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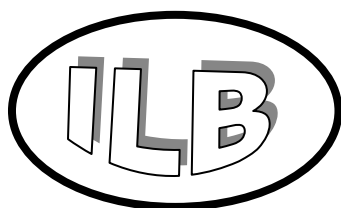
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New Trends in Chinese Diet: Cultural Influences on Consumer Behavior

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Abstract

Although the Chinese market is traditionally characterized by a gastronomic culture which is profoundly different from its Western counterpart, the emerging social classes is expressing a growing demand for processed food, opening up to foreign influences, which are neither accepted with prejudice nor viewed passively.

This paper analyzes of the propensity of consumers to include in the ancient Chinese culinary culture food products from other countries. A market segmentation of the Chinese consumers was performed, according their degree of cultural openness towards non-Chinese food, taking into account both socio-demographic and cognitive and psychographic variables. The research was carried out by administering a questionnaire to 500 Chinese consumers, living in urban areas, including a consumer analysis of the "values" and the "lifestyle".

The results seem to confirm the relevant potential of the Chinese market as a destination for quality western products. The cognitive and modern approach in the market segmentation, provides a Chinese consumer profile "open mind" that is very useful for the implementation of policies for specific marketing and promotion strategies.

Keywords: *Chinese market, market segmentation, values, lifestyle*

1 Introduction

When considering emerging markets, China is one of the most dynamic region in the world in terms of economic growth and development. It is no coincidence, therefore, that this area together with India, Russia and Brazil, have becoming a significant challenge for old continent companies (O'Neill, 2003), pushing also academic scientists to discuss actively the new market opportunities.

It is still difficult and complex to describe in detail the evolution of Chinese economic indicators. The reasons of this lack of information lies in three fundamental aspects represented by the large size of the country, an official statistical system still not be a reliable and an economic development we could call patchy.

Economic development has inevitably influenced the structure and habits of Chinese society, that while it is still characterized by a great disparity between the rich and the poorer classes, it shows a growing middle class and high-income segment. As expected, the latter segments are steadily improving their economic conditions, and moreover they are culturally changing, including in the ancient Chinese tradition main elements of other cultures, most notably the West (Curtis et al., 2007).

The cultural broad-mindedness is affecting as well the Chinese food consumption behavior: although the Chinese market is traditionally characterized by a gastronomic culture which is profoundly different from its Western counterpart, the emerging social classes is expressing a growing demand for processed food, opening up to foreign influences, which are neither accepted with prejudice nor viewed passively. Therefore the dynamic and vibrant food Chinese market is evolving, creating new spaces for products such as European ones which are imbued not only with strong cultural value but also enjoy high standards of quality and food safety.

What has been described above represents this paper scenario. A structured research-administered survey was developed to investigate the change in the Chinese consumer food culture. The survey was one of the research activities of the Q-PorkChains EU FP6 Project, which focuses on the development of the European pork industry, testing and supplying innovations in order to improve global competitiveness. In detail, 500 urban participants were randomly selected from six reference cities, covering geographically almost the whole country: Nanjing, in the south-eastern coastal region; Chengdu, in the southwest, Wuhan in the middle, Changchun in the northeast, Beijing in the north, and Guangzhou in the south of China.

The survey had a dual objective. The first concerned the analysis of the propensity of consumers to include in the ancient Chinese culinary culture food products from other countries. The second objective was a first attempt to perform a market segmentation of the Chinese consumers according their degree of cultural openness towards non-Chinese food, taking into account both socio-demographic and cognitive and psychographic variables. In particular, the applied framework relies on the analysis of the “values” (Schwartz *et al.*, 2001) and the “lifestyle” (Brunsø, and Grunert, 1995). This approach, far from the classic schemes, allows a characterization of the consumer and it offers quite objective consumers characterization barely influenced by researcher assumptions and knowledge

2 Recent socio-economic development in China

Since 1978 the Chinese economy has grown very fast. The evolution of the Chinese economy is characterized by a growth rates among the highest in emerging economies but also a forecast for the next few years does not differ from what has already been detected.

