Extended Theory of Planned Behavior on Zhejiang Chinese Consumers' Organic Food Purchase Intention

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Abstract
This study aims to identify the factors that influence Chinese consumers' purchase intention of organic food, study their organic food buying behavior, and develop strategies to increase their organic food purchase intention. By using the extension of the Theory of Planned Behavior, the researcher can identify the factors of this study, which are attitudes, subjective norms, perceived behavioral control, and moral norms. The researcher collected 417 online survey data from consumers living in Zhejiang Province, China, who have organic food purchase intention. A non-probability sampling method, including convenience sampling and snowball sampling, was used in the sampling process. The analysis results by SPSS multiple regression indicated that all four independent variables influenced the dependent variable, purchase intention toward organic food. In response to the findings, the researcher suggests some critical recommendations for strategic development.

Keywords: The Theory of Planned Behavior (TPB), Moral Norm, Purchase Intention, Attitude, Organic Food, China

Introduction
Organic farming is an effective solution to several problems associated with conventional farming. In contrast to conventional agriculture causes environmental pollution, organic agriculture is characterized by improving fertility and managing pests or illnesses without affecting the environment (Kunz & Muller, 2010). As consumers become more environmentally conscious, their
interest in organic food increases significantly (Hughner et al., 2007). Moreover, with globalization and the rapid economic and technological development of countries, the shift from traditional foods to organic foods is worldwide.

The organic food market is fast growing as the demand for healthy food, mostly organic food, is growing globally (Helga et al., 2020). As of 2018, worldwide organic food and beverage sales have reached $114 billion (Helga et al., 2020). The three most important global markets for organic food and beverages (as of 2017) are the United States ($47.9 billion), Germany ($12.8 billion), and France ($10.7 billion), with the top annual per-capita organic food consumption being Switzerland and Denmark ($368 each) and Sweden ($272) (Helga et al., 2020).

In China, rising incomes have made consumers more inclined to consume high-quality food, which has led to a significant increase in market demand for organic food (Tian & Yu, 2013). As of 2018, China is the fourth largest organic food market globally, with $9.6 billion in retail sales (Helga et al., 2020). On the supply side, in 2018, 3,135,000 hectares of farmland were dedicated to organic agriculture, accounting for about 2% of China's total of 166 million hectares of farmland, which is a 69.2% increase relative to a decade ago (Helga et al., 2020). The Yangtze River Delta region (including Shanghai, Zhejiang, Jiangsu, and Anhui) is the earliest in China, where organic agriculture has developed, and organic food is more mature and developed. The national organic food production base in Zhejiang Province is a leader in the organic industry (Li et al., 2017). Moreover, according to Qu (2017), 79%-84% of Zhejiang consumers want to buy green and non-polluting agricultural products. In 2016, there were 6,306 organic food producers in China (Helga et al., 2020). However, even in 2018, the per-capita organic food consumption in China was only $7.086, and worldwide it was $12.8 (Helga et al., 2020).

Although there is a gap between the current Chinese organic industry and other countries developing this industry for many years, the gap is gradually closing. Currently, more and more Chinese consumers are buying and recommending organic food to their friends and family. Moreover, organic food exists at a high premium and high profit for organic food businesses. As a result, although organic food is only a tiny portion of the Chinese food market, more and more Chinese food producers turn to organic food production. Compared to similar studies in developed countries, fewer studies have been conducted in China. Thus, a study of the factors affecting Chinese consumers' organic food purchasing intentions is imperative. Also, it can help organic market-related companies to develop strategies and implement plans accordingly. There is a key theory related to purchasing intention that is discussed in the next section.
Literature review

The theory of planned behavior

Ajzen (1991) formulated the Theory of Planned Behavior (TPB), positing that a person's intentions to undertake a particular behavior are greatly affected by a combination of attitude, subjective norms (SN), and perceived behavioral control (PBC). The TPB builds on the Theory of Reasonable Action (TRA) by adding a new element of perceived behavioral control (Ajzen, 1991). This factor is essential because of previous models' limitations in predicting behavior that is not entirely under the control of an individual's intentions (Ajzen, 1991). Thus, attitude, SN, and PBC are the three factors that determine behavioral intentions in the TPB. Researchers have used the TPB extensively to study various behaviors and have concluded that these three determinants account for approximately 40-50% of the variance in predicting behavioral intentions (Bamberg & Möser, 2007; Conner & Armitage, 1998). In previous studies, these three elements have also been applied to predict socially and environmentally friendly behaviors, such as purchase intentions for organic food (James et al., 2019) and green product purchase intentions (Liu et al., 2020).

