

## **What we want to know about our food; Consumer values across countries**

paper for the 6th international conference on chain and network management in agribusiness  
and the food industry.

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## **Abstract**

Consumers' food behaviour depends on their value systems. Certain values are shared at the level of societies, and are stable across people's lives. How predictable is consumers' food behaviour across cultures and countries? Our empirical research suggests an 'effect of culture': consumers from different social systems have different, meaningful perceptions of food, which may lead to different demands with respect to demand chains. There is a significant correlation between consumers who perceive food as 'rules' and Hofstede's dimensions of collectivism and power distance. Concept equivalence does not necessarily exist across cultures. There are some consequences for marketing and chains.

**Keywords:** *food behaviour, consumer values, social systems, culture, demand*

## **Introduction**

The primary function of food is to provide nutrition, but there is more to food. Food stimulates the senses, it relates to health, the environment, quality and safety, and sharing a meal is one of the central rituals in people's lives. Food defines a person in terms of personal lifestyle, cultural identity and social status (Bisogni et al. 2002; Conner et al. 2002). Food choice decisions are always based on the interaction between the food product, the individual eating it and the societal context in which consumption takes place (Schifferstein et al. 2001). Figure 1 presents the rich spectrum of factors that influence food choice decisions. As consumers' status and life style may change over the years, so may their food behaviour.

*[Insert about here] Figure 1: Factors influencing food decisions. From: Schifferstein et al. 2001, p. 6. Reprinted with permission from Springer-Verlag and the author.*

This paper does not focus on product-related factors, or individual personality-related factors (examples of which can be found e.g. in Connors et al. 2001 and Worsley et al. 2003). It focuses on the contextual, societal side of the spectrum in Figure 1.

Food labels are a meeting place between policy makers, producers, and consumers, and serve as a means for information exchange and communication. Food producers worldwide are more and more bound to regulations, an example being the General Food Law that will enforce traceability of ingredients in food chains as of January 2005 (Commission of the European Communities, 2002). The issue of what information should legally be required with respect to food is very complicated (see the recent inaugural speech of Wageningen's Law and Governance professor, Van der Meulen 2003). Our paper does not focus on these legal issues, but on how predictable consumers' food behaviour is across cultures and countries.

## **Consumer values and behaviour**

Since consumers' food behaviour is so multifaceted and changeable, it is rewarding for food sellers to try and find the underlying values that motivate this behaviour. For example: food crises affect food choice and acceptance, at least temporarily, as has been confirmed recently (Grunert, 2002). The way consumers respond to the outbreak of a food crisis is a result of their perception and interpretation of events. Hansen et al. (2003) concluded from a study about lay versus expert assessment of food risks that "lay risk assessments are complex, situationally sensitive expressions of personal value systems". Examples of such values include the amount of trust consumers have in food producers, or the degree to which they tend to avoid uncertainty. Frewer (2001) found that people's attitude towards genetically

modified food filters their perception of information, and that it is very hard to change this attitude. Such an attitude, or its very changeability, may also be value-related.

Research has established that certain values are shared at the level of societies, and that they are stable across people's lives (Hofstede 2001). This insight helps to explain that some events, e.g. cattle disease outbreaks, may be the same around the world, but receive different responses in different countries, and ask for different reactions from policy makers and marketers in those countries.

### **Dimensions of culture**

In his cultural psychological research, Hofstede (2001) uses five dimensions to specify cultural values. Countries or societies score different degrees for each of these dimensions, creating a five-dimensional cultural profile. The dimensions are:

- Individualism: the degree to which people are encouraged to behave as independent individuals, and how important it is to be a member of a family or group;
- Power distance: the degree of equality, or inequality, between people as accepted by those not in power;
- Masculinity: the degree to which traditionally masculine values such as achievement, aggression and assertiveness are valued;
- Uncertainty avoidance: the degree of ambiguity that can be tolerated, for example resulting in (lack of) rules, laws, regulations and taboos;
- Long term orientation: the degree to which people are prepared to forego immediate gratification for future benefits.

