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The impact of Lifestyle and Ethnocentrism on Consumers’ purchase intentions of fresh fruit in China

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Abstract

Purpose – This paper examines how variables related to lifestyle and ethnocentrism influence Chinese consumers’ attitudes and intentions towards the purchase of domestic and imported fresh fruit.

Design/methodology/approach – A survey instrument was developed using established scales and focus groups. Data was collected in the city of Wuhan through structured intercept interviews with consumers at major supermarkets and fruit stores. Structural equation modelling was used to analyse the data.

Findings – Chinese consumers’ purchase intention of imported fresh fruit is influenced by lifestyle groups, namely Risk takers and Traditionalists. Also consumers’ ethnocentrism tendencies play an important role in shaping their purchase attitudes towards domestic fresh fruit.

Research limitations/implications – Although our research investigated both the sensory and non-sensory purchase attributes of fruits, it failed to shed light on the intended use of imported fruits, e.g. for gifts, self consumption, children, aged parents and ill patients. Additionally, future research should be conducted that is more product and country specific.

Practical implications – Marketers should ensure that both sensory and non-sensory purchase attributes of fresh fruit are given due importance, as this will snowball into positive purchase intentions, customer satisfaction and overall profitability for firms.

Originality/value – Despite its potential importance, relatively little is known about consumers’ buying behaviour of fresh produce in China. Findings of this study would thus be beneficial to practitioners and policy makers to formulate effective strategies designed to market fresh produce in China.

Keywords – Lifestyle, Ethnocentrism, Fresh fruit, China

Paper type Research paper
Background

Consumption of fruit in China

Over the past two decades there has been an exponential growth in the consumption of fruit in China which has a population of 1.3 billion (Statistical Yearbook of China 2007). The Chinese traditionally perceive fresh fruit to be healthy – that which helps digestion and nourishes the human body, hence aiding in longevity. In 2007, China’s fruit imports and exports totalled $4.71 billion, accounting for 6.03% of total trade in that year of approximately $ 78.1 billion (Xing-wang, 2008). Many factors have contributed to the significant increase in fresh fruit consumption in China. Consumers’ purchase intentions are influenced to a great extent by personal and household income; additionally, the level of education, purpose and location of purchase also play a role (Shang-wu, Ze-fei, Yong-shan, & Ju, 2007). A recent study has estimated that approximately 93.4% of the Chinese population consume on an average about 71.8 kg of fresh fruit per week (Chao-hui, Qin, & Xiao-qi, 2008). Since 1993, imported fruits have become available on a large scale in China, and the imported fruit business is now booming owing to a burgeoning demand and the potential for huge profits. In 2007, China imported about US $ 960 million worth of fresh fruits mainly from the U.S., Europe, Thailand and Taiwan (Xing-wang, 2008).

Justification of study

Despite its potential importance, relatively little is known about consumers’ buying behaviour of fresh produce in China. Generally fresh produce is deemed to include fruits, vegetables, meat, fish, eggs, bakery and diary products (Cardello & Schutz, 2003). Rather than investigate buyer behaviour for the whole gamut of fresh produce, we decided to look specifically at fresh fruit, as this is an everyday consumption item for most (if not all) individuals and households in China. In our opinion, this would
give more meaningful and valid results some of which could possibly be applicable for other types of fresh produce, especially vegetables. Findings of this study would thus be beneficial to practitioners and policy makers to formulate effective strategies designed to market fresh produce in China.

The aims of this study are threefold. First, it examines the impact of lifestyle factors on the purchase behaviour of domestic and imported fruit. Second, it evaluates the impact of ethnocentrism on the purchase behaviour of domestic and imported fruit. Finally, it examines how consumers’ purchase behaviour of fruit is moderated by demographic variables like gender, age, education and level of income.

This paper is organised into several sections commencing with a review of the literature and leading to development of the conceptual model and associated hypotheses. This is followed by details on the methodology, after which the findings are presented. Finally, we highlight relevant managerial implications, limitations and potential for future research.