Moral extension of the theory of planned behavior

Despite the widespread and successful application of the TPB in consumer behavior research, numerous researchers have argued that the theory lacks consideration of moral influences (Botetzagias et al., 2015; Liu et al., 2020; Saleki et al., 2019). Global resources are finite, and one person's consumption will inevitably be detrimental to another's interests. As a result, many researchers have argued a certain level of moral engagement with purchasing more environmentally friendly or pollution-free products (Chan & Bishop, 2013; Chang & Chang, 2017; Liu et al., 2020). In this context, the lack of consideration of moral factors in TPB is troublesome (Kaiser & Scheuthle, 2003). Ajzen (1991) also suggests that there is also a need to consider individuals' moral obligation and responsibility for specific actions in some cases. Therefore, some researchers have supplemented the Theory of Planned Behavior by adding a variable such as ethics or morality. For example, Arvola et al. (2008) better predicted consumers' intention of buying organic products by considering ethics in their study. More research has found that moral norms are an essential factor in forecasting recycling intentions (Botetzagias et al., 2015). Klöckner (2013) and Bamberg et al. (2007) confirmed through meta-analysis that, apart from attitude and PBC, moral norms were the third significant predictor of organic food purchase intentions. The research by Liu et al. (2020) shows that the TPB with moral extension is more
appropriate than the previous framework for predicting Chinese consumers' green purchase intentions. According to Ajzen (1991) and Sparks (1994), moral norms can be considered one's perceptions of an action's moral rightness or wrongness. In this current study, the TPB with moral extensions will help understand the factors influencing Chinese consumers' organic food purchase intentions.

**Purchase intention**

Purchase intention is an individual's desire to try out a specific product, classified as consumer behaviors. It is a positive or negative behavior that consumers show towards a product, which can be seen through their purchase intentions (Wang, 2012). Fishbein and Ajzen (1975) argued that the most potent predictive factor for a person's behavior would measure their intention to perform that behavior. Because purchase intentions are widely believed to predict customers' future buying behavior, they are often used in market research as a surrogate indicator for future behavior or predictive models as predictors of future behavior (Morwitz, 2014).

**Attitude**

Attitudes are part of the TPB and refer to behavioral attitudes, i.e., an individual's internal evaluation and psychological preference for another entity or object (Ajzen, 1991). Consumer behavioral attitudes are necessary for buying behavior, including purchasing food products (Honkanen et al., 2006). Several studies have shown that environmentally-conscious or health-conscious attitudes influence organic food purchasing behavior (Dangi et al., 2020; Lee & Yun, 2015; Ngobo, 2011; Yadav & Pathak, 2016). Health-conscious individuals usually consider organic foods healthier than conventional foods, and these individuals have a higher propensity to purchase organic foods (Michaelidou & Hassan, 2008). In Thailand, organic food sales have increased due to mass media coverage of chemical residues in conventional foods, which has reinforced the perception that organics are more healthful than conventional food (Roitner-Schobesberger et al., 2008). In India, Yadav and Pathak (2016) showed that organic food attitudes dramatically influence consumers' intention to purchase organic food.