### **Hypothesis**

This is a preliminary research. Its aim is to investigate whether consumers' perceptions of food differ across social systems, where we make 'social system' operational as 'country of origin'. We hypothesize that *the social significance of food in a certain country correlates significantly with the individualism score for that country*. We assume that this dimension has the strongest consequences for food choice: food can be a means to express individuality or, on the contrary, a means to express belongingness and respect for family traditions.

### **Data**

The empirical basis for this research is a questionnaire that Gert Jan Hofstede administered to participants of simulation games about cross-cultural food trade. Students fill it out prior to his introductory lecture. These respondents originate from countries well equilibrated across the world, and they are all university students who recently left their home and parents in order to study abroad. Table 1 shows the questions from the questionnaire in summary. For more details, see Hofstede (2002), where the results after three sets of questionnaires are reported on. Two more sets have been collected since, and we have taken these five sets as the basis for our current research intended to support the hypothesis in this paper. It must be stressed that the number of respondents is too low to pretend presenting definite results. However, some trends emerge that have good face validity.

*[Insert about here] Table 1: Questionnaire, with overall average response*

The five sets of respondents consist of three sets of students of Information Systems at the London School of Economics, students of Data Management at Wageningen University and participants to the ADEPT Training module Chain Management and Agricultural Development at the International Agricultural centre in Wageningen. The total number of

respondents is now 298, from 41 countries. The five sets of data have been summarised in Table 2.

*[Insert about here] Table 2: Summary of data for the five sets of respondents*

### **Data treatment**

Only countries with at least three respondents were taken into consideration. These were 29 countries, listed in Table 3. This set of countries covers most continents in a reasonably representative manner. We calculated overall averages and averages per country. In order to reduce complexity in the matrix, a principal components analysis with Varimax rotation was carried out on the five-point questions for the 29 countries. This yielded four components that together account for 64% of the variance in the data. Pearson product-moment correlations were computed between the four components and the country-level culture dimension scores according to Hofstede (2001).

*[Insert about here] Table 3: Averages per country for a selection of questions*

### **Principal component analysis**

The components that arise from principal component analysis can be considered as hidden forces that caused respondents to answer sets of questions in the same way. We interpreted the components as follows (below each interpreted component is a transcription of the items that loaded highly on them,  $> 0.4$ ):

#### ***Component 1: Food means freedom (22% of variance)***

I do not eat anything that has fallen on the street. I do not prepare food that my parents used to prepare, and I do not need my parents' approval for my choice of food. There is no need to avoid certain foods because of religion or personal conviction. I do not care whether food is healthy, safe or environment-friendly. It is not important that others in my house like what I eat, and it is not important that my food is easy to get.

#### ***Component 2: Food means rules (15% of variance)***

I will not eat anything that has fallen on the floor, or even on the table. I will not eat anything that my religion or my personal conviction prohibits me from eating. I will not eat any food that my parents would not approve of. It is not important for me to share a meal with others. When I am invited, I will not eat anything that is offered to me.

#### ***Component 3: Food should be good, or: means enjoyment (15% of variance)***

I certainly have a favourite food, and there are also definitely some things that I shall never eat. I will still eat food that has fallen on the table. I do care what my food costs. It is very important to me whether I like my food, and I do care whether it is safe.

#### ***Component 4: Food takes time (12% of variance)***

I eat very quickly. My food should be cheap, easy to get, also liked by others in my house, and especially take little time to prepare.

### **Correlation matrix**

The correlation matrix between the four components and Hofstede's country culture dimension scores show a significant correlation ( $-.610$ ;  $p < .001$ ) between the second component ('food means rules') and the dimension of individualism / collectivism. Also, there is a significant correlation ( $.611$ ;  $p < .001$ ) between the same component and the

dimension of power distance. None of the other dimensions show a significant relationship with any of the components.

The dimensions of individualism and power distance also correlate significantly with the gross domestic product (GDP) of a country in the list of 29 countries (-.664;  $p < .001$ ). This indicates that the second component ('food means rules') prevails mainly in countries with lower incomes.

We examined the effect of GDP by splitting up the data into two groups of countries with  $GDP > 10.000$  and  $GDP \leq 10.000$ . This did not render any significant results. The reason may be the data set's small size.

