA: Sage.

de Mooij, Merieke (2000). The future is predictable for international marketers: Converging incomes lead to diverging consumer behavior, *International Marketing Review, 17*(Spring), 103–113.

de Mooij, Merieke (2001). *Convergence and divergence in consumer behavior: consequences for global marketing and advertising.* Unpublished doctoral dissertation, University of Navarra.

Douglas, Susan P. and C. Samuel Craig (1997). The changing dynamic of consumer behavior. Implications for cross-cultural research. *International Journal of Research in Marketing, 14*(October), 379–395.

Foust, Dean, David Rocks, and Manjeet Kripalani (2000). Doug Daft isn't sugarcoating things. *BusinessWeek, 3667*(February 7), 36–37.

Hofstede, Geert (1980). *Culture's consequences.* Thousand Oaks, CA: Sage.

Hofstede, Geert (1997). *Cultures and organizations*: *Software of the mind.* New York: McGraw Hill.

Hofstede, Geert (2001). *Culture's consequences* (2nd ed.). Thousand Oaks, CA: Sage.

Inkeles, Alex (1998). *One world emerging*: *convergence and divergence in industrial societies*. Boulder, CO: Westview Press Inc.

Jain, Subhash C. (1987). *International marketing management* (2nd ed.). Boston, MA: PWS-Kent Publishing Company.

Leeflang, Peter S. H. and Fred van Raaij (1995). The changing consumer in the european union. A "meta-analysis." *International Journal of Research in Marketing, 12*(December), 373–387:

Levitt, Theodore (1983). The globalization of markets. *Harvard Business Review, 61*(May-June), 2–11.

McCracken, Grant (1989). Culture and consumer behavior: An anthropological perspective. *Journal of the Market Research Society, 32*(January), 3–11.

McLuhan, Marshall (1964). *Understanding media*: *The extensions of man.* New York: McGraw Hill.

Murphy, Claire (1999). Tesco braves the dangers of taking brands abroad, *Marketing: The Journal of Sales Management, 12*(April 22), 19.

Sternquist, Brenda (1998). *International retailing.* New York: Fairchild Publications.

Süerdem, Ahmet (1993). Social de(re)construction of mass culture: Making (non)sense of consumer behavior, *International Journal of Research in Marketing, 11*(September), 423–443.

Welch, David and Christine Tierney (2000). Can the Mondeo get Ford back into the race? *BusinessWeek, 3703*(October 16), 74.

Williamson, John B. and Jeanne J. Fleming (1996). Convergence theory and the social welfare sector. A cross-national analysis. In A. Inkeles & M. Sasaki (Eds.), *Comparing nations and cultures* (pp. 349–350, 354). Englewood Cliffs, NJ: Prentice Hall.