**Subjective norm**

Subjective norms are the societal impulses a person feels about whether or not to adopt a particular behavior, and can also be thought of as an individual's confirmation of the importance of other people's opinions (Ajzen, 1991). Perceived social pressure often comes from significant others, such as family, friends, classmates, or the public. A study by James et al. (2019) noted that the role of subjective norms has often been overlooked in previous studies of organic food purchasing behavior. However, status symbols are an essential part of Chinese people's subjective norms and significantly impact organic tea purchase intention (James et al., 2019).
Yadav and Pathak (2016) stated that subjective norms could test whether the behavior has become a social norm in an area and supports purchase intentions for organic food. Various studies show that subjective norms significantly impact purchase intention (Saleki et al., 2019; Wang, 2012).

**Moral norm**

Moral norms are the socially decided and accepted set of values that a person's self-attaches to a specific behavior (Conner & Armitage, 1998). Moral norms can be thought of as personal moral rules or values (Arvola et al., 2008). Liu et al. (2020) studied the moral norms in green purchasing behavior and concluded that moral norms are among the most critical factors in predicting purchase intentions. Their study showed that moral norms to the TPB effectively increased predictive ability, and moral norms form the essential framework of relations with subjective norms and attitudes. Studies by Nguyen et al. (2017) and Le et al. (2019) indicate that moral norms and other moral correlates can positively affect attitudes towards consumption related to environmental protection. When buying organic food, there are also moral issues related to protecting the environment.

**Perceived behavioral control**

Perceived behavioral control (PBC) is when individuals believe that they have more assets or opportunities at their disposal and anticipate that the fewer barriers to behavior, the more control they feel over the behavior (Ajzen, 1991). PBC involves an individual's awareness of the degree to which they can accomplish a particular behavior (Ajzen, 1991). Previous studies have shown that PBC can directly predict green products' purchase intention under the TPB (Liu et al., 2020). The study by Dangi et al. (2020) can also demonstrate that PBC positively impacts organic products' purchase intention. Furthermore, some studies have shown that PBC can interact with several other factors to act on behavior (Botetzagias et al., 2015; Chen, 2016). PBC has a significant effect on intention when controlling for some conditions (Zhou et al., 2013).

**Conceptual framework**

The researcher collected relevant conceptual frameworks from the Theory of Planned Behavior and existing literature related to dependent variables: attitudes, subjective norms, perceived behavioral control, and moral norms. The conceptual framework connects these independent variables with a dependent variable, organic food purchase intention.
Figure 1 Conceptual framework

H1: Attitude impacts organic food purchasing intention.
H2: Subjective norm impacts organic food purchasing intention.
H3: Perceived behavioral control impacts organic food purchasing intention.
H4: Moral norm impacts organic food purchasing intention.

Research methodology
This current study is quantitative research based on the research survey technique. In this current study, non-probability sampling procedures were utilized which are convenience sampling and snowball sampling. According to the research purpose, the researcher selected consumers who live in Zhejiang Province and have the intention to purchase organic food as the target population. Due to the COVID-19 epidemic worldwide, researchers distributed 417 questionnaires via social networks from September to December 2020. Descriptive statistics on the demographic variables and inferential statistics (multiple linear regression analysis) for hypothesis testing were utilized.
Reliability test

Table 1 Pre-testing result (N=30)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Cronbach's Alpha</th>
<th>Number of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent Variable</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchase Intention</td>
<td>.727</td>
<td>4</td>
</tr>
<tr>
<td><strong>Independent Variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>.853</td>
<td>4</td>
</tr>
<tr>
<td>Subjective Norm</td>
<td>.849</td>
<td>4</td>
</tr>
<tr>
<td>Perceived Behavioral Control</td>
<td>.729</td>
<td>4</td>
</tr>
<tr>
<td>Moral Norm</td>
<td>.861</td>
<td>4</td>
</tr>
</tbody>
</table>

The researcher collected 30 questionnaire surveys through social networks to test each variable’s reliability in the questionnaire. According to the results, the Cronbach’s Alpha for all variables was greater than 0.70. Sekaran and Bougie (2016) stated that if each variable has a reliability value greater than 0.70, then the questionnaire is consistent, reliable, and suitable as a research tool for this study.
Results