**Literature review and hypotheses development**

**Attitude towards purchase of fruit**

Consumers’ attitudes towards purchase of fruit is governed to a great extent by the importance they place on sensory and non-sensory attributes of the fruit (Peneau, Hoehn, Roth, Escher, & Nuessli, 2006). Sensory attributes generally relate to consumers’ perceptions of the appearance, texture and flavour of the fruit, whilst non-sensory attributes relate to the location, brand, time and handling of the fruit. Consumers are interested in health in general and more specifically in the nexus
between health and food (Rozin, Fischler, Imada, Sarubin, & Wrzesniewski, 1999). A
decisive attribute for consumers’ choice of fruits and vegetables is obviously its
that the food industry should focus on the health promoting aspects of food to be
successful.

Although there are several measures developed for attitudes towards product and
brand, the common one used for food is the seven-point semantic differential which
also measures a consumer’s evaluation of a brand (Arias-Bolzmann, Chakraborty, &
Mowen, 2000). Any scale developed for the purchase of fruit in particular, would
necessarily have to take into account both sensory and non-sensory attributes of the
fruit (Peneau et al., 2006).

In the context of Chinese consumers, there are several antecedents which influence
the attitudes towards purchase of food products. Two of these groups of antecedents
supported by the literature are:

1. Lifestyle variables of consumers: these are essentially personality factors
whereby consumers can be categorised into three distinct lifestyle groups,
    i.e. risk takers or self indulgents, experiencers and traditionalists (Yang,
2004).

2. Consumer ethnocentrism: the tendency of consumers to be ethnocentric
represents their beliefs about the appropriateness and moral legitimacy of
purchasing foreign products (Shimp & Sharma, 1987).
Antecedents – Lifestyle variables of consumers

Since its introduction in the 1960s, consumers’ lifestyle information has become a popular instrument in making advertising management decisions. Lifestyle characteristics provide more accurate and practical information about consumers for advertisers to use in meeting demands of an increasingly competitive and sophisticated marketplace (Kamakura & Wedel, 1995). Although Wells (1975) argues that lifestyle studies are prone to problems associated with replication, Lastovicka, Murray & Joachimsthaler (1990) have demonstrated that lifestyle measurement shows both discriminant and convergent validity. Kim, Park, Ki, & Moon (2001) found a significant relationship between internet users’ lifestyle segments, their attitude towards internet advertising and product purchase intentions. Based on their findings they inferred that lifestyle segmentation is critical to understanding consumers’ complex socio-psychological profiles. Their findings revealed significant moderating effects of the lifestyle factors on the relationship between consumers’ attitudes and effectiveness of internet advertising (Kim et al., 2001).

A study conducted in Taiwan identified potential lifestyle segments among internet users and examined the relationships between lifestyle segments and their attitudes towards internet advertising (Yang, 2004). This study surveyed 700 internet users and employed a lifestyle segmentation approach to categorise consumers into three distinct lifestyle groups, i.e. risk takers, experiencers and traditionalists. The findings of this study revealed that all the three groups differed from one another in several demographic characteristics. Additionally, the lifestyle groups were found to partly predict internet users’ attitudes towards internet advertising. As there is no validated study in the literature pertaining to lifestyle segments associated with consumers’ purchase behaviour of food products, we decided to use the lifestyle variables of the
above Taiwan study for our research on consumers’ purchase behaviour of fresh fruits in China. Moreover, consumers in Taiwan and in urban areas of the People’s Republic of China (PRC) have several common personality factors, hence the three categories of lifestyle segments in both these countries should be closely similar in nature.

**Antecedents – Consumer ethnocentrism**

Owing to relaxation of global trade policies consumers are provided with more foreign products than ever before. Studies on country-of-origin effect (COE) conducted in developed countries have revealed that consumers have a general preference for domestic over foreign products, particularly when they lack information about the product (Elliott & Camoron, 1994). Some of the reasons for this preference range from a risk-reducing bias towards foreign products to a patriotic bias towards domestic products (Herche, 1992). The relationship between COE and the quality image of imported products is particularly strong when consumer ethnocentrism (CE) is involved (Agbonifoh & Elimimian, 1999). In a developed country, consumers generally tend to have a higher quality perception of domestic than foreign products. This perception would tend to enhance the influence of CE on both the purchase of domestic and the rejection of foreign products (Ahmed & d'Astous, 2001). However, the reverse has been observed in developing countries such as Romania and Turkey (Ger, Belk, & Lascu, 1993), India (Batra, Venkatram, Alden, Steenkamp, & Ramachander, 2000) and China (Li, Fu, & Murray, 1997). In these developing countries consumers generally perceive foreign products, particularly those made in higher origin countries, as being of higher quality than domestic products. Even ethnocentric consumers may perceive foreign products to be
of higher quality, especially if they originate in a country with a better image (e.g. it is highly industrialised or economically developed) (Yagci, 2001). Our literature review reveals that there is no previous study which investigates the impact of ethnocentrism on the purchase behaviour of food products in China.