The general increase in wealth among the Chinese population has not been matched by an equitable distribution either among social classes or geographical areas. Indeed, an evident gap may be observed in terms of wealth and per capita income between urban and rural areas. According to data supplied by the Central Statistics Office of Beijing for 2009, mean monthly income in Shanghai (urban area) was 17,175 yuan (about 1,900 euro) while the equivalent calculation for rural areas was 5,153 yuan (about 590 euro) (Interprofessionalnetwork, 2010). This evident difference in income has resulted in a different propensity for consumption, including food, summarised in table 1.

Table 1.
Food consumption trends in China by geographical area (kg/per-capita/year)

Products	Urban area			Rural area		
	1995	2004	var%	1995	2004	var%
Cereals	97,0	78,2	-19,4	258,9	219,3	-15,3
Vegetables	116,5	122,3	5,0	104,6	106,6	1,9
Fruit	45,0	52,8	17,3	13,0	17,0	30,8
Pork and cow meat	19,8	22,9	15,7	11,3	14,8	31,0
Poultry	4,0	8,4	110,0	1,8	3,1	72,2
Milk and its derivatives	5,3	20,3	283,0	0,6	2,0	233,3
Fresh eggs	9,7	10,4	7,2	3,2	4,6	43,8
Fishery	9,2	12,5	35,9	3,1	4,5	45,2
Oils and fats	7,1	9,3	31,0	5,8	5,3	-8,6
Sugar	1,7	0,0	0,0	1,3	1,1	-15,4
Alcoholic beverages	9,9	8,9	-10,1	6,5	7,8	20,0

Source: our elaboration on ISMEA data, 2008

The diet of the urban population, which enjoys a higher income, is rich and varied, with a significant consumption also of animal-based proteins from meat, eggs, fish and milk derivatives. By contrast, in rural areas the diet is based essentially on consumption of often home-grown products such as cereals (rice in the south, wheat in the north) and vegetables. The main protein source is from eating fish, generally freshwater, raised in ponds which are part of family-run farms (ISMEA, 2008). In rural areas pig farms are found with a certain frequency. The low consumption of pork, as of other meats, may be attributed to the fact that pigs are an important source of income for peasant families. Hence the consumption percentage by livestock farmers is particularly low especially in low-income areas.

The general increase in income among the Chinese, albeit heterogeneous, is matched by increasing demand for safe, innovative and high-quality food products that are giving rise to an organisational re-structuring of the domestic and international agri-food sector (ICE, 2010; Arora and Vamvakidis, 2010; Lockie, 2009). One aspect that is arousing particular interest on the part of academics is the attention of consumers not only to the product *per se* but also to the production process used (de Barcellos *et al.*, 2010). As occurs in many countries in the Western world, an interest is developing in issues concerning animal welfare, organic products and the use of GMOs (Zanoli and Naspetti, 2002; Cembalo, 2007, Moschini *et al.*, 2005). This interest seems to come from the conviction that every production process has a corresponding different end product quality both as regards intrinsic attributes and those of an ethical and environmental type (Grunert, 2005). The tendency to consider the production process important has major effects not only on aggregate consumer demand but also on production and society. Much legislation that regulates production and economic agents of agri-food chains is fruit of such changes, as are the self-regulations set up by the GDO.

In order to better understand the results of the study that will be described in the sections below and the possible implications and marketing strategies, it is necessary to stress that the new demands described above are to be integrated with the rich food tradition which the Chinese have and of which they are proud.

3 Survey and data

A structured research-administered survey was developed to investigate Chinese consumer preferences and their evolution. The survey was one of the research activities of the Q-PorkChains EU FP6 Project, which focuses on the development of the European pork industry, testing and supplying innovations in order to improve global competitiveness.

In detail, 500 urban participants were randomly selected. Six reference cities were selected, covering geographically almost the whole country: Nanjing, in the south-eastern coastal region; Chengdu, in the southwest, Wuhan in the middle, Changchun in the northeast, Beijing in the north, and Guangzhou in the south of China. Nevertheless, the field survey was restricted to two kinds of retailing: supermarkets and local markets. The data we will analyze come from three sections of the questionnaire: 1) socio-demographic characteristics of the respondent; 2) food-related lifestyle (FRL) (Brunsø, and Grunert, 1995) and 3) Schwartz portrait value (PVQ) questions, (Schwartz *et al.*, 2001).