### **General questionnaire results**

The overall average answers to the five point questions (see Table 1) seem to show that these young students from all over the world are like any modern set of people: they eat what they like and disregard what their religion or parents prescribe. But the average answers per country reveal a different picture. Table 3 shows the results per country for a limited number of questions (on request, the full results table can be obtained from the authors).

Question 8b, about whether food is good for health, receives an overall average score of 2.19. When 'health' is associated with 'life style', typically western respondents would consider it as important. However, only four countries show scores below 2 and they are: Vietnam (1.33), Norway (1.67), Japan (1.75) and India (1.81). Asiatic countries mention 'healthy' as important. The proverb that a Japanese respondent gave may serve as an illustration here: "*Hana Yori dango* – Cake before flowers, i.e. substance rather than appearance".

Question 8i, about whether it is important that food is safe, receives an overall average score of 2.01. Individual country averages are remarkably low in Taiwan (1.00) and Nigeria (1.08): these respondents appear to be very concerned about the safety of their food. The question arises whether all respondents interpreted the concept of 'safe' in the same way: we did not investigate concept equivalence across cultures.

To question 8j, about whether it is important that parents approve of food choice, the average answer from Ghana is 4.29: not at all important. This suggests that their food choices are different from their parents'. However, question 7, about whether they prepare their parents' food, is answered with a score of 1.57: they prepare it practically every day. The same holds for respondents from Spain: they score 4.67 and 1.67 respectively. Perhaps this paradox is the compromise of feeling a sense of freedom without breaking the family loyalty.

A general observation is that none of our respondents seem to care for food that is environment-friendly (question 8k), no matter what country they are from. The average overall score was 3.12 (where high means unimportant), and not a single country average response was below 2.50.

### **Discussion**

We found significant correlations between our 'food means rules' component and the dimensions of individualism and power distance, but due to our limited dataset we could not rule out that this was an effect of wealth. Wealth is known to enhance individualism (Hofstede, 2001). Yet consumer research has shown that value-related differences cause consumption patterns to remain different across cultures even if wealth converges (De Mooij

2001). This holds for all culture dimensions except individualism. We expect more correlations with other dimensions to exist, for example between food beliefs and masculinity, and between taboo food and uncertainty avoidance. However, much larger sample sizes will be needed in order to be able to establish these.

From our current dataset, we do have some supportive observations that would justify further research. There is much to gain in quality and expected response if the current set up of the questionnaire would undergo some revision. We should be aware of multiple interpretations for our assumed notion of concepts. More specific questions addressing other culture dimensions should be included. The questionnaire should be combined with qualitative methods such as in depth interviews.

### **Consequences for marketing**

The four components from our analysis reveal pictures that could be used as guiding principles for marketing. For the first group of our cross cultural consumers, food is associated with freedom in the sense of “I do as I like and I do not care much for anything else”. The second group perceives food as rules: for this group it is important that all food products convey the message that they are allowed, either from religion, personal conviction or traditional habit. The third group appears to make well-considered decisions: they will probably be most sensible to tracking and tracing information. Food is time for the last group, time that they might prefer to spend on other activities, and food products should either be convenience food, or convey the message that they are worth spending time for.

It seems unwise for retailers to focus marketing around isolated issues of safety, healthiness or environment-friendliness. Consumers of varied cultures may not share the assumed notion of the concept, or they may not care for it at all.

### **Consequences for chains**

As soon as chains transcend cultural boundaries it becomes more difficult, and therefore all the more important, for producers to consider their chains as demand chains. This is because, as our research shows, cultural boundaries correspond to shifts in perception about food. Without strategic communication about quality issues across the chain, misunderstandings can arise. Neither producers nor transporters nor consumers may share the concerns for food safety that are voiced by some retailers or laid down in laws. Sticking to ethical or religious rules, or being able to indicate place of origin, may be equally important for consumer groups.

### **Conclusion**

Interpretations based on our limited dataset can be no more than tentative, yet some conclusions can be presented with reasonable confidence. Firstly, it seems credible to distinguish an ‘effect of culture’ in the way consumers from different social systems have different, meaningful perceptions of food. From our component analysis, different pictures arise out of our set of respondents, who are uniform in many respects except that they have different cultural backgrounds.