Table 2 Summary of demographic and general information (N=417)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>241</td>
<td>57.8</td>
</tr>
<tr>
<td>Female</td>
<td>176</td>
<td>42.2</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;22</td>
<td>60</td>
<td>14.4</td>
</tr>
<tr>
<td>22-39</td>
<td>254</td>
<td>60.9</td>
</tr>
<tr>
<td>40-54</td>
<td>71</td>
<td>17.0</td>
</tr>
<tr>
<td>&gt;54</td>
<td>32</td>
<td>7.7</td>
</tr>
<tr>
<td><strong>Monthly Income (US$)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;500</td>
<td>87</td>
<td>20.9</td>
</tr>
<tr>
<td>501-1,000</td>
<td>139</td>
<td>33.3</td>
</tr>
<tr>
<td>1,001-1,500</td>
<td>122</td>
<td>29.3</td>
</tr>
<tr>
<td>1,501-2,000</td>
<td>50</td>
<td>12.0</td>
</tr>
<tr>
<td>&gt;2,000</td>
<td>19</td>
<td>4.6</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower Secondary and Below</td>
<td>34</td>
<td>8.2</td>
</tr>
<tr>
<td>Higher Secondary</td>
<td>59</td>
<td>14.1</td>
</tr>
<tr>
<td>Vocational College</td>
<td>86</td>
<td>20.6</td>
</tr>
<tr>
<td>Undergraduate</td>
<td>185</td>
<td>44.4</td>
</tr>
<tr>
<td>Postgraduate</td>
<td>53</td>
<td>12.7</td>
</tr>
<tr>
<td><strong>Monthly spending on organic food (US$)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;15</td>
<td>96</td>
<td>23.0</td>
</tr>
<tr>
<td>16-50</td>
<td>141</td>
<td>33.8</td>
</tr>
<tr>
<td>51-100</td>
<td>122</td>
<td>29.3</td>
</tr>
<tr>
<td>101-150</td>
<td>39</td>
<td>9.4</td>
</tr>
<tr>
<td>&gt;150</td>
<td>19</td>
<td>4.6</td>
</tr>
</tbody>
</table>

Descriptive statistics

In Table 2, the descriptive analysis of the demographic factors based on the survey results showed that 57.8% were males, and 42.2% were females. Most of the respondents' age level was between 22 to 39 years old, 60.9% with 254 respondents. The highest percentage of personal monthly income level was between $501 to $1,000, accounting for 33.3% with 139 respondents. Regarding the level of education, most of the respondents were undergraduates, 44.4% with 185 respondents. Besides, the percentage of respondents who spent $16 to $50 per month on organic food was the highest at 33.8%, with 141 respondents.
Multiple linear regression analysis

According to Table 3, the R-squared value of 0.652 indicates that 65.2% of the variance of dependent variable consumers’ organic food purchase intention can be explained by the independent variables (attitude, subjective norms, perceived behavioral control, and moral norms).

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Sig.</th>
<th>Unstandardized Beta</th>
<th>Standardized Beta</th>
<th>VIF</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>.000</td>
<td>.316</td>
<td>.307</td>
<td>2.771</td>
<td>Support</td>
</tr>
<tr>
<td>H2</td>
<td>.000</td>
<td>.277</td>
<td>.275</td>
<td>2.251</td>
<td>Support</td>
</tr>
<tr>
<td>H3</td>
<td>.001</td>
<td>.164</td>
<td>.140</td>
<td>2.153</td>
<td>Support</td>
</tr>
<tr>
<td>H4</td>
<td>.000</td>
<td>.199</td>
<td>.210</td>
<td>2.035</td>
<td>Support</td>
</tr>
</tbody>
</table>

The variance inflation factor (VIF) of each independent variable was tested to detect multicollinearity (Sekaran & Bougie, 2016). In general, multicollinearity may occur when multiple VIF coefficients are close to 5 or greater (Zikmund et al., 2013). In this study, the variables’ VIF are all smaller than 5, which means no multicollinearity amongst all the independent variables.
Discussion

In this current study, the researcher developed four hypotheses based on the Theory of Planned Behavior and Moral Extension. Four independent variables which are attitude, subjective norms, perceived behavioral control, and moral norms were selected that impact purchase intention toward organic food. The researcher used multiple linear regression methods to conduct hypotheses testing.

