INVESTIGATING THE BUYER BEHAVIOUR OF ORGANIC FOOD IN URBAN CHINA

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ABSTRACT
This paper aims to investigate the dimensions important to consumers in the People’s Republic of China associated with their pre-purchase evaluation of organic foods. Data was collected in China in two stages i.e. two hundred valid on-line survey responses were collected for the purpose of the pilot study, and subsequently nine hundred and sixty paper-based responses were obtained from four major Chinese cities. The findings of this study revealed that Chinese consumers’ purchase of organic food is influenced by the following dimensions: product-related, regulatory, and lifestyle (variety seeking and self-indulgence). Additionally the above mentioned dimensions had a direct or indirect impact on pre-purchase evaluation and behavioural intentions. Personal attitudes for the purchase of organic food influenced pre-purchase evaluation, and finally pre-purchase evaluation impacted on the behavioural intention.

BACKGROUND AND HYPOTHESES
In the last decade or so, there has been a significant increase in the interest of organic foods. Current literature, examining consumers’ awareness of organic food has been well developed in North America and Western Europe (Bonti-Ankomah & Yiridoe 2006). Organic foods are perceived as being more nutritious, healthier, safer, and environmentally friendly. They contain less chemical residues and taste better than conventional food hence, consumers are willing to pay a premium price for organic food (Krystallis et al. 2006). Even in newly emerging markets, consumers are still willing to pay a higher price for higher quality, taste, and ‘safety’ certified foods (Grannis et al. 2001). China has experienced dramatic economic growth in the last twenty years, and is developing an affluent urban middle class for the domestic organic food market. Over the recent period the Chinese organic sector has grown faster than the worldwide average. China has gone well beyond being an adopter of the world organic concepts, and is now an active organic innovator (Paull 2008). Only a handful of studies in relation to organic food consumption have been conducted in Asian countries such as Japan, Taiwan, India and Thailand. As best as can be ascertained, very few studies of this nature have been undertaken in China, a fast growing economy where organic foods are increasingly being marketed. As such little is known or understood about Chinese consumers’ attitudes towards organic products or their purchase behaviour.

This research aims to investigate the dimensions influencing consumers’ purchase intentions of organic food in urban China. The conceptual model for the purchase intentions of organic food in China was developed based on the theories of reasoned action and planned behaviour (Ajzen 2005; Ajzen & Fishbein 1969) and also the consumer decision making process (Blackwell et al. 2006). These theories have been widely utilised within the food and organic food studies (Drichoutis et al. 2007). The conceptual model relating to consumers’ purchase intention of organic food in urban China comprises the following dimensions:

Product-related: A study by Steptoe, Pollard, and Wardle (1995) reveals that concern for health, moods, convenience of food preparation and sensory appeal are components in the choice of food. Organic food purchase is motivated by consumers’ sensory appeal and concern for health (Arvanitoyannis et al. 2003). However, studies also revealed that some of the reasons for the non-purchase of organic food include consumers’ perceptions of it being expensive, lack of perceived value and unsatisfactory in appearance (Sanjuán et al. 2003).

Regulatory: There is a relatively poor understanding of the legal use of the term ‘organic’ on food products including inspection and certification systems (Padel & Foster 2005). Misleading labelling and
certification, low profile distribution channels, limited in availability and choices (Gallagher & McEachern 2003).

**Lifestyle:** For regular organic food buyers, consumption of organic food is part of their lifestyle and they have related interests in nature, society and the environment. A recent trend emanates from the US which is called LOHAS (acronym for Lifestyle of Health and Sustainability). It refers to a new kind of lifestyle and a trend which some consumers practise. This trend is gaining popularity in the affluent cities of China like Shanghai and Beijing (United States Department of Agriculture 2008). Consumers who attempt to pursue a healthy diet and balanced lifestyle have higher intention to purchase organic food products (Magistris & Gracia 2008).

**Ethnocentrism:** Studies demonstrate that country of origin is an important issue for organic food consumers, Norwegian consumers perceive locally produced organic goods as being safer than imported cheaper organic foods (Storstad & Bjørkhaug 2003). From ancient times, Chinese people have valued patriotism. However, Chinese consumers’ attitudes toward western luxury goods are generally positive (Lu 2008).