In particular, Food related lifestyle (FRL) variables were used to segment consumers and built a profile through the knowledge of their actual way of life or even perceived. The model assumes that the approach to the different individual life dimension is related to a specific mental construct that often does not identify the real lifestyle. The theoretical approach (Bruns, and Grunert, 1995) was implemented operationally through the construction of an instrument, validated for inter-cultural analysis, capable of binding the cognitive structure of consumers and the food choices of these values.

The five cognitive categories identified are:

1. buying patterns - the importance of product information, sensitivity to advertising, price sensitivity, purchases impulse or shopping lists;
2. methods of food preparation - to the culinary appetite, looking for innovative techniques and recipes, ready meals, improvisation;
3. quality aspects - health, value for money, news, organic, taste and freshness;
4. consumption situations-fast consumption vs. full meals;
5. buying motivations - personal satisfaction, security, social relations.

The model consists of 69 operational items that describe 23 different dimension. The respondent is asked to evaluate individual items using a Likert scale from 1 to 7. The variables related to the portrait Schwartz values (PVQ), described in section 2, have the objective to investigate the values of individuals in order to use them to build better profiles and segments.

The PVQ was implemented using the Theory of Schwartz Personal Values Questions and subsequently validated at the international level (Knoppen and Saris, 2009). The instrument consists of 56 operational items. Each of these provides a brief description (portrait) of the individual, goals, aspirations or desires. Everything is structured so that it can describe the values proposed by Schwartz: power, success, hedonism, stimulation, self-direction, universalism, benevolence, traditionalism, conformity and security (Table 2). The values described by the 56 items can then identify four value-

macrodimensioni: Conservatism vs. Openness to change, self-improvement vs. self-transcendence.

Table 2.
Ten PVQ basic values and related specific values

Value type and Definition	Specific values from 56-item instrument
Benevolence: Preservation and enhancement of the welfare of people with whom one is in frequent personal contact.	Honest, forgiving, loyal, spiritual life, helpful, responsible, meaning in life, true friendship, mature love
Universalism: Understanding, appreciation, tolerance and protection for the welfare of all people and for nature.	Inner harmony, social justice, world at peace, protect environment, equality, broad minded, unity with nature, world of beauty, wisdom
Self-direction: Independent thought and action-choosing, creating, exploring.	Self-respect, choosing own goals, creativity, curious, freedom, independent
Stimulation: Excitement, novelty and challenge in life	Exciting life, varied life, daring
Hedonism: Pleasure and sensuous gratification for oneself.	Pleasure, enjoying life
Achievement: Personal success through demonstrating competence according to social standards.	Ambitious, successful, capable, intelligent, influential
Power: Social status and prestige, control or dominance over people and resources	Preserving public image, social recognition, authority, wealth, social power
Security: Safety, harmony and stability of society, of relationships and of self.	National security, sense of belonging, reciprocation of favours, clean, social order, family security, healthy
Conformity: Restraint of actions, inclinations and impulses likely to upset or harm others and violate social expectations or norms.	Obedient, honour elders, politeness, self discipline
Tradition: Respect, commitment and acceptance of the customs and ideas that traditional culture or religion provide.	Accepting my portion in life, moderate, devout, detachment, respect for tradition, humble

Source: Knoppen and Saris, 2009.

4 Methodology and Empirical framework

The statistical model adopted in this work to analyze Chinese consumers behaviour' is the *Ordered Probit*.

Ordered Probit represents a generalization of the Probit model and it is specifically applied to analyze ordinal data: the dependent variable consists of a set (more than two) of cases which can be ordinally measured. (Winkelmann and Boes, 2006).

The model assumes a latent unobserved continuous process (1):

$$y_i^* = X_i' \beta + e_i, \quad E[e_i | X_i] = 0, \quad e_i \text{ i.i.d. } N(0,1) \text{ with } i = 1, \dots, n. \quad (1)$$