**Purchase Intention**

Fishbein & Ajzen (1975) postulate, as per their theory of planned behaviour (TPB), that purchase behaviour is determined by the purchase intention, which is in turn determined by attitudes towards purchase. The TPB also states that opportunities and resources, for example the accessibility of fresh fruit, must be present before purchase behaviour can be performed. Chang (1998) states that without such circumstances, it would be difficult to perform a purchase, regardless of how favourable those intentions may be.

**Development of Conceptual model and hypotheses**

**Figure 1**: Conceptual model of consumers’ purchase behaviour of domestic (China) and imported (U.S.) fruit

- **Lifestyle Factors**
  - Risktakers
  - Experiencers
  - Traditionalists

- **Purchase attitudes** (China/U.S fruit)
- **Purchase Intention** (China/U.S fruit)

- **Consumer Ethnocentrism Factor**

- **Control variables** (demographic)
  - gender
  - age
  - education
  - Income
Based on the literature, the following hypotheses were developed:

\( H_{1a} \): There is a significant relationship between lifestyle factors (Risktakers, Experiencers and Traditionalists) and customers’ purchase attitudes in relation to domestic (Chinese) fruits.

\( H_{1b} \): There is a significant relationship between lifestyle factors (Risktakers, Experiencers and Traditionalists) and customers’ purchase attitudes in relation to imported (U.S.) fruits.

\( H_{2a} \): The relationship between lifestyle factors (Risktakers, Experiencers and Traditionalists) and customers’ purchase intentions is significant for domestic (Chinese) fruits.

\( H_{2b} \): The relationship between lifestyle factors (Risktakers, Experiencers and Traditionalists) and customers’ purchase intentions is significant for imported (U.S.) fruits.

\( H_{3a} \): Customer ethnocentrism influences the purchase attitudes associated with domestic (Chinese) fruits.

\( H_{3b} \): Customer ethnocentrism influences the purchase attitudes associated with imported (U.S.) fruits.

\( H_{4a} \): There is a significant relationship between customers’ purchase attitudes and their purchase intentions for domestic (Chinese) fruits.

\( H_{4b} \): There is a significant relationship between customers’ purchase attitudes and their purchase intentions for imported (U.S.) fruits.
Method

Data collection

The sample for the study was drawn from consumers in Wuhan, which is the capital of the Hubei province, a modern metropolis situated in the heart of China. Wuhan is a commercial centre of finance, industry, trade and science and is equally distant from three major cities in China, i.e. Beijing, Shanghai and Guangzhou. We intentionally selected Wuhan as its population rightfully represents the urban population of entire China. Seventy percent of Wuhan’s total population of 9.7 million is urbanised (Statistical Yearbook of China 2007).

The randomly selected total sample size was 535. In order to ensure that the sample was representative, a stratified sampling plan was followed based on the population distribution in the districts of Wuhan. The sample comprised 48 percent male and 52 percent female. In terms of age, 38 percent were under 25, 23 percent between 25 and 35, 27 percent between 36 and 45, and 12 percent aged 46 or above. As far as educational level was concerned, 18 percent of the respondents had received a junior high education or below, 39 percent had graduated from senior high school and 43 percent from university. The per capita monthly income of respondents was: 44 percent below RMB 1000, 32 percent between RMB 1001 and 2000, 18 percent between RMB 2001 and 3000 yuan and 6 percent above RMB 3001.