Consumers’ purchase of organic food is based on subjective experiences and perception of organic food products (Hughner et al. 2007). It is perceived that organic food is healthier, natural, nutritious and environmentally friendly. Consumers’ attitude toward the purchase of organic food is generally assumed to be positive (Chen 2007). It is perceived that organic food has better quality, and consumers with positive attitudes toward organic food are more likely to form positive intentions to purchase organic food (Honkanen et al. 2006). Based on extant literature, the following hypotheses have been elicited:

**Hypothesis one**

$H_{1a}$: Product related dimension has a positive influence on the individual attitudes of urban Chinese consumer

$H_{1b}$: Product related dimension is positively correlated to the pre-purchase evaluation

$H_{1c}$: Product related dimension is positively correlated to the Chinese consumers’ behavioural / purchase intentions

**Hypothesis two**

$H_{2a}$: Regulatory dimension has a positive influence on individual attitudes of urban Chinese consumers

$H_{2b}$: Regulatory dimension is positively correlated to the pre-purchase evaluation

$H_{2c}$: Regulatory dimension is positively correlated to Chinese consumers’ behavioural / purchase intentions

**Hypothesis three**

$H_{3a}$: Lifestyle has a positive influence on the individual attitudes of urban Chinese consumers

$H_{3b}$: Lifestyle is positively correlated to the pre-purchase evaluation

$H_{3c}$: Lifestyle is positively correlated to Chinese consumers’ behavioural / purchase intentions

**Hypothesis four**

$H_{4a}$: Ethnocentrism has a negative influence on the individual attitudes of urban Chinese consumers

$H_{4b}$: Ethnocentrism is negatively correlated to the pre-purchase evaluation

$H_{4c}$: Ethnocentrism is negatively correlated to Chinese consumers’ behavioural / purchase intentions

**Hypothesis five**

$H_{5}$: Chinese consumers’ attitudes towards organic food is directly and positively correlated to Pre-purchase evaluation

**Hypothesis six**

$H_{6}$: Pre-purchase evaluation is directly and positively related to behavioural / purchase intentions

**Methodology**

This study is predominantly quantitative in nature. To ensure validity and reliability and of the survey instrument, pre-testing using focus groups was undertaken. Data was collected in China in two stages i.e. 200 valid on-line survey responses were collected for the purpose of the pilot study, and subsequently 960 usable paper-based survey responses were obtained from four major Chinese cities. This data was collected in 2009 and 2010. The English version of the instrument was translated into Chinese by the bilingual researcher. For purposes of verification, all items of the survey were translated back into English to verify the reliability of the translation. The translated versions were also cross-checked by three other bilingual researchers to ensure content and face validity.
The on-line survey was made available via the university’s Opinio platform. This Opinio software enables production and reporting of a survey and ensures anonymity, confidentiality and privacy to participant. The web link to the on-line survey was sent to selected Chinese food outlets for onward submission to their customers. The sampling frame was drawn up using the retail food outlets’ customer database. Participants were randomly selected from the sampling frame. Care was taken to include a proportionate number of prospective customers. Four hundred and five participants logged onto the web link, and finally a total of two hundred and ten valid on-line responses were collected during one month period.

After the on-line data was analysed, the survey instrument was slightly modified for usage in paper-based survey, which comprised the main study. Organic foods are still relatively new products, primarily available in large supermarkets in major Chinese cities (Li et al. 2005). Previous study indicates that data collected in food outlets of retail chains is an efficient method (Drichoutis et al. 2007). The paper-based survey questionnaires were administered at major supermarkets in four selected Chinese first and second tier cities, namely Beijing, Shanghai, Shenzhen and Chengdu. These cities are geographically dispersed, i.e. they are located in the east, west, north and south of China, and are economically and politically prominent and the main engines of China’s phenomenal economic development. Hence consumers are more affluent, and are more likely to be aware of organic foods. All the participating supermarkets had dedicated organic food sections.

Shoppers were approached randomly by trained personnel to participate in self-administered questionnaires at the main entrance of the supermarkets. They were instructed to seek out demographic variation where possible and the questionnaires were presented to consumers entering these supermarkets throughout the day during the trading hours of the stores. Consumers were approached randomly and asked ‘Have you ever heard of the term organic food?’. If the respondent answered ‘yes’, then they were asked ‘Would you like to participate in the survey?’. If the consumer answered ‘No’, the next customer entering the store would be approached and so on. Then, every tenth individual consumer who walked in the supermarket was asked the same questions. A small gift of organic food (eg: nuts, vegetables, milk) was offered in appreciation of their time to answer the questions. Five hundred questionnaires were distributed in each city, hence a total of two thousand questionnaires were administrated. Finally, nine hundred and sixty valid surveys were obtained. The paper based data was collected over a period of one month. Both on-line and paper-based survey response rates were as high as 50 percent. This is consistent with extant literature which suggests that the response rates of consumers of specialised goods like organic food products can be as high as 40%-50% (Honkanen et al. 2006).