It underlies the ordinal observed outcome y_i (2):

$$y_i = \begin{cases} 1 & \text{if } k_0 < y_1^* \leq k_1 \\ 2 & \text{if } k_1 < y_1^* \leq k_2 \\ 3 & \text{if } k_2 < y_1^* \leq k_3 \\ 4 & \text{if } k_3 < y_1^* \leq k_4 \end{cases} \quad (2)$$

where $k_0 = -\infty$ and $k_4 = \infty$; k_1 k_2 k_3 are unknown threshold parameters to be estimated in order to indicate the range of the normal distribution associated with specific values

of the stated response variable y_i^* . X_i is the vector of explanatory variables and β is the vector of unknown parameters. The parameters are obtained by maximizing the log-likelihood: for example the the probability that $y_i = 1$ is equal to:


$$\pi_{i1} = P(y_i = 1 | X_i) = \Phi(k_1 - X'_i \beta) - \Phi(k_0 - X'_i \beta)$$

where Φ is the cumulative distribution function (c.d.f.) of e_i . In the *ordered probit* the error term e_i is assumed to be distributed as a standard normal.

In our study, the hypothesis being tested is that the propensity of consumers to consume “foreign” food products from countries (the dependent variable) is function of both the socio-demographic characteristics of consumers and of the “values” of individuals (PVQ) and several dietary habits (FRL).

In detail, the dependent variable was constructed using the scores assigned by consumers to 6 different items included in the section Food Related Lifestyle chosen among those most related to the objective of the research (Table 3).

Table 2.
Definition of the dependent variable used in the Ordered Probit mode

FRL Items	Dependent variable values
<i>Newway (likert scale 1-7)</i>	
<ul style="list-style-type: none"> I love to try recipes from abroad. I like to try new recipes. I look for various ways to prepare uncommon meals. 	 <p>y = 4 Innovators y = 3 Nationalist - Innovators y = 2 Indifferent y = 1 Traditionalists</p>
<p><i>Security (likert scale 1-7)</i></p> <ul style="list-style-type: none"> I dislike anything that may change my habit on food and drink. I only buy and eat those food I know well. Dishes that are familiar with give me a sense of security. 	

According to the average scores assigned by the consumers to the factors “Newway” and “Security(including 6 items), the sample was divided into three tertiles for each of the two factors used (high /average /low score for “Newway”), (high /average /low score for “Security”). This procedure has given us an ordinal dependent variable with values from one to four:

- category 1* - traditionalist (high score for Security and low score for Newway);
- category 2* - indifferent (average score for both Security and Newway);
- category 3* - nationalist-innovators (high score for both Security and Newway);

- *category 4* - innovators (high score for Newway and average or low score for Security).

The adopted approach allows a first Chinese market segmentation according the above described categories, showing the propensity of the consumers towards foreign food.

As table 3 shows, innovators represent over 13% of the sample, 11% of the sample can be identified as a nationalist-innovators, while 27.5% are indifferent and the 48% of the sample can be defined traditionalist. The high percentage of the latter segment is an expected result, since, as described above, Chinese benefit an ancient culinary culture of which they are proud. The gradient of the propensity to foreign food showed in this segmentation may be considered an indirect index of change and openness that is interesting the economy and Chinese society. In this context, the individuation of a segment of “pure” innovators of around 13%, consumers ready for the “exotic” tastes and perceptions, confirms the potential of the Chinese market as a potential destination for European food products in general and for Italians in particular. The market share increases if we include to the to the first mentioned segment the nationalist-innovators one, constituting therefore a potential market equal to $\frac{1}{4}$ of the total population.

Table 3.
Propensity to foreign food, sample share of the categories.

Segments	Sample Share %
Innovators	13.4
Nationalists- Innovators	11
Indifferent	27.5
Traditionalist	48.1

5 Empirical model results

Table 4 shows the results of the empirical model. The explanatory variables have been divided in the three groups described above: Portrait Schwartz Values (PVQ), the Food Related Lifestyle (FRL) and traditional socio-demographic variables. As concerns the first variables group we observe significant coefficients for the “tradition” value and the “stimuli” ones. As expected, while the first has negative influence on the propensity to consume, representing a traditional approach to the different dimension of life, the second one is positively related to the foreign food propensity to consume. As concerns the second group of variables, the preference for organic food, attention to the taste of food, attention to the healthiness and willingness to spend time in preparing food are statistically significant. All the mentioned parameters have negative signs. Such results indicate that the traditionalists, preferring distinctly national foods, end up consider these more tasty and safe as well as deserving time and attention in the act of preparation of the recipe. Finally, with regard to the third group, age interviewee is an important element indicating that younger people are more willing to adopt innovations in the food. From a spatial point of view, the regional location plays a role as well: cities of Chengdu and Nanjing are those in which there is a greater propensity for innovation. In particular, even though Chengdu is located in the interior part of China, it is known to be the largest railway hub in the country and to get attention to the quality of life high. Nanjing, is located on the east coast and is characterized by a lively and full of life contacts and relations with foreign countries.