With regard to culture dimensions, there is a significant correlation between the group of consumers who perceive food as ‘rules’ and the dimensions of collectivism and power distance. This can be interpreted as: these consumers consider food as a means to express their group membership and as a sign of respect for their family traditions; to them it is not important to use food as an expression of their life style or as an instrument to confirm their

self-identity. We could not rule out that this correlation was an effect of wealth, which itself is known to enhance individualism.

Concept equivalence does not necessarily exist across cultures. The responses to questions about safe food show particularities suggesting that the concept of safety has different meanings to people from different cultural backgrounds.

Finally, concerning implications for chains: when chains transcend cultural boundaries, it is important to view them as demand chains, because shifts in perceptions of food may lead to different demands from consumers.

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**Table 1: Overall averages in response to questionnaire**

<b>Question</b>	<b>Possible response</b>			<b>Overall avg</b>
0) Please write down a proverb from your country. It should be a proverb mentioning food in some way. [...]				
1) Do you have a favourite food? If so, what is it? Why?	<i>yes</i>	<i>1..5</i>	<i>not at all</i>	2.01
2) Is there food you will never eat? If so, what is it? Why?	<i>yes</i>	<i>1..5</i>	<i>I'd eat any</i>	2.24
3) Suppose you are eating some bread. You drop it by accident. Would you still eat it if you had dropped it...				
a) ... on the table?	<i>yes</i>	<i>1..5</i>	<i>no</i>	1.78
b) ... on the floor?	<i>yes</i>	<i>1..5</i>	<i>no</i>	3.85
c) ... on the grass?	<i>yes</i>	<i>1..5</i>	<i>no</i>	3.82
d) ... on the street?	<i>yes</i>	<i>1..5</i>	<i>no</i>	4.58
4) In order to get to know someone, how important is it to share a meal together?	<i>very important</i>	<i>1..5</i>	<i>of no importance</i>	2.33
5) Do you normally eat... fast / slowly	<i>fast</i>	<i>1..5</i>	<i>slowly</i>	2.49
6) Do you think wine is good for your health?	<i>yes</i>	<i>1..5</i>	<i>no</i>	2.42
7) Do you prepare food that your parents used to eat?	<i>always</i>	<i>1..5</i>	<i>never</i>	2.55
8) What kind of arguments determine your choice of food?				
a) ... how much it costs	<i>yes</i>	<i>1..5</i>	<i>no</i>	2.65
b) ... whether it is good for my health	<i>yes</i>	<i>1..5</i>	<i>no</i>	2.19
c) ... whether my religion allows it	<i>yes</i>	<i>1..5</i>	<i>no</i>	3.94
d) ... whether my personal convictions allow it	<i>yes</i>	<i>1..5</i>	<i>no</i>	2.70
e) ... whether I like it	<i>yes</i>	<i>1..5</i>	<i>no</i>	1.22
f) ... whether others in my house like it	<i>yes</i>	<i>1..5</i>	<i>no</i>	2.93
g) ... whether it is easy to get	<i>yes</i>	<i>1..5</i>	<i>no</i>	2.39
h) ... how much time it takes to prepare	<i>yes</i>	<i>1..5</i>	<i>no</i>	2.39
i) ... whether it is safe	<i>yes</i>	<i>1..5</i>	<i>no</i>	2.01
j) ... whether my parents would approve it	<i>yes</i>	<i>1..5</i>	<i>no</i>	3.93
k) ... whether it is environment-friendly	<i>yes</i>	<i>1..5</i>	<i>no</i>	3.12
m) ... I eat any food when I am invited	<i>yes</i>	<i>1..5</i>	<i>no</i>	2.72



**Table 2: Summary of data for the five sets of respondents**

<b>Group</b>	<b>Resp date</b>	<b><i>n</i></b>	<b>% Female</b>	<b>Avg year of birth</b>	<b>No of countries</b>
LSE1	Oct 2001	76	43	1975	25
WU	Nov 2001	36	37	1976	18
WICC	Nov 2001	25	52	1967	13
LSE2	Oct 2002	95	44	1976	33
LSE3	Oct 2003	67	37	1976	31