**RESULTS**

SPSS version 18 was used to examine the data for accuracy, missing values, fit between their distributions and the assumption of multivariate analysis. A series of exploratory factor analyses (EFA) was performed on the pilot study data of the 200 on-line surveys to identify the factors and associated latent variables. Data analysis of the pilot study revealed ten factors which were named ‘sensory appeal’, ‘price perception’, ‘regulatory’, ‘self-indulgence’, ‘variety-seeking’, ‘opinion-leadership’, ‘ethnocentrism’, ‘attitudes’, ‘pre-purchase evaluation’, and ‘behavioural / purchase intention’. Out of the original 52 statements, seven were deleted in the process of the EFA. Hence 45 statements were retained, and used in the next stage of data collection, i.e. paper-based survey (the main study).

A series of confirmatory factor analyses (CFA) was then conducted on the data from the paper-based surveys to validate the findings from the EFA of the pilot study. Confirmatory factor analysis is like creating a structure and testing an objective against the structure to see how well it fits. To evaluate the measurement models for each dimension, covariance structure analysis was carried out using software called AMOS (Analysis of Moment Structures) version 18. Ten statements were removed due to model fit requirements. Hence 35 statements forming seven measurement models were retained for the final model. All the re-specified measurement models were formed to satisfy most indices (Kline 2010). The reliability of scores of the measurement model ranged from .827 to .570. It is assumed that the internal consistency was acceptable and adequate to be part of the structural equation model.

McEachern & Willock’s (2004) study suggests that it would be an advantage to adopt structural equation modelling in future research regarding organic consumers’ attitudes and motivations, as it would create the capacity to scrutinise a series of dependent relationships concurrently. ‘It allows analysing simultaneously the relationships between dependent and independent variables in the organic food intention to purchase model’ (Magistris & Gracia 2008 p.935). A structural model aims to specify which latent variables directly or indirectly influence the other latent variables in a model (Bollen 1989). In this study, all latent variables in the
measurement models were validated, and re-specified models fitted well. The structural model was tested and presented as the final stage. Post hoc model modifications were performed in an attempt to develop a better fitting and possibly more parsimonious model.

The 35 statements of the measurement models were reduced to 28 statements in the final best fit model which is shown in Figure 1. This model explained that 41.3% of the variance was in ‘individual attitudes’, and that 39.5% of the variance was in ‘pre-purchase evaluation’ while 66.4% of the variance was in the ‘behavioural/purchase intention’.

Figure 1: Purchase intention of organic food in urban China

Note: Chi-square =931.176, df=331, \( p^a \) (Bollen-Stine bootstrap \( p \) value) = .001, CMIN/DF=2.813, GFI=.931, AGFI=.915, TLI=.905, CFI=.916, RMSEA=.044, 90% CI= (.041,.048), SRMR=.0497

Reliability tests were conducted on all the dimensions. The Cronbach’s alpha scores ranged between .715 to .827, except for one dimension, i.e. regulatory. This reading had a Cronbach’s alpha of .609. Ideally the Cronbach’s alpha should be above .700. However the Cronbach alpha values are quite sensitive to the number of items in the scale. With scales fewer than ten items, it is common to find quite low Cronbach values (Pallant 2007). Therefore, the internal consistency of dimensions in the final model was acceptable and adequate. In order to confirm how well the results obtained from the use of measures fitted relevant theories, discriminant validity testing was conducted based on the final model.

Table 1 summarises the results of hypotheses testing. A version of ‘\( t \)’ test was employed which uses critical ratios from the SEM. Standard errors in the S.E. column, C.R. column stands for Critical Ratio (magnitude > 2 indicates statistical significance at the .05 level). \( P \) value indicates statistical significance at levels of 0.001, 0.01 and 0.05 respectively. The direction and importance of the relationships is determined by the magnitude of Beta weight.

Hypothesis one was partially supported. Product related dimension had a significant relationship with personal attitudes and pre-purchase evaluation, but no significant relationship with behaviour/purchase intentions. However, the results also revealed that the product related dimension had an indirect effect (.371) on behavioural intentions, which means the product related dimension was associated with behavioural/purchase intentions through the mediatory affect of personal attitudes and pre-purchase evaluation.

Hypothesis two was partially supported. Regulatory dimension had a significant relationship with personal attitudes and pre-purchase evaluation, and no significant relationship with behaviour/purchase intention. However, the results also revealed that the regulatory dimension had an indirect effect (.332) on behavioural intentions, which means that the regulatory dimension was associated with behavioural/purchase intentions through the mediatory affect of personal attitudes and pre-purchase evaluation.