Data was collected through structured intercept interviews with consumers at major supermarkets and fruit stores in Wuhan. The interviewers were university students who were trained and instructed on how to administer the survey instrument and to include respondents with varying demographic profiles. The data collection was conducted over a three-week period, which included weekdays and weekends. It is desirable to measure consumers’ attitudes and perceptions in supermarkets and
shopping related environment, as this would allow population of interest to relate to what the research intends to measure, which in this case were consumers’ purchase attitudes and purchase intentions of domestic and imported fresh fruit (Cowan, 1989).

**Measures**

We adopted previously validated measures and performed additional testing of reliability for the measurement models. The instrument was in Chinese, but had been initially constructed in English and then translated into Chinese by one of the bilingual researchers. It was then back translated and checked for inconsistencies by a professional translator. This procedure ensured that an accurate prose translation was decentred from a literal English language translation (Brislin, 2003).

All the variables were measured by 5-point likert type scales anchored at 1 (strongly disagree) and 5 (strongly agree). Lifestyle factors was measured by a 12-item scale which was validated by Yang (2004) when he compared attitudes towards internet advertising among lifestyle segments in Taiwan. This scale comprises of three factors, i.e. the first 5 statements relate to factor 1 (\(\alpha = 0.70\)) which is named Risk takers or Self-indulgents. The next 4 statements relate to factor 2 (\(\alpha = 0.70\)) which is named Experiencers. The last 3 statements relate to factor 3 (\(\alpha = 0.52\)) which is named Traditionalists. Consumer ethnocentrism was measured by a 3-item scale, which were selected from the 17-item CETSCALE (Shimp & Sharma, 1987). The selection of these 3 items as being most appropriate to the context of our research was undertaken by an expert focus group. These items have been found to be inversely related to the willingness to purchase foreign products (Klein, Ettenson, & Morris, 1998). In our Chinese version, the term American in the original scale was replaced by the term Chinese for obvious reasons.
Consumers’ purchase attitudes were measured by a customised 7-item scale which took into account both sensory and non-sensory attributes of the fruit (Peneau et al., 2006). A lion’s share of the imported fruit is sourced from the U.S. and Chinese consumers generally perceive the U.S. to be highly developed in the growth of agricultural products like fruit. Hence, we decided to use the U.S. as a benchmark country for imported fruit. Finally consumers’ purchase intentions of domestic and imported fruit were measured by a single item which rated their desire and willingness to purchase.

**Analysis and results**

**Reliability**

Confirmatory factor analysis with Varimax rotation was performed for each of the constructs. Each of the lifestyle factors namely, Risk takers, Experiencers and Traditionalists were all uni-dimensional. However 3 of the original 12 statements comprising these factors were deleted as recommended by the modification indices and loadings, so as to improve the fit. The correlation between these 3 lifestyle factors was low and they possessed high discriminant validity, hence it was decided to retain them all.

The 3 items comprising the construct of Consumer Ethnocentrism was similarly found to be uni-dimensional and they produced a good fit, despite being a saturated model. Interestingly, the following were the results when CFA was performed to the 7-item scale measuring customers’ purchase attitudes:

Purchase attitudes toward domestic (Chinese) fruit:

\[ \chi^2(5) = 27.77, p < .000; \text{GFI} = .98; \text{TLI} = .96; \text{CFI} = .98; \text{SRMR} = .02; \text{RMSEA (CI)} = .09 (.06; .13). \]
The above figures are indicative of a reasonable uni-dimensional fit.

Purchase attitudes toward imported (U.S.) fruit:

\[ \chi^2(5) = 39.06, p < .000; \text{GFI} = .97; \text{TLI} = .92; \text{CFI} = .96; \text{SRMR} = .04; \text{RMSEA (CI)} = .10 (.08; .14) \]

Again, the above figures are indicative of a reasonable uni-dimensional fit.

Two of the 7 items in both the above purchase attitudes constructs (China and U.S.) were deleted as suggested by the modification indices in order to improve the GFI of the models. Both these deleted items were non-sensory, i.e. one associated with the fruit quality and the other with the nutrients in fruit.