**Table 3: Country averages for a selection of questions**

<b>Country</b>	<b>n</b>	<b>3c</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8a</b>	<b>8b</b>	<b>8d</b>	<b>8i</b>	<b>8j</b>	<b>8k</b>	<b>8m</b>
Greece	24	4,21	3,17	2,38	1,88	2,42	3,13	2,58	3,63	2,50	4,75	3,29	2,71
China	20	4,95	2,00	2,70	2,80	2,75	2,75	2,30	2,85	2,30	2,95	2,75	2,80
India	16	4,81	1,88	2,69	2,94	2,50	2,44	1,81	2,44	2,25	4,13	3,19	3,63
USA	13	2,62	2,46	2,15	2,15	3,23	2,92	2,62	3,23	2,08	4,62	3,77	2,23
UK	13	3,85	2,85	2,77	2,38	2,85	2,62	2,69	3,15	2,92	4,15	3,69	3,00
Nigeria	12	4,92	2,92	2,42	2,83	2,92	3,67	2,25	1,83	1,08	3,92	3,50	3,75
Netherlands	11	2,27	2,55	2,55	2,73	2,82	2,45	2,00	2,91	2,36	4,64	2,64	1,55
Pakistan	10	4,50	3,00	2,90	4,70	2,80	3,20	2,00	1,60	1,60	2,60	3,00	3,50
Ghana	7	5,00	2,71	2,71	2,57	1,57	2,29	2,29	2,29	1,86	4,29	3,86	3,71
Malaysia	6	5,00	3,17	2,83	3,00	3,17	2,17	3,17	2,50	2,17	4,33	4,17	3,33
Canada	6	3,50	2,83	3,33	2,67	2,83	3,50	2,33	3,17	2,00	4,67	3,17	2,17
Taiwan	6	4,33	2,00	2,50	2,67	2,50	2,17	2,00	2,33	1,00	3,67	2,50	2,50
Mexico	5	3,40	2,00	2,40	2,20	2,40	2,80	2,60	2,60	2,80	5,00	4,00	1,40
France	5	2,60	2,20	1,60	1,60	2,00	2,60	2,20	4,20	1,80	4,80	3,40	2,00
Japan	4	5,00	1,75	2,25	1,50	2,75	2,50	1,75	2,00	2,25	4,75	3,75	1,75
Germany	4	3,25	3,50	1,50	2,75	2,75	2,50	2,50	3,50	2,75	4,25	2,50	2,00
China HK	4	4,00	1,50	2,75	2,75	2,75	2,50	3,00	2,75	1,75	4,00	2,50	2,75
Norway	3	3,33	2,00	2,67	2,67	3,00	3,33	1,67	4,33	3,00	4,67	3,00	1,33
Czechia	3	4,00	2,00	2,00	2,00	2,67	2,33	2,67	3,33	2,00	4,33	3,33	2,33
Italy	3	3,00	1,33	3,33	2,67	3,00	3,67	2,67	3,33	3,67	5,00	4,33	1,33
Spain	3	2,33	2,33	2,67	1,67	1,67	2,33	2,00	3,67	2,33	4,67	2,33	2,67
Hungary	3	2,00	1,33	3,00	2,67	3,00	3,00	3,00	3,67	1,33	5,00	2,67	3,67
Poland	3	4,67	3,00	2,67	1,67	2,33	3,67	3,00	2,33	3,00	3,67	3,33	3,33
Vietnam	3	3,00	3,67	3,67	4,00	2,33	2,33	1,33	2,33	2,00	2,67	3,00	3,00
Turkey	3	4,33	3,67	2,67	3,67	2,67	2,33	2,67	1,67	2,00	5,00	3,33	2,33
Ireland	3	3,33	1,33	3,00	1,67	2,33	3,67	2,67	4,33	2,33	4,67	3,33	1,67

Figure 1: Factors influencing food decisions. From: Schifferstein et al. 2001, p. 6. Reprinted with permission from Springer-Verlag and the author