Hypothesis three was partially supported. The lifestyle dimension comprised ‘variety seeking’ and ‘self-indulgence’ factors, both of which had significant influences on personal attitudes and purchase intentions. The results also revealed that the lifestyle dimension had indirect effects (.161) on behavioural/purchase intentions, which means that it was associated with pre-purchase evaluation through the mediatory affect of personal attitudes.

Hypothesis four was rejected. The results indicate that the ethnocentrism dimension did not influence personal attitudes, pre-purchase evaluation or purchase intention.

Hypothesis five and hypothesis six were supported. Personal attitudes dimension had a significant influence on pre-purchase evaluation (\( p \) value was significant), and the pre-purchase evaluation dimension had a significant influence on behavioural/purchase intention (\( p \) value was significant).
CONCLUSION AND LIMITATIONS

Firstly the findings of this study have revealed that consumers’ attitudes are positively and directly influenced by the dimension of the product, regulatory and lifestyle (especially variety seeking and self-indulgence) issues. The results also revealed that both product-related and regulatory dimensions had significant influences on pre-purchase evaluation, and both dimensions were associated with behavioural / purchase intentions through the mediatory affect of personal attitudes and pre-purchase evaluation. This affirms that the characteristics of organic food have both direct and indirect effects on consumers’ intention to buy organic products (Chen 2007). Interestingly noted, items relating to price were deleted due to model fit requirements. This may provide evidence that price is not as important as is the food safety in a comparative measure. Food safety is the one of most important issues influencing consumers’ buyer behaviour of organic food in China. Consumers probably give up purchasing food products unless there are signs of the products quality (Ennis 2007). Labelling seems one of the important issues among organic food purchasers. Confusion still exists among consumers as to what defines ‘organic’. An organic logo is the consumer’s guarantee that product has been produced organically (McDonald 2001). There is a lot of confusion amongst Chinese consumers and previous food and milk scandals have damaged consumers’ confidence. There is a lack of trust in overall organic food quality as consumers are unsure about the enforcement of quality by Chinese authorities. Government agencies and industry need to be aware of the necessity to regulate and provide credible certification to organic food. They also need to enhance the inspection and certification of organic food labelling as well as ensure that the labelling and logos of organic food are a sign of quality. This has severe managerial implications for producers and marketers of organic food products in China. They need to work tirelessly to gain the confidence of the consumers by publicising the overall quality process and associated food safety issues. Additionally they need to enhance the awareness and promote the benefits of organic food, as several potential consumers are ignorant about these facts. They need to make it convenient for consumers to purchase organic food products by streamlining the distribution network and making these products readily available even in the smaller cities.

Changes in lifestyle can have adverse effects on the consumption of organic food. Organic food consumers are being portrayed as ‘greenies’, ‘health nuts’ or ‘yuppies’, who are more interested in fashion than anything else. Hence consumption of organic food reflects a ‘green’ lifestyle (Lockie et al. 2002). The results of studies on ethnocentrism reveal that consumers in developing countries, buying foreign products is generally considered a social symbol, and also very trendy, particularly those products originating from prestigious countries (Batra et al. 2000). Our analysis reveals that the ethnocentrism dimension of Chinese consumers did not negatively influence their personal attitudes, pre-purchase evaluation or even their final purchase intention. This finding is in line with Wang & Chen (2004) who suggest that the impact of ethnocentrism on consumers willing to buy domestic products tends to be weaker, particularly, when consumers hold higher conspicuous
consumption values, and where they tend to perceive domestic products as lower quality products. This aspect of our findings should motivate and encourage exporters of organic food products to China. Exporters especially from developed countries should leverage on this finding and endeavour to market their organic food products both effectively and efficiently.

This research study is one of the very few associated with consumer buyer behaviour of organic food in urban China. The unique conceptual model used in this study is a combination of three theoretical models, namely, the theory of reasoned action, the theory of planned behaviour and the theory of consumer decision making process. The findings of this research study have important implications for marketers of organic food in China. They should attempt to leverage on these findings by educating their target audience, (both existing and potential customers) and by promoting trials of organic food products. Beneficiaries of this research study include various stakeholders in China and globally such as consumers, vendors both local and international and government agencies.

A number of hypotheses were tested in this study using extensive data obtained from a large sample size. Further analysis using invariance testing will be performed to investigate whether there are significant differences in the data obtained from the four major cities of China. Finally, it would be beneficial to investigate changes in consumers’ attitudes and their behavioural intentions over time by conducting a longitudinal study.

REFERENCES


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