**Hypothesis tests**

Hypothesis tests were conducted using structural equation modeling (AMOS, version 7.1). A maximum likelihood method (Hu, Bentler, & Kano, 1992) is used in order to prevent potential problems derived from the lack of univariate normality in the data. Figure 2 depicts consumers’ purchase attitudes and purchase intentions towards domestic (Chinese) fruit.
Figure 2: Standardised parameter estimates for the structural equation model relating to consumers’ purchase behaviour of domestic (Chinese) fruit.

As can be seen from Figure 2, only the following two hypotheses have been accepted:

H3a: Customer ethnocentrism influences the purchase attitudes associated with domestic (Chinese) fruits; and

H4a: There is a significant relationship between customers’ purchase attitudes and their purchase intentions for domestic (Chinese) fruits.

Figure 3 depicts consumers’ purchase attitudes and purchase intentions towards imported (U.S.) fruit.
As can be seen from Figure 3 the following two hypotheses have been accepted:

H2b: The relationship between lifestyle factors (Risk takers and Traditionalists) and customers’ purchase intentions is significant for imported (U.S.) fruits; and

H4b: There is a significant relationship between customers’ purchase attitudes and their purchase intentions for imported (U.S.) fruits.

Invariance testing

Invariance testing involves the examination of applications involving more than one sample and considers whether the components of the measurement model are
invariant across groups (Byrne, 2001). Invariance testing was conducted for both the structural equation models (Figures 2 and 3) using the control variables (gender, age, income and education) as shown in Figure 1. Following were the results of the invariance testing:

**Table 1**: Results of invariance testing in consumers’ purchase behaviour of imported (U.S.) fruit

<table>
<thead>
<tr>
<th>Variables</th>
<th>Unconstrained</th>
<th>Constrained</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>$\chi^2(242) = 547.417$</td>
<td>$\chi^2(251) = 558.107$</td>
<td>$\Delta \chi^2(9) = 10.690, p &gt; .05$</td>
</tr>
<tr>
<td>Age group</td>
<td>$\chi^2(242) = 553.190$</td>
<td>$\chi^2(251) = 561.390$</td>
<td>$\Delta \chi^2(9) = 8.200, p &gt; .05$</td>
</tr>
<tr>
<td>Income group</td>
<td>$\chi^2(242) = 532.460$</td>
<td>$\chi^2(251) = 545.637$</td>
<td>$\Delta \chi^2(9) = 13.177, p &gt; .05$</td>
</tr>
<tr>
<td>Education group</td>
<td>$\chi^2(242) = 548.383$</td>
<td>$\chi^2(251) = 554.869$</td>
<td>$\Delta \chi^2(9) = 6.486, p &gt; .05$</td>
</tr>
</tbody>
</table>

As shown in Table 1 above, there were no significant differences in the purchase attitudes and purchase intentions of all the four control segmentation variables (gender, age, income level and education) associated with the purchase of imported (U.S.) fruit.

However, there were differences associated with the purchase of domestic (Chinese) fruit in the segmentation variables of age and education. The lifestyle factor of Traditionalists who were 25 years and above seemed to have a significant relationship with the purchase intentions of domestic fruit. Also, this same age group was responsible for Consumer Ethnocentrism to be significantly related to their purchase attitudes of domestic fruit. On the educational front, the significance between
Consumer Ethnocentrism and purchase attitudes was caused by those who had a lower than Bachelor’s degree qualification. Finally, a significant relationship was observed between the lifestyle factor of Experiencers and purchase attitudes of those consumers who held a Bachelor’s degree or higher academic qualification.

Discussion and managerial implications

The primary objective of this research was to investigate the relationship of the three identifiable lifestyle groups on the purchase attitudes and purchase intention of both domestic (Chinese) and imported (U.S.) fresh fruit. These three lifestyle groups in China are Risk takers (persons who are individual centred, spontaneous, self indulgent and who strive for success), Experiencers (those who seek variety and novelty, take risks and face new challenges) and finally Traditionalists (those who are conforming, conventional, less experimental and more traditional)(Yang, 2004). Our findings revealed that all these three lifestyle groups did not in anyway impact on the sensory and non-sensory purchase attitudes of both domestic and imported fruit. The sensory attributes included taste, fragrance, safety and freshness of the fruit, whereas the non-sensory attributes were essentially the price and brand of the fruit. The consistency of this finding across both domestic and imported fruit may be of interest to fruit importers in China.