Table 4.
Ordered Probit model- estimation results

<i>Groups</i>	<i>Variables</i>	<i>Coefficients</i>	<i>P-value</i>
PVQ	Tradition	-0.167	0.006
	Stimulating life	0.11	0.002
FRL	Organic	-0.205	0.001
	Taste	-0.232	0
	Food safety	-0.171	0.007
	joy of cooking	-0.187	0.009
	Age	-0.018	0.001
	Guangzhou	0.21	0.088
	Chengdu	0.247	0.077
Socio-demografic	Wuhan	0.181	0.135
	Nanjing	0.303	0.024
	Beijing	0.11	0.293
Pseudo R2	0.102		
Log likelihood	-457.9		

The influence of the different variables on the consumers' propensity to innovate eating habits can be investigated more in detail by the estimates of the relative marginal effects (Table 5). To Prefer a stimulating life, PVQ group of variables, and the city of residence, such as Chengdu and Nanjing, are the variables that most increase the likelihood of consume foreign food. Being traditional and taking care to the health and taste of food, consumers' behaviours described by the significant FRL variables, should reduce the likelihood of a true cultural openness towards non-Chinese food.

In summary, based on the estimates, the Chinese consumer willing to innovate in food consumption habits is mainly young, resident in the city culturally and economically vital and dynamic, and he is characterized by not being sensitive to tradition, preferring a life rich of new stimuli, without considering the the national food as the only one capable of ensuring health and taste.

Table 5.
Average marginal effect on the probability to observe an "Innovator" behaviour (%)

<i>Groups</i>	<i>Variables</i>	<i>Marginal effects (%)</i>	<i>P-value</i>
PVQ	Tradition	-3.06	0.01
	Stimulating life	2.89	0.00
FRL	Organic	-3.75	0.00
	Taste	-4.25	0.00
	Food safety	-3.14	0.01
	joy of cooking	-3.43	0.01
Socio-demografic	Age	-0.33	0.00
	Guangzhou	6.08	0.18
	Chengdu	7.25	0.12
	Wuhan	5.16	0.24
	Nanjing	9.09	0.06
	Beijing	3.06	0.45

6 Conclusion

The analysis presented in this study on the propensity for innovation in the food habits of Chinese consumers, shows some limitations, but it provides interesting insights.

The limitations concern essentially the sample, which although representative of heavily urbanized areas of the country is really small comparing the Chinese population of billion people. This problem is not extremely significant, when considering some further aspects: the extent and economic and social disparities of the Chinese territory, the lack of knowledge on the Chinese market that currently analysts and Western food business operators have. For the above mentioned factors, this study can be considered as an initial analysis to investigate the ancient, diverse and little-known Chinese culture. Moreover, from a marketing strategic point of view, it would be not very useful to investigate the rural population, still in an early stage of economic development and cultural openness.

Within the limits of the proposed analysis, the results seem to confirm the relevant potential of the Chinese market (characterized by the urban middle and upper income) as a destination for quality western products. Identifying the segment of "pure" innovators, the consumers ready to buy and consume foreign foods, by three types of variables, FRL, PVQ and socio-demographic, is valuable information for analysts but also for food business operators Western and Italian in particular.

In addition, using a cognitive and modern approach in the market segmentation, provides a Chinese consumer profile “open mind” that is very useful for the implementation of policies for specific marketing and promotion strategies.

The analysis provided assumes a relevant role also if we consider the level of closure that characterized China in the past and the presence of a strong and meaningful cultural identity in all dimensions of Chinese existence: therefore the challenge of any marketing strategies for penetration into Chinese market will rely on offering a different approach to life.

Latent demand of “Westernization” is growing in all emerging countries. From a marketing point of view, this marketing opportunity will be seized by food products that will provide a product composed with intangibles valuable characteristics such different way of living and feeling of modernity.

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