The current study results show that the attitude of consumers significantly affects organic food purchase intention. It signifies that the more positive consumers' attitudes towards organic food, the more they purchase organic food. This result can support the previous study by Yadav and Pathak (2016), which proved that the organic food attitude significantly affects consumers' purchase intention towards organic food. This finding also supports the studies by Lee and Yun (2015) and Ngobo (2011).

Regarding Hypothesis two, it was found that subjective norms impact organic food's purchase intention. Subjective norms encompass the behavior or beliefs of consumers, it means that buying organic food is already a social norm in an economically strong region like Zhejiang, China. This result can support the findings of a previous study by James et al. (2019), which concluded that subjective norms significantly affect organic tea's purchase intention. This finding also supports similar studies, such as those by Yadav and Pathak (2016) and Saleki et al. (2019).

Based on the results in this current study, the researcher proved that moral norms impact consumers' purchase intention of organic food. Thus, consumers’ moral values can have an impact on whether they buy organic food or not. It supports the results of Liu et al. (2020) on the moral norms factor in the study of purchase intention. The study by Le et al. (2019) also demonstrates that moral correlates can positively impact attitudes about green and organic food consumption.

The findings indicate that perceived behavioral control can influence consumers’ organic food purchase intention. The more factors consumers perceive they have control over, the greater the possibility of purchasing organic food. It is congruent with the findings from previous studies by Liu et al. (2020) and Dangi et al. (2020).

Theoretical implication

In this current study, the researchers used an extended Theory of Planned Behavior based on recent studies on green purchases (Chen & Tung, 2014; Liu et al., 2020; Saleki et al., 2019) to examine Chinese consumers’ organic food purchase intentions. The model builds on the TPB by adding a new independent variable, moral norms, to be conceptualized as an independent determinant of purchase intention. The results show that the explanatory power of the model can be significantly improved with the additional factor, and this extended model can explain 65.2% of the variance. Liu et al. (2020) also
showed that after controlling for the original three variables in the TPB, moral norms can have a direct effect on purchase intention and is a significant predictor of consumers’ green purchase intention. In other words, the extended TPB with moral norms is a valuable instrument for research questions, and future research around organic food purchasing could consider using this extended model. Besides, this current study supports that the extended TPB can be used to predict consumers' purchase intention of organic food in China, which could encourage other researchers to use this theory or continue to extend on it.

**Practical implication**

This current study provides researchers with a thorough insight into Zhejiang Chinese consumers' purchasing behavior towards organic food. It can help organic food producers, practitioners, and marketers better understand consumers' behavioral patterns and develop plans to expand their market share. Attitude, subjective norms, perceived behavioral control, and moral norms impact Chinese consumers' purchase intention of organic food. Therefore, practitioners need to emphasize these variables to increase consumers' purchase intentions as follows, based on the lowest mean scored question in the questionnaire survey.

First, attitude is the most critical factor influencing Chinese consumers' organic food purchase intention. In general, communicating with consumers through the media helps consumers be more interested in buying organic food, thus increasing their purchasing of organic food (Han et al., 2010). Secondly, regarding subjective norms, organic food companies should actively look for more ways to expand the group of people who buy organic food. The more people who matter to the consumer buy organic food, the more likely they are to purchase organic food. Third, regarding moral norms, marketers can be more proactive in raising consumers’ awareness, such as popularizing scientific knowledge about organic food related to environmental protection via social media. In the long run, this may help build positive consumer attitudes toward organic food. Finally, as for perceived behavioral control, practitioners should pay more attention to whether consumers can easily buy organic food, such as working with supermarkets to increase the number of organic foods on the shelves.

**Recommendation**

In further studies, the probability sampling method could be used instead, ensuring that the entire population represents the results, such as stratified sampling or cluster sampling. Besides, the study was conducted on organic foods only, limiting the generalizability of the findings. Therefore, further research should extend their research to green products or even other organic products.
References