Interestingly, there were statistically significant relationships between Risk takers and Traditionalists in relation to the purchase intention of imported (U.S.) fruit as depicted in Figure 3. This finding will certainly be of interest to exporters of fruit to China and marketing strategies to enhance and capitalise on this aspect can be developed. For example, these two lifestyle groups could effectively be used to promote positive
word-of-mouth towards consumption of imported fruit to others including the Experiencers.

The impact of consumer ethnocentrism was statistically significant only towards the purchase attitudes of domestic fruit as shown in Figure 2. In the segmentation analysis we also discovered that respondents who were older than 25 years and those who possessed a lower than Bachelor’s degree academic qualification were the main contributors towards this significant relationship. This finding is in stark contrast to the findings of previous studies, whereby Chinese people tend to perceive imported products as superior to domestic (Wang, Chen, Chan, & Zheng, 2000). However most of those studies were performed in relation to the purchase of convenience and durable goods, and were unrelated to the purchase of consumable agricultural products like fruit. It has been noted that the observed relation between ethnocentrism and perceived product quality is weaker in developing countries than developed countries (Klein, 2002). This means that in a developing country like China, consumers with strong ethnocentric tendencies may not necessarily perceive domestic products as being of higher quality than imports, even though they reject foreign products on moral grounds. Our findings relating to consumers’ purchase attitudes of fruit seem to be quite the contrary. Again, this phenomenon is possible owing to the nature of the consumer product, i.e. fruits and their associated sensory and non-sensory attributes. Another plausible reason could be the empathy of consumers towards domestic farmers and a concern for their livelihood.

Finally the findings reveal a strong significant relationship between consumers’ purchase attitudes and their purchase intentions for both domestic and imported fruit.
as shown in Figures 2 and 3. The contributors in this relationship were the sensory as well as non-sensory attributes of fresh fruits.

The findings of this research will have important managerial implications for current and potential exporters of fresh fruit to China, where the imported fruit business is now booming owing to a burgeoning demand. Some researchers have suggested that if all other attributes are more or less the same, imports should be priced slightly lower than domestic products (Lantz & Loeb, 1996). The findings of our research clearly indicate that price is not an issue for Chinese consumers’ purchase intentions of imported fruit. As long as the imported fruits possess quality sensory attributes like taste, fragrance, safety and freshness consumers are willing to give it a go. Also consumers’ ethnocentrism tendencies do not adversely impact on their purchase behaviour of imported fruit. Marketers of imported fruit in China should endeavour to convert the lifestyle group of Experiencers, and this can effectively be achieved by capitalising on the positive behavioural intentions of both Risk takers and Traditionalists.

**Limitations and future Research**

This research was conducted in the city of Wuhan whose population rightfully represents the urban population of entire China. However, it might be worthwhile to explore consumers’ purchase behaviour of fresh fruit in other major cities like Beijing, Shanghai and Guangzhou. Although our research investigated both the sensory and non-sensory purchase attributes of fruits, it failed to shed light on the intended use of imported fruits, e.g. for gifts, self consumption, children, aged parents and ill patients. Additionally, the values underlying purchase intentions, e.g.
symbolism, concern for health, meeting basic needs and hedonism, should be investigated.

While the present study investigated the impact of lifestyle variables and consumer ethnocentrism on the purchase attitudes and intentions of domestic and imported (U.S.) fruit in China, it may also give rise to further research that is more product and country specific. For example, imported products from different countries will be rated differently in terms of quality and brand image (Li et al., 1997). Additionally, it has been found that the impact of ethnocentrism on Chinese consumers’ attitudes towards imported products from countries like Japan is different owing to the animosity involved (Klein et al., 1998).

**Concluding comments**

In summary, it is evident that Chinese consumers’ purchase intention of imported fresh fruit is influenced by lifestyle groups, namely Risk takers and Traditionalists. Also consumers’ ethnocentrism tendencies play an important role in shaping their purchase attitudes towards domestic fresh fruit. Marketers should ensure that both sensory and non-sensory purchase attributes of fresh fruit are given due importance, as this will snowball into positive purchase intentions, customer satisfaction and overall profitability for firms.